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### Original Communications.

#### A STUDY OF SOUR MILKS.\*

By HENRY G. PIFFARD, M. D., LL. D.,  
New York.

Many years ago, when Abraham was encamped on the plains of Mamre, three strangers approached and he hastened to welcome them.

They had come to bring him the joyful though unexpected tidings that Sarah, his wife, although well stricken in years, would in due time bear him a son.

Abraham, with hospitable intent, directed his servants to prepare food for the visitors; "and he took curdled milk and (ordinary) milk, and a young ox which he had prepared and set (them) before them—the while he stood under the tree and they ate." Genesis xviii, 8.

Many years later, when Israel had become a mighty but a stiff necked people, Moses upbraided them for their sins and called their attention to the many bounties the good Lord had showered upon his chosen people, and among these were: "Curdled milk of cows and the milk of goats, together with the fat of lambs and rams—animals of Bashan and he-goats with the kidney fat of wheat, and the blood of grapes that thou didst drink as fiery wine." Deuteronomy xxxii, 14.

These passages certainly show that when they were originally written, several hundred years before our present Christian era, sour ("curdled") milk was held in sufficient esteem to be set before honored guests, and by Moses to be accounted one of the good things for which his people should be thankful.

It is further related in sacred history that Abraham, after the death of Sarah, procured another wife and several concubines and lived to be the father of six additional sons by his wife and several by his concubines, dying at the ripe age of 175 years. If these things were the result of a sour milk diet, it is not surprising that the custom flourished in eastern countries.

At all events we know that for many centuries the peoples of eastern Europe, of western and middle Asia, and a part of Africa have looked on sour milk as an essential portion of their daily diet; for various reasons, preferring it as a rule to fresh sweet milk.

In western Europe and in America *buttermilk*<sup>1</sup> has been, with many, a favorite beverage. The present writer's knowledge of and fondness for it extends backward for more than half a century; and for more than twenty-five years I have directed many patients to use it for both dietetic and directly remedial purposes. I must admit that such use of it has been largely empirical, rather than based on any clear notion as to the rationale of its action.

A year or more ago, I read in one of the city journals what purported to be a declaration by the present head of the Health Department to the effect that sour milk was a menace to health and that he would prosecute any one having it in possession and offering it for sale. Later I obtained a *Circular of Information* issued over his name from which I quote the following:

"As bacteria increase in numbers, they gather nourishment from the milk and other substances in which they develop, and, like other higher forms of life, transform what they take into their bodies into useless or poisonous products. They thus both rob the food of its nutritious substances and add others to it which are more or less poisonous. When bacteria grow in living things, whether they be men, animals, or plants, they excite changes in them which we know as disease. The bacteria which grow in dead things cause them to ferment, rot, or putrefy. Thus milk becomes sour through the change of its milk sugar into acid, produced by bacteria."

In view of the antiquity of the use of sour milk: in view of its great prevalence in certain countries, and in view of the researches of Metchnikoff as to the extreme old age attained by habitual users of sour milk, the foregoing statement of the chief sanitary officer of the city is certainly astounding, and especially as that, holding these views, he permits the present extensive sale of sour milk within the limits of his jurisdiction or even allows it to be brought here. As a matter of fact, sour milk under various names is openly dispensed from pint and half pint bottles at nearly every drug store. The large dairy concerns will serve it at your residence for six cents a quart and the smaller milk shops commonly serve it over the counter at three cents a glassful.

The term *sour* as used in this connection covers all milks or parts of milk in which a lactic acid fermentation has been brought about through the action of bacteria or other micro-organisms. Some of the sour milks sold are raw whole milk of which

the cream has been removed, and some are the residue left after the cream has been removed. The latter is known as *buttermilk*. "Buttermilk" from which the butter has been removed—

\*Read at a meeting of the Biological Hygiene Association, December 4, 1907.

The question here presented has been fairly recently discussed by Professor Richard C. Griffith before the annual session of the Biological Society. One differs somewhat from the author's conclusions. In choosing between two conclusions, I prefer to rely on modern scholarship rather than that of the Greek or Roman.

kumyss is a type; others are cooked whole milk, of which zoalak may be taken as an example; others are raw skimmed milks, while others again purport to be sterilized skimmed milk to which living microorganisms of the lactic acid group have been intentionally added.<sup>8</sup> Traces of acetic and succinic acids have been found in milk, but are a negligible factor so far as regards the present inquiry. Butyric acid is not found in reasonably fresh milk, though in very stale milk I have assumed its presence by the odor. It is best known in connection with rancid butter.

In looking for confirmation of the official opinion of the Health Department as to the unwholesomeness of sour milk, I have been able to find but a single author who supports him, which he does in the following words:

"Bacteria when allowed to develop in milk produce fermentation (souring) and render the milk unfit to be used as an article of food, especially for infants."

I am quite ready to grant that certain changes, due to bacterial action, may occur in milk that renders it unwholesome and even actually poisonous. Tyrotoxicon has been found in milk, in cheese, and in stale ice cream and has, on a number of occasions, led not only to serious but fatal illness; but, so far as I am aware, there is absolutely no evidence connecting the ordinary lactacidogenous bacteria with these detrimental changes.

On the contrary, the lactacid bacteria act as wholesome conservators, and so long as they remain in control hinder or inhibit the injurious changes that later may occur in milk. Unfortunately, the energies of these microorganisms become exhausted in time, and a totally different class of bacteria become supreme, rendering the milk alkaline and unquestionably liable to produce serious derangements. The fresh milk of the cow is ordinarily amphoteric, that is it will act on both blue or red-dened litmus. If kept in a warm place for twenty-four hours it will give a distinctly acid reaction only, but if kept for a considerably longer period it may respond to the well known phenol phthalein test.

In support of the position I have taken I will quote the words of a few investigators whose opinions, it appears to me, merit respect:

"The lactic acid microbes produce large quantities of acid and so hinder the multiplication of the organisms of putrefaction. . . . Such facts explain how it is that lactic acid frequently stops some cases of diarrhoea, and why treatment with lactic acid is so useful in maladies associated with putrefaction of the intestinal contents."—Metchnikoff.

"Among the useful bacteria, the place of honor should be reserved to the lactic bacilli. They produce lactic acid and thus prevent the development of butyric and putrefactive ferments, which we should regard as some of our redoubtable enemies."—Metchnikoff.

"Sour milk is healthful, and the presence of lactic bacteria is not in the slightest degree harmful to those using the milk; other kinds of bacteria, however, are not harmless; many of them are the cause of diseases of one kind or another. If the lactic germs multiply rapidly, the other germs grow scarcely at all; hence the lactic bacteria protect the milk from the growth of other species which would be more apt to produce trouble and harm."—Conn.

"The bacteria surviving Pasteurization are, for the most part, the quick growing bacteria of putrefaction which are inhibited in raw milk by the lactic acid bacteria (italics mine), but in Pasteurized milk they multiply very fast and undoubtedly they are capable of generating poisonous substances."—Jensen.

As to the statement that sour milk is unfit to be used as food and especially for infants, I can only say that of late quite a number of articles have appeared in both the foreign and the American press strongly advocating its use, and especially where there is intestinal disturbance. Among these I note: Acidified Milk in Infant Feeding (Morse and Bowditch, *Archives of Pediatrics*, December, 1906); Buttermilk as an Infant Food (Strauch, *Medical Record*, March 30, 1907); Ramsay (St. Paul Medical Journal, September, 1907); Judson and Cook (*New York Medical Journal*, April 20, 1907); Tissier (*La Tribune médicale*, February 24, 1906) in the treatment of intestinal infections uses pure cultures of certain lactacid bacteria grown in peptone lactose broth.

During the past two or three years there has been an increasing interest in the subject of sour milk, excited chiefly by the writings of Metchnikoff, who urges its consumption not so much for its nutritive worth as for its remedial value in diminishing the amount of putrefactive toxins formed in the large intestine.

In view of the fact that there are nearly one hundred organisms that have been credited with the power of forming lactic acid in sugar solutions, and the further fact that there are a goodly number of acid milks on the market, it seemed to me desirable to obtain further light on the subject. In furtherance of this, Dr. E. J. Lederle and his associates kindly placed at my disposal the resources and conveniences of their laboratories and requested Dr. Charles E. North, chief of the bacteriological department, and his assistants, Dr. Anna E. Young and Dr. O. T. Avery, to aid me in every possible way. To them one and all I desire to express my sincere thanks. Dr. Young maintained the necessary cultures and made the required isolations, and Dr. Avery isolated and cultivated several of the yeasts that were met with.

Prior to the introduction of pure bacterial cultures for acidifying potable milk, Christian Hansen, of Copenhagen, introduced his so called "lactic ferment" for ripening cream to be used in butter making. This was followed by Conn's "bacillus No. 41," and this in turn by Douglas's "butter culture," and lastly by a similar product prepared by Parke, Davis & Co., of Detroit. In January, 1905, I requested this firm to prepare a pure culture of some good lactacid organism in tablet form for the express purpose of souring potable milk. This they have since placed on sale under the fanciful and inappropriate name of "lactone."

At about the same time, or a little later, *La Société le Ferment*, of Paris, brought out a tablet under the name of "lactobacilline," containing a Bulgarian organism furnished by Metchnikoff. In 1905 also an American concern placed on the market a milk souring tablet which they called "keflac." These

<sup>8</sup> This name was already in use as the designation of a chemical product of lactic acid fermentation and therefore should not have been applied to an entirely different thing.

tablets may be taken direct or used for the domestic preparation of sour milk.

Thirty or more years ago, Dr. E. F. Brush introduced his well known kumyss, prepared from cows' milk. In this preparation the fermentation is induced by yeast aided by such domestic lacticid bacteria as might be present in Holstein milk produced under clean and sanitary conditions. It is very mildly alcoholic (1 per cent.) and contains about 0.75 per cent. of lactic acid. It is strongly effervescent. Dr. Brush's kumyss has been so long and so favorably known that present comment is unnecessary.

Shortly after this, Dr. Dadirrian introduced "matzoon," later changing the name of his special product to "zoolak." The fermenting organisms were originally obtained from eastern Europe. This preparation will be more fully considered later.

Among the long known milk ferments, kefir (kephir, kefyur, kefr) has been the subject of several systematic investigations, notably by Kern and by Freudenreich. My own studies were commenced with "kefir fungi" supplied by Merck & Co., of Darmstadt. These consist of light brownish granular masses of small but varying size, insoluble in water or other ordinary solvents. Hardened in alcohol and embedded in paraffin and in celloidin they defied the efforts of two microtommists. Finally I succeeded by soaking them in ethylenediamine in softening them sufficiently to enable me to make reasonably good spreads. These were fixed and stained, and on examination yeasts, bacilli, and cocci were found. Incubated in dextrose broth and in sterile milk a number of different organisms were found and isolated and pure cultures obtained. The first to be studied was a rod form appearing in different lengths consisting in reality of links joined together to form a chain, often without apparent junction points, giving one the impression that the bacillus was of extraordinary length. If stained in methylene blue and then dipped for an instant in alcohol before final washing the junction points become visible, well shown in Plate I, Fig. 1. In certain stages of its growth clear spots or lucidules, two in number, appear in each rod, and on this account the organism has received from Kern the name *Dispora caucasica*. That these are actually spores has been questioned by later writers, probably because they are not affected by the usual spore stains (hot carbol fuchsin, etc.). We were enabled, however, to obtain by culture undoubted spore formation as shown in Plate I, Fig. 2. It will be noticed that the spores are arranged in couplets, thus indicating their origin and justifying the name proposed by Kern. Authors have indicated the existence of second bacillus in kefir, but for which I fail to find any name or special description. In these researches it appeared as rods of varying length, some of them containing points staining more deeply than the main body, or by a different method of preparation not staining at all, but simply showing a row of clear spaces or lucidules as shown in Plate I, Fig. 3. This tempted me to suggest the name *Polyspora caucasica*, which would surely have been appropriate were it not that when the culture was stained with the evamide

blue solution<sup>1</sup> it was found that the long rod appearance was deceptive, and really consisted of a chain of short rods each containing a single spore as shown on Plate I, Fig. 4. The additional elements found in the kefir grains were streptococci and yeasts, as noted by previous authors, to which, however, I paid no special attention. It has been generally assumed that the production of kefir as a beverage required the symbiotic action of the bacilli and the yeasts. However this may be, either bacillus alone or both combined without the presence of the yeast<sup>2</sup> were capable of souring the milk, with production of lactic acid never exceeding 1 per cent. in the specimens tested. I found the milk fermented with the kefir bacilli an agreeable and I believe wholesome beverage. Kefir in potable form (pint bottles) has been placed on the market by the Russian Kefir Co., of Philadelphia.

**Bacillac.** A sour milk preparation under this name has been recently placed on sale in this city. It purported to be made under the supervision of a presumably competent bacteriologist from sterilized skimmed milk, and in accordance with the directions of Metchnikoff, and activated with a lactic ferment furnished by him. Advertising matter states "that its fermentation is not produced by yeasts which contain harmful microbic flora." The name of the bacillus employed is not given, but I assume it to be the *Bacillus bulgaricus*. During June, July, and August, I examined several bottles of bacillac. In every instance I met with yeasts, not only on direct microscopical examination, but also in the cultures from which they were afterward isolated. On agar slants, one gave a white and another a pinkish growth. In every instance also I found the *Oidium lactis* (Plate I, Fig. 5) and obtained cultures from it.

The pint bottles in which bacillac was sold came from different molds and resembled those in which bottled beer is commonly served. The simplest way of accounting for these results is the supposition that the bacillac was dispensed in insufficiently sterilized second hand beer bottles, and that the milk used was not of the highest quality, and also imperfectly sterilized. At the price at which this preparation is sold (25 cents per pint), a better and more carefully prepared article might have been furnished.

The acid content of these several bottles varied from 2.16 per cent. to 2.75 per cent.

The advertising matter that is issued in connec-

<sup>1</sup>See *New York Medical Journal*, November 23, 1916.

<sup>2</sup>In cultures from the kefir grains, yeasts were rarely found; Dr. Yarrow, however, associated with some of them, in fermenting a milk culture of two different yeasts.

Metchnikoff, in his *Science of Food*, states that the kefir grains are composed of a mass of yeasts and bacilli, and that the fermentation of the milk is due to the action of these organisms. He also states that a strongly acidifying bacillus (*bacille bulgare*) isolated from Yaurth is the one to be preferred in the preparation of sour milk. No biological data are given whereby this bacillus may be identified other than the bare fact that it is capable of producing a very large amount of lactic acid, running as high even as 3 per cent. I have never met with any domestic bacillus capable of producing so much lactic acid. Metchnikoff also states that the kefir grains are composed of a mass of yeasts and bacilli, and that the fermentation of the milk is due to the action of these organisms. He also states that a strongly acidifying bacillus (*bacille bulgare*) isolated from Yaurth is the one to be preferred in the preparation of sour milk. No biological data are given whereby this bacillus may be identified other than the bare fact that it is capable of producing a very large amount of lactic acid, running as high even as 3 per cent. I have never met with any domestic bacillus capable of producing so much lactic acid. Metchnikoff also states that the kefir grains are composed of a mass of yeasts and bacilli, and that the fermentation of the milk is due to the action of these organisms. He also states that a strongly acidifying bacillus (*bacille bulgare*) isolated from Yaurth is the one to be preferred in the preparation of sour milk. No biological data are given whereby this bacillus may be identified other than the bare fact that it is capable of producing a very large amount of lactic acid, running as high even as 3 per cent. I have never met with any domestic bacillus capable of producing so much lactic acid.



tion with bacillac may possibly attract the public, but I should hardly think it would the profession.

In June last, I sent copies of the advertisements by registered mail to Professor Metchnikoff, asking whether he endorsed all of the statements contained therein. To this communication I have not as yet received a reply.

Late in October, I examined another recently purchased bottle of bacillac and found neither yeast nor oidium.

*Maadzoun* and *Yoghourt* (Yaourth, Youhourd) are respectively the Armenian and Turkish names of the same product, the common sour milk of southeastern Europe and Asia Minor. For authentic samples of this product, I am greatly indebted to Dr. J. H. Kellogg, of Battle Creek, Mich., who kindly shared with me some that he had recently received from Sofia, the capital of Bulgaria. It reached me in two forms—a creamy liquid and some semisolid, unctuous, cream colored flakes. On direct examination by the usual method (and with the cyanide blue stain) I found a bacillus morphologically similar to the *Bacillus bulgaricus*, a streptococcus and a streptodiplococcus (Plate II, Fig. 5). There were also two yeasts, one of which was round, and the other a long oval. The *Oidium lactis* and the hay bacillus also were found, probably as accidental contaminations.

*Zoolak* (*Matsoon*). These are both trade names for the product manufactured by Dr. M. G. Dadirrian & Sons of this city. It is prepared by adding the eastern ferment (maadzoun) to whole cows' milk first thoroughly sterilized. On direct examination as well as in cultures, it was found to contain bacilli, presumably the *Bacillus bulgaricus* of Metchnikoff, together with yeast cells. Examined direct and stained with methylene blue, I obtained the picture shown in Plate I, Fig. 6. In dextrose broth cultures, quite different appearances were seen, as shown in Plate II, Fig. 1. Comparing the two it will be noted that the bacilli first mentioned are comparatively short (being morphologically similar to those found in bacillac), while in the broth culture there is apparently one long polysporoid bacillus. In the first, the yeasts all appear nearly round, while in the second they are oval. Freshly prepared zoolak is not effervescent, but in one specimen that was quite old, it was extremely so. The acid content of recent specimens varied between 0.9 per cent, and 1 per cent. In the older sample it was above 1.5 per cent. This is much lower than the acidity obtainable with the *Bacillus bulgaricus*. Assuming the presence of this bacillus, the lack of acidity may be due to a partial inhibition by the other organisms present.

By a method of preparation differing from that employed by Dadirrian, maadzoun is marketed by the Russian Kefir Co., of Philadelphia, under the name Yohourd. This is a soft solid, of about the consistence of our familiar junket. In New York it is also found as a customary item in the menu of some of the Armenian restaurants. I have found it of agreeable taste, and undoubtedly wholesome and nourishing.

"Clubberade" in bottles has recently appeared on

sale in this city. It is stated by the maker to be a "predigested milk food, a nourishing fermented milk tonic." On microscopical examination, direct and in cultures, it presents the usual Eastern microbic complex: Bacilli, cocci, and yeast, as shown in Plate II, Fig. 2.

In a culture obtained from some tablets of "lactobacilline" from Paris, that were several months old, the *Bacillus bulgaricus* was apparently dead, but that subtle foe of the laboratory, the hay bacillus, was rampant.<sup>10</sup>

The pure culture of the *Bacillus bulgaricus* employed in these studies was a subculture from some sent by Professor Metchnikoff to a gentleman in this city. In my cultures it appeared as rods of moderate length or of very long ones, but by spirit dipping or the cyanide blue solution were resolvable into their separate elements. Milk inoculated with them developed a very high acidity (Plate II, Fig. 4).

*Buttermilk*. Last but not least, the subject of buttermilk deserves consideration. We all remember the celebrated chapter concerning snakes in Horrebow's *Natural History of Iceland*. It reads: "There are no snakes to be met with throughout the whole island." Concerning buttermilk, I can be equally brief, as I have not been able to find any throughout the whole Island of Manhattan. I here refer to the old fashioned country buttermilk obtained when sour cream is churned.

One day a wagon bearing the name of a large milk distributing concern stood in front of the laboratory. From it in exchange for six cents, I received a quart bottle of alleged buttermilk. An immediate microscopical examination revealed a number of yeast cells in nearly every field. A couple of loopfuls were then added to a tube of sterile wort, and placed in the incubator at 37° C. The following day a loopful of the culture was spread on a slide, fixed and stained and photographed, with the result shown in Plate II, Fig. 3. I next obtained a bottle of buttermilk from another large milk distributing concern. This too contained a rich culture of yeast. I then sought information at headquarters, and an officer of one of the companies gave me the following: "All of our 'buttermilk' comes from our cream station in — County. The fresh milk, after cooling, is put through a separator, and the cream comes down to the city for distribution to our patrons. This leaves the skimmed milk on our hands. The Health Board will not permit us to bring sweet skimmed milk into the city, so the man at our skimming station puts in a starter in order to sour it as quickly as possible, and when sufficiently soured it is brought to the city. Here we mix it with some whole milk, churn it, and after removal of the butter it is ready for distribution." I know of no reason why such a product should not be perfectly wholesome, Metchnikoff to the contrary notwithstanding. My informant did not know the nature of the "starter" that was employed. From an-

<sup>10</sup>The printed matter accompanying packages of "lactobacilline" contain the following: "It comprises various lactic ferments carefully selected and in well defined proportions." There is, however, no precise indication as to what these "various" ferments are, and I am therefore in doubt as to whether the presence of the *Oidium* is to be regarded as a contamination or not. As Metchnikoff is in a position to throw light on this question, it would certainly seem that it was up to him to do so.



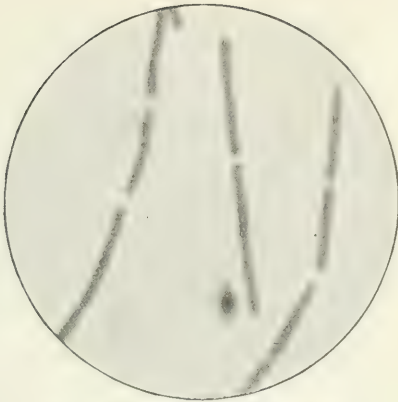


FIG. 1.—*Lactaria caucasica* from kefir x 2000.

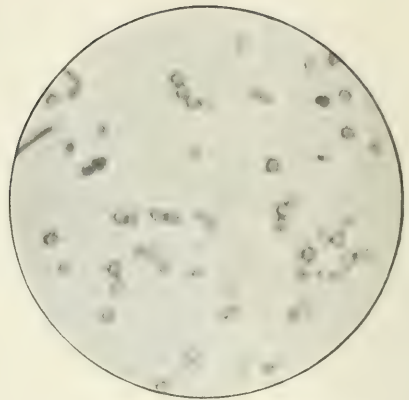


FIG. 2.—Spores of the *Dispora cuneiformis* x 2000.

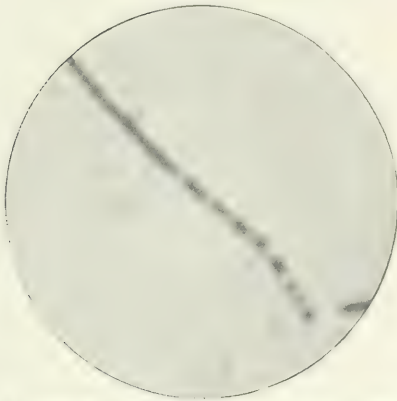


FIG. 3.—*Lactaria caucasica* showing polypore appearance.

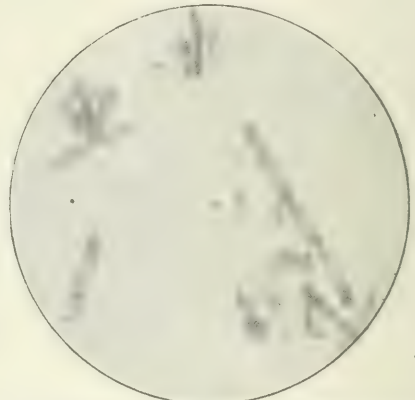


FIG. 4.—Second kefir lactobacilli stained with crystal blue solution x 2000.



FIG. 5.—*Lactobacillus acidophilus* x 2000.



FIG. 6.—Zeolak x 1000.

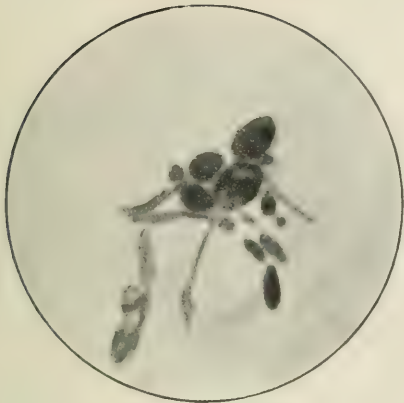


FIG. 1.—Zoellak x 1600.



FIG. 2.—Clabberade x 2000.

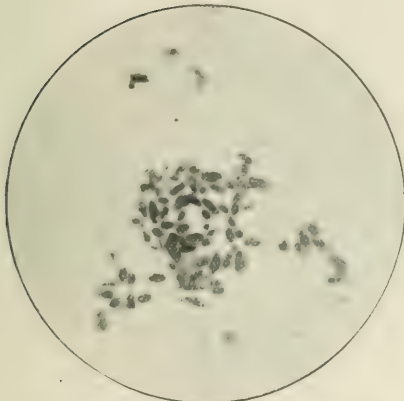


FIG. 3.—Yeast culture from city-made buttermilk x 750.

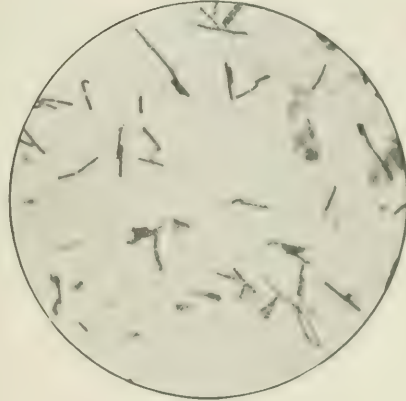


FIG. 4.—*Bacillus brevis* x 1000.

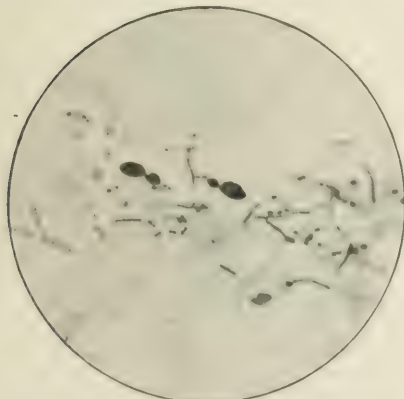


FIG. 5.—Yeast culture from a yeast cake x 1000.

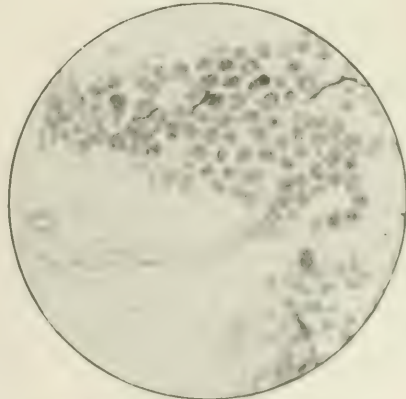
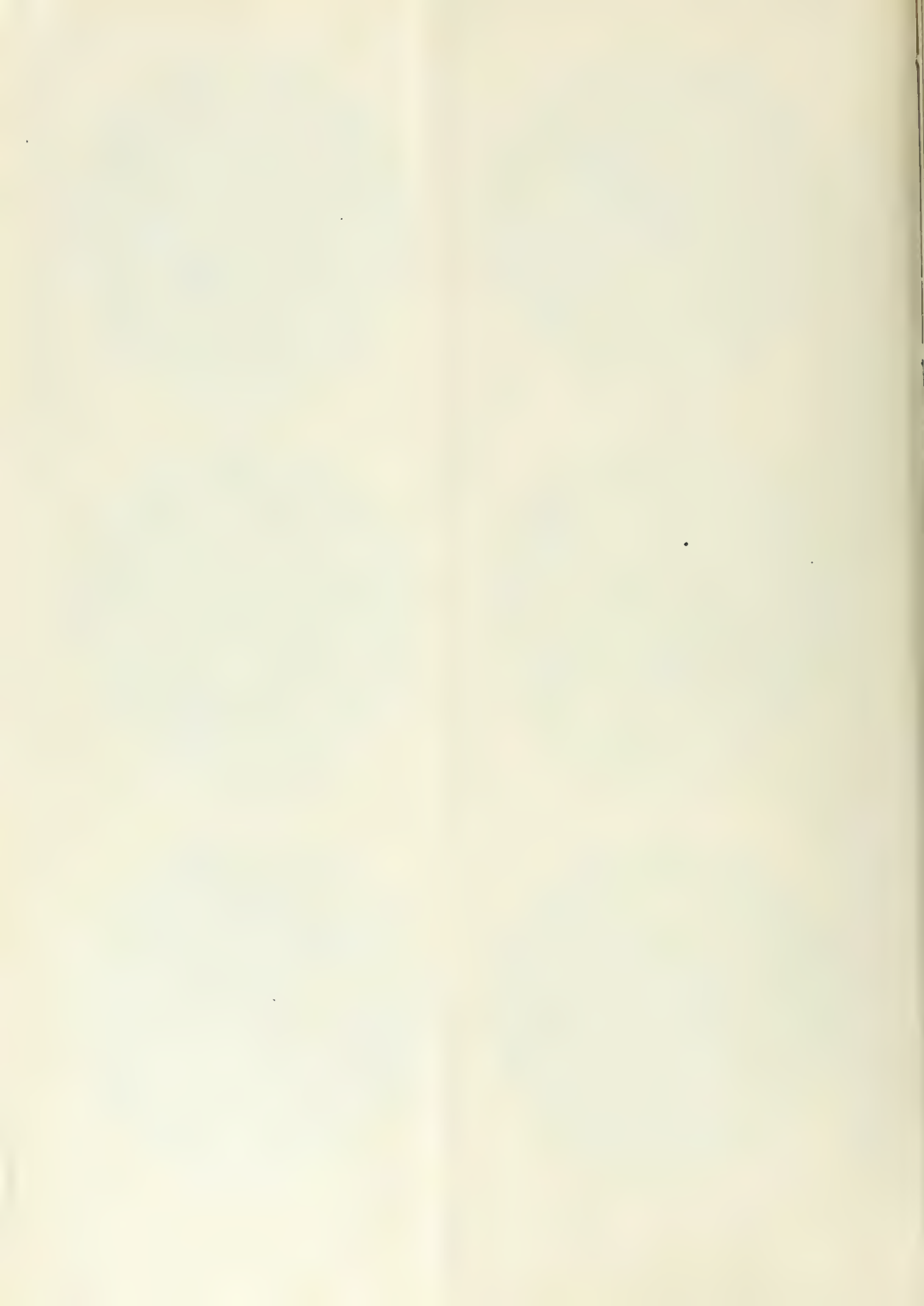


FIG. 6.—Yeast culture from a yeast cake x 1000.





other source, I learned that "potato yeast" was frequently used for this purpose. In my younger days this product, kept in every farmer's house as an adjunct to bread making, was commonly known as "potato emptins," "sour emptins," or simply "emptins." This may not fully account for the "milk in the coconut," but it certainly does for the yeast in the buttermilk.

Three facts now appear to be established. First, the Health Board over the signature of its president inveighs against the use of sour milk as dangerous to health. Second, it forbids the entry into the city of sweet skimmed milk. Third, it permits the entry of sour skimmed milk and its sale under a name that suggests quite a different product. If I am in error as to any of these facts, I will gladly welcome a correction, or any reasonable explanation. As I now see it, the Health Board, if it knows the nature of this city buttermilk, has placed itself in a rather illogical position; if it doesn't know it, why has the fact escaped the knowledge of its inspectors, bacteriologists, microscopists, or others concerned with the investigation of our milk supply? To me it is simply one illustration of the imbecile manner in which the entire milk question in this city is being handled.

But this is not all. Desiring to cultivate Metchnikoff's *Bacillus bulgaricus* (Plate II, Fig. 4) in raw milk of the best quality, I added a little of the pure culture to a quart bottle of "certified" milk of the morning's delivery and placed it in the incubator at 37° C. The next day I prepared some slides for microscopical examination, and was not a little surprised at the result as shown in Fig. 1. The bacilli were of course to be ex-

viously contained city made buttermilk, and had not been perfectly sterilized.

*Streptococci.* A field that urgently awaits investigation is that of the streptococci, especially as they are met with in milk.

For lack of a better means of classification, many of the bacteria have been arranged in groups based largely on their morphological peculiarities, and to these groups what might be termed generic names have been assigned, such as streptococcus, staphylococcus, etc., and where differences have been found between different members of the group, based usually on their cultural peculiarities, they have received specific names. Now, if any member of the group or genus has a known pathogenic relation, it tends in the minds of many to cast a slur on the moral character of every individual member of the genus to which it has been assigned. This fact may be illustrated by reference to some of the genera among the higher fungi. Among the basidiomycetes the *Amanita* has certainly a bad name, for we know that the *Amanita muscaria*, the *Amanita phalloides*, and the *Amanita verna* are lethal. On the other hand, the *Amanita rubescens* is both palatable and wholesome, while the *Amanita caesarea* comes down to us as a delicious table luxury from the days of the first Emperor, nearly two thousand years ago. The man who has once chewed a morsel of the *Lactarius piperatus* is like the dog that has killed his first skunk—he never knowingly does it again. On the other hand, the *Lactarius volemus* is good and wholesome, and the *Lactarius deliciosus* is true to name. The *Russula virescens* well cooked and served is a gustatory delight, but if by chance the *Russula emetica* gains entrance to the dish, the delight will be exceedingly brief.

So with the streptococci; some of them we know to be pathogenic, some of them can hardly be so, else the drinkers of the eastern sour milks would ere this have perished. There are still others of whose moral characters we are still in dense ignorance. It would therefore seem that in the streptococci the research laboratories would find a subject worthy of investigation.

*Bacterial Antagonisms.* Throughout the whole of nature we daily witness the antagonisms that exist among the different species in the animal kingdom. Some are created to prey on others—others to become their prey. It is a question not of sentiment but of food. In the vegetable kingdom this condition, though less evident, still holds good, as some plants prey on others, and even on the lesser units among animal life. Among the protozoa there is constant warfare between the larger and the lesser forms; and we are therefore not surprised to find it also true as regards the protophyta. Among the bacterial species such antagonisms have long been known. Herter was the first, I believe, to establish the fact that the lacticid bacteria antagonize those of putrefaction." The immense clinical importance of this fact, however, appears to have been generally overlooked in this country or at least not to have received any extended practical recognition. On this fact, however, Metchnikoff has founded a new epimurine philosophy, especially elaborated in his *Leçons de*



FIG. 1. Yeast cells in "certified" milk inoculated with a pure culture of *Bacillus bulgaricus*. The diameter of the actual field was 68 micra. (Drawn from a photomicrograph by the author.)

pected, but how was the rich yield of yeast to be accounted for? One explanation is that a yeast cell or two had inadvertently dropped from the air into milk before bottling, while another, and I think more probable one, is that the bottles used had pre-

\*"Emptins." Yeast, especially home-made yeast.

†"Emptings." The loaf of beer, etc., used as yeast.

‡"Emptins."

§"Bacteria Medical Science" (London, 1900).

timistes (Paris, 1907). Briefly expressed, his views are as follows: Putrefactive organisms chiefly in the large intestine lead to the production of certain toxins, indol, skatol, etc. These tend to impair vitality and shorten life. The bacteria concerned flourish in an alkaline environment, but perish in one that is acid. Metchnikoff believes that the most convenient and suitable way of supplying this acid environment is by the lactacid fermentation of milk, and further, that the bacilli concerned in the fermentation will make themselves at home in, the intestine and, to a certain extent, colonize it. He especially recommends for this purpose the *Bacillus bulgaricus* isolated from Bulgarian sour milk.

The experiments in antagonism by Herter, Metchnikoff, and others suggested the following: Early in June two broth tubes were inoculated with an active typhoid culture. One was kept as a control, the other received two or three loopsful of the *Dispora caucasica*. On the second and third days both were turbid, but a few days later the tube containing the mixed cultures began to clear up. Before I had an opportunity of making a microscopical examination the tubes were mislaid. On October 14, five tubes of dextrose broth were charged as follows: 1, typhoid; 2, typhoid + dispora from kefir; 3, typhoid + polysporoid bacillus from kefir; 4, typhoid + *Bacillus bulgaricus*; and 5, typhoid + zoolak. After forty-eight hours in the incubator at 37°C., all of the tubes were turbid. The tubes were then kept at room temperature. On October 21 all the tubes were turbid except No. 2. On microscopical examination I found in tube 1 a rich typhoid growth; in tube 2, dispora and typhoid, both rather scanty, with quite a number of little typhoid bacilli clustering around nearly every one of the larger disporas, which they greatly outnumbered; in tubes 3, 4, and 5, rich growth of the added bacilli, with much fewer typhoids than in No. 2. The behavior of the culture in tube 2 is mystifying, and reminds one a little of the Kilkenny cats or of what happens when the Orange and the Green meet on the 17th of March.

A single experiment like this counts but little, but it certainly contains a suggestion, and I leave it to be followed up by those who may have the inclination and proper facilities for so doing.

After considerable personal use during the past six months of milk fermented and soured with pure cultures of the different microorganisms here considered, I am inclined to believe that the principal commercial sour milks for sale in this city could be improved in usefulness by a slight modification in the details of manufacture.

In the effervescent sort, I would recommend the use of a pure native yeast with the addition of a culture of the *Bacillus bulgaricus*.

In the noneffervescent sort, the use of pure cultures of the oriental bacilli and yeasts, with the elimination of the streptococci.

The necessity of using pure yeasts with the elimination of "wild" yeasts and injurious bacteria is now fully recognized by brewers and manufacturers of sparkling wines, and I commend the matter to the consideration of those who are concerned in the preparation of fermented milks.

Examination of one of the small packages of yeast sold by grocers for household use revealed the fact that it was greatly contaminated by the presence of numerous bacilli as shown in Plate II, Fig. 6. Another sample of a different yeast contained cocci. In this case, the cocci were mostly grouped about the yeast cells. Whether they were simply paying a friendly visit or were present with hostile intent I do not know, but strongly suspect the latter. At all events it reminded me of something I once saw among birds. A large owl that had evidently passed the night searching for field mice among the corn shocks found himself stranded and comparatively helpless when the sun rose. He was at last espied by a flock of crows, who gathered around and were busily engaged in bedeviling the poor old fellow to their heart's content.

The addition of the *Bacillus bulgaricus* in the case of the effervescent milks will not lead to undue acidity, as Van Slyke and Bosworth have recently shown (*Bulletin*, No. 292, *New York Agricultural Experiment Station*) that carbonic acid under pressure restrains in a measure the production of lactic acid.

The kefir and other Eastern ferments as they reach us are, owing to their crude method of preparation, somewhat varied in composition, and it would be well, I think, for those who are commercially minded to experiment with cultures containing only the bacilli and yeasts, excluding the oidium, cocci, and any other accidental organisms that may be present.

When maadzoun or any similar product is prepared with sterilized milk, it is, of course, an easy matter to continue it by each day using as a ferment the milk previously soured, but I must confess a preference for raw milk as the basis. In this case, the cultures could be continued indefinitely in sterile milk or in some suitable laboratory medium, and added to the fresh milk each day as required.

There are many who regard good milk at nine or ten cents a quart as an almost unwarranted luxury and the best milk at fifteen cents a quart entirely out of the question. Now, these people certainly cannot afford any of the proprietary sour milks, which hardly can be sold at retail for less than twenty cents a pint. What then are they to do? A simple solution of the matter was presented to me one evening a few weeks ago at the Academy of Medicine. Meeting another Abraham, a descendant of the one already mentioned, I asked:

"What do you think of sour milk as an article of food?" He replied:

"I have it on my table daily in summer; I take a deep soup plate and fill it with fresh milk, cover it and put it in a warm place and the next day it is sour. Sometimes I sprinkle a little cinnamon or nutmeg over it. It is good."

This experiment should be tried with fresh raw milk only, never for obvious reasons with milk that has been pasteurized.

#### Conclusions.

1. The assumption by the president of the Health Department of this city that sour milk is a menace to health is wholly without scientific foundation, and is opposed to common experience in many parts of the world during a period covering thousands of years.



2. Sour milk is wholesome and nutritious and is probably more easily digested than sweet milk.
3. In certain derangements of health it is an important direct remedial agent.
4. The present most available souring agents are special bacteria in common use among certain European and Asiatic peoples.
5. The essential organisms as they reach us are frequently contaminated with unessential and possibly undesirable organisms.
6. The proprietary sour milks should be prepared with laboratory pure (streptococci free) cultures of the desired organisms.
7. The proper organisms preserved in some suitable liquid or solid medium can be readily standardized and administered direct.
8. Whether the bacilli derived from kefir are to be preferred to those from maadoun or *vice versa* cannot at present be dogmatically asserted.
9. The organisms when placed on the market should be under their own proper scientific names and not under a proprietary or trade name. The guarantee behind them should be the reputation of the concern that prepares them.
10. They should be advertised to the profession only and not to the public.
11. It is more than possible that some domestic organisms may be isolated in the future that will prove to be more desirable than those of foreign origin.

256 WEST FIFTY-SEVENTH STREET.

#### ON THE PRESENCE OF SPIROCHÆTA IN PSEUDOLEUCÆMIA, ACUTE LYMPHATIC LEUCÆMIA, AND LYMPHOSARCOMA.

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In the *Journal of the American Medical Association* of December 14, 1907, we called attention to our finding of spirochæta in certain glands of pseudoleucæmia. In a later number of this publication we called attention to the finding of spirochæta in the fluid obtained by aspiration from the glands of a case of pseudoleucæmia and a case of acute lymphatic leucæmia. The fluid obtained from these glands by aspiration was smeared on the cover glasses and stained with an eosin methylen toluidin blue stain of Dr. Proescher after mordanting with the old Loeffler mordant. In these sections spirochæta varying in length from 20 to 120 mikra in length were found in each case, stained a purplish blue color.

We wish now to report our finding in fourteen cases of pseudoleucæmia, acute lymphatic leucæmia, and lymphosarcoma, in all of which we have found the same organism. In this group there were two pseudoleucæmia glands hardened in formaldehyde, furnished by Dr. McCallum, of Baltimore; one pseudoleucæmia gland from Dr. Duncan Graham, of Toronto; one pseudoleucæmia gland from Dr. Henry Christian, of Boston; the tissue from

six cases of lymphosarcoma from the material of Dr. Proescher in the Allegheny General Hospital Laboratory; one case of acute lymphatic leucæmia which was under study during life, and three cases of pseudoleucæmia which were under study during life.

In the postmortem tissues and in the extirpated glands of the living patients we were always able to find the organism which we describe below stained by Levaditi's silver method. In the living cases the organism was found in the aspirated fluid of the glands in all the smears with Proescher's eosin methylen toluidin blue stain. In the case of acute lymphatic leucæmia, the organism was seen in the living state in the fluid pressed from the gland.

From one of the lymphosarcoma cases we were able to transfer a purely glandular affection to a guinea pig by subcutaneous injection of an emulsion

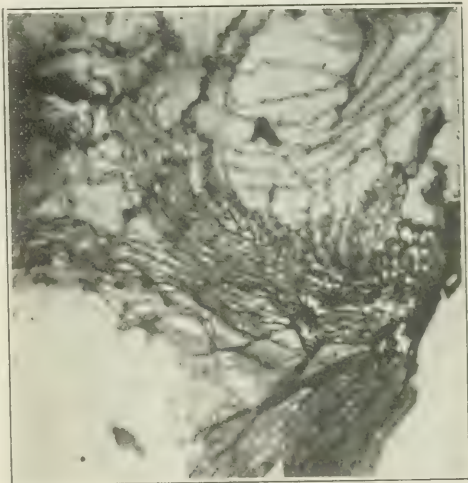


FIG. 1. Clumpy mass from sarcomatous gland, showing mass of spirochæta, some single, some in pairs.

of one of the sarcomatous glands. We have now transferred this to four generations of guinea pigs, having used in all twelve guinea pigs, and in all of these we have been able to find the same organism in the smears by aspiration of glands and stained by Proescher's method. We have been able to see the living organism in the fluid expressed from these glands and have found the organism in the sections of glands stained by Levaditi's method.

This organism varies from all spirochæta previously described mainly in its very great length and in the shallowness of the curves of its body. Both ends of the organism are pointed. Its motility is very sluggish, and its transition from place to place is very slight. On account of its high refractum it was almost impossible to see it. It was become visible on the cover glass as a fine shining point. Upon watching this closely and some time one could see the movements of the body similar to those of a fish. When 1-14 hr. was used in the fixation process the body would come out level with the cover glass, and

finally disappear again from the field. When once seen it was very much easier to again pick out these organisms in the aspirated fluid in the glands of future infected guinea pigs. In a silver section, owing to the great length of the organism, one gets a

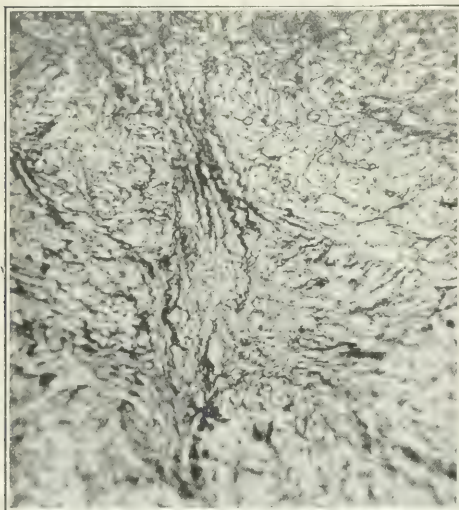


FIG. 3.—Spirochæta from pseudoleucæmia by aspirating the glands showing spirochæta.

great many pictures from the organisms being cut at different levels.

We think it best to call this organism which we have found in these cases, and which we look upon as the ætiological factor in this group of cases, the *Spirochæta lymphatica*. Our knowledge of this group of organisms is so limited that future study may prove that this organism does not belong to the spirochæta at all, but for want of a better name, and from the fact that it is always found in the lymphatic fluid and tissues, we have chosen this name as the best at our disposal.

The Proeschler method of staining, which we have found most serviceable in staining these organisms in the smears made from the aspirated fluid in the glands, is as follows:

First—Pass once through the flame. Mordant for one second in the following solution: Loeffler tannic acid, 2 grammes; water, 8 c.c. After this is dissolved add 5 c.c. of a saturated aqueous solution of ferrous sulphate; then add 1 c.c. of saturated alcoholic solution of fuchsin.

Second—Wash the smear in water and dry between blotting paper.

Third—Place for two or three minutes in the following eosin methylen toluidin blue stain. The stain is made by mixing the two following solutions, which are only stable while kept apart and must be mixed fresh for each staining.

Solution 1. Eosin solution:

Eosin, .....	0.5 gramme;
Absolute methyl alcohol, .....	1 c.c.;
Absolute methyl alcohol, .....	9 c.c.;
Absolute methyl alcohol, highest purity Merck, 90 c.c.	

Solution 2. Methylen toluidin blue solution:

Cold saturated aqueous solution methylin blue, .....	4 parts;
(Methylene blue medicinale purissimum Hoechst.)	
Cold saturated aqueous solution toluidin blue, 1 part	
("Gruebler" pure zinc chloride free.)	

To make the stain ready for use take

Eosin solution, .....	2.5 c.c.;
Methylene toluidin blue solution, .....	0.5 c.c.

Mix thoroughly and then allow the cover glass to float smear side down on the surface of the fluid. Put one second in 96 per cent. alcohol, wash in water, dry, and mount.

In smears of the aspirated fluid from all cases of pseudoleucæmia, acute lymphatic leucæmia, lymphosarcoma, and possibly from the spleen and bone mar-



FIG. 3.—Spirochæta from pseudoleucæmia by aspirating the glands, eosin methylene toluidin blue stain.

row of splenomedullary cases, this organism should be found as purplish blue filaments similar to those in the illustrations accompanying this paper. We have never been able to find it in normal glands nor in tuberculous glands, in which we have tried repeatedly to demonstrate it. We feel that the presence of this organism could be readily demonstrated from the fluid obtained by aspiration from the glands of these cases or from the fluid expressed from extirpated glands by examination with the *Dunkelfeldbeleuchtung* apparatus. We unfortunately had not one at our disposal, and could consequently not complete this part of our search.

The ætiology of this group of diseases (including acute lymphatic leucæmia, pseudoleucæmia, lymphosarcoma, splenomedullary leucæmia, chloroma, and myeloma) is so dark a field of hæmatology, and yet their relation to each other is so evident, that in the light of our finding the organism here described constantly in all cases of this group examined by us, never finding it in numerous other conditions and normal cases, and our ability to transfer one type of the malady to four generations of guinea pigs and recover the organism in each case, and never having

found it in tuberculous or normal pigs, has led us to suggest the following classification of these diseases based upon this supposed ætiology:

*Lymphatic spirillosis.*

Acute form, (a) with lymphocytosis; (b) without lymphocytosis.

Chronic form, (a) benign, without sarcomatous change or with sarcomatous change; (b) malign, with sarcomatous change or without sarcomatous change.

BEDFORD AVENUE AND WANDLES STREET.

# SURGICAL TECHNIQUE IN DISEASES OF THE GALLBLADDER AND BILIARY PASSAGES.\*

By JOHN F. ERDMANN, M. D.,

New York,

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In preparing a patient for any operation connected with the biliary passages I am accustomed to have the abdomen prepared high enough to encroach upon the extreme limits of the costal arch,



FIG. 4.—Spirochete from acute lymphatic leucæmia; eosin methylene toluidin blue stain (Wilder and Proschner).

and low enough to do an appendectomy through the usual site, should occasion demand.

The incision practised by me is one through the right rectus muscle, either its outer and middle third, or the inner and middle. This incision can be extended downward in a direct line. Free exposure of the cystic and common ducts is readily obtained by rotating the liver. This is done by extending the incision upwards, thereby encroaching upon the diaphragm to quite an extent, or by the method of Bevan, or by the additional transverse rectus incision.

The T incision, made by cutting the fibres of the rectus transversely about the middle of the original longitudinal incision, although done once by me, has never since been found necessary in even the most difficult deeply seated duct work.

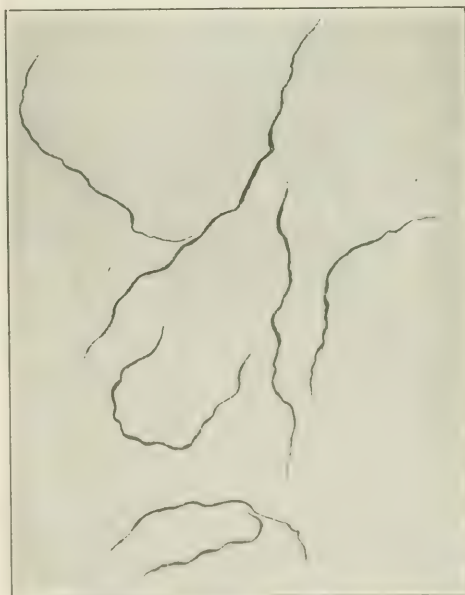
Riedel's lobe should always be remembered, as it often resembles, or may be mistaken for, an inflamed and distended gallbladder.

\*Read before the Medical Association of the German City of New York, November 15, 1907.

In cases where atrophy or apparent absence of the gallbladder exists, it is advisable to find the main (cystic) fissure, and then trace downwards and backwards toward the transverse fissure. In these cases, the sand bag or rest as used in duct work, with free upward extension of the incision in the abdominal wall so that rotation of the liver can readily be obtained, is also of great benefit.

In all cases of pericholecystitis accompanying cholecystitis, the adhesions of omentum, etc., should be carefully released. Gauze packing is then placed between the bladder and the released adhesions or viscera before further search is made. When this is done search is made for stones in the bladder, cystic duct, and finally in the hepatic and common ducts.

It is often impossible in a fully or over distended gallbladder that is thickened by either recurring attacks, or by the single acute one, to feel a stone or stones through the wall. The cystic duct may be hidden in its upper (bladder) portion by the fact of elongation or overdistension of Hartman's pouch. The lower (common duct) portion and the common duct can usually be palpated when the foramen of Winslow is patent, although I am never satisfied with palpation of the common duct in a jaundice case, or one recently jaundiced, until I



have opened the duct and palpated its interior. This interior palpation should be done, as Mann has so ably emphasized, with the finger and not a probe, as stones are often passed by the probe that a finger will reveal.

In case the bladder is distended, etc., in such



tioned, I then incise the fundus, empty the contents, and by so doing the pouch of Hartman collapses, allowing free examination of the upper extremity of the cystic duct to be made. This is also a very decided point to bear in mind when doing a cholecystectomy, as in trying to remove the unemptied bladder, particularly in the fat, Hartman's pouch obscures the field of the cystic duct to such a degree as to render the operation not only difficult, but dangerous. Formerly I sought for beautiful specimens of full bladders, but now I am more content to have an operation rendered less dangerous and difficult at the expense of my museum.

*Cholecystotomy.*—When thoroughly satisfied that no work is to be done on the ducts, proper isolation of the gallbladder is made with compress gauze instead of sponges. The fundus is then grasped with two forceps, and a crescentic section taken out between these forceps. The assistant sponges out the leakage of bile, etc., as rapidly as it appears. As the gallbladder empties itself, more traction is made by means of the forceps, and a hand, the left usually, is passed down below Hartman's pouch, and the bladder "milked" of its stones instead of using a scoop in the interior. A final search is made with the finger in the bladder for any concretions that may remain, or may be lodged in the first of Heister's folds.

When the bladder is pronounced empty, a quarter inch calibre rubber tube, fish tailed and with two perforations, is passed down the entire depth of the bladder. A suture of iodine catgut No. 2 is passed through the gallbladder about a sixth to a quarter of an inch from its cut edge on one side, penetrating the tube encroaching upon the calibre very slightly and at a point about one half to two thirds the distance which it originally occupied in the bladder. The suture is then passed through the opposite wall of the bladder and is tied. This step is often repeated by me on the opposite sides, making a crucial suture. A circular suture of the same material is then placed about a third to a half inch below the tube fastening sutures, the tube then pushed down, carrying with it the raw margin below the circular suture. When this is down the circular suture is tied. Should the bladder be a deeply seated one, so called extension of the gallbladder is made by sewing one or more strips of gauze about one and a half inches wide to the bladder's new fundus, and bringing these strips with the tube through the abdominal incision.

In case the gallbladder is long enough I occasionally take one or two stitches through the bladder wall and the parietal peritoneum. A secondary drain outside of the gallbladder is used only when occasion demands.

*Cholecystectomy.*—As a preliminary to this operation I would advise the back cushion or rest as used in common and hepatic duct work. The incision should be ample to allow of free displacement or rotation of the liver.

When the bladder is exposed, if it is of the contracted variety, no preliminary emptying is called for; in fact, in many instances these bladders contain no fluid contents. Removal can usually be done from below upwards.

In case the bladder be distended or thickened, preliminary emptying will aid greatly in exposing the cystic duct, as mentioned in the first part of the paper. In these cases removal is more readily accomplished by attacking the bladder from above. Nevertheless, a combination of both methods of attack will in all probability be used most frequently.

In attacking from below the first step is to isolate the cystic artery and duct, clamping them distally and proximally cutting between and then stripping the bladder off from below upwards.

In attacking the bladder from above the peritoneal covering is incised so that a lateral cuff of about a half inch is released on each side of the bladder. This cuff, after cholecystectomy, falls in upon the raw hepatic surface exposed by the bladder removal. Cleavage is readily found by the finger, and the bladder rapidly separated from its hepatic association. The duct is tied off and the everted mucous membrane edges touched with carbolic acid.

Bleeding from the raw hepatic surface may be profuse, but is readily checked by a few moments' compression with gauze.

I have closed numbers of these cases without drain, but have lately come to the conclusion that a cigarette or simple rubber tissue drain for twenty-four to seventy-two hours provides better sleep for the operator, and does not prolong the convalescence of the patient. Where the case is suspected of marked infection drainage is without question essential.

*Cysticotomy.*—This operation is only done for a stone lodged between Heister's folds, and drainage of the duct, etc. The stone is readily located, and is usually fixed. Traction is made upon the gallbladder, when necessary to bring the duct more easily into the operator's field, the wall is incised, the stone removed, and a drainage instituted either by tube or cigarette method.

*Cholechootomy.*—As a preliminary to bringing the duct in ready reach the use of the lumbar pad or rest cannot be too highly recommended. In addition, free rotation of the liver will bring the cystic and common ducts in a direct line.

*Common Duct.*—In addition to stone as a cause, obstruction may be due to malignancy of the duct itself, or malignancy of surrounding viscera of such degree as to produce pressure sufficient to prevent the flow of bile into the intestines. Operative procedure will then depend entirely upon the extension of invasion, varying from removal of the diseased tissue to a cholecystenterostomy or allied anastomosis of the gallbladder and intestines, provided, in these cases of bladder and intestine anastomoses, the malignancy does not prevent the flow of bile into the gallbladder. Stone may occupy any portion of the duct. When in the course of the duct, its removal is accomplished by incising over the stone, extracting it and then draining the ducts, or preliminary sutures may be taken over the site of the stone, cutting between the sutures, and after extraction tying them so as to close the operative wound and prevent leakage.

When there is reason to suspect or know that the biliary passages are inflamed and infected (cho-



langitis), I sew a tube into the choledochotomy wound with a No. 2 catgut suture, and close the remainder of the opening with one or two more sutures. To guard against leakage infiltration I then place a cigarette drain about the size of an ordinary lead pencil (one third inch in diameter) down to the duct. This is removed about the third to the seventh day, while the tube remains till the catgut sutures absorb. No drainage is replaced, the sinus being allowed to close spontaneously, which usually occurs in about ten to twenty-one days after the operation.

When the stone or stones are situated in the distal quarter to half inch (the pancreatic portion), it may be necessary to approach them either by the transduodenal (McBurney) route, or, and preferably so, by the postduodenal route as described by C. M. Cooper, who reported, in the *Annals of Surgery*, as early as 1903, three cases successfully done by this method.

This method consists of releasing that portion of the duodenum behind which the duct passes, by cutting the peritonæum binding the gut to the back, then rotating this portion of the duodenum downwards and opening the duct, etc.

Operations upon the hepatic duct are performed with the same preliminary exposure steps as used in choledochotomy, the duct usually being opened by continuing either the cysticotomy or the choledochotomy wound upwards, the subsequent steps being relatively the same as in common duct surgery.

Finally the technique of closure and drainage is to be considered. Proper toilet of the peritonæum, the surrounding viscera, and omentum are attended to in the same manner and with the same care as in all abdominal sections.

In closing my abdominal wounds in this region I have been in the habit of late years of closing the peritonæum and transversalis fascia with mattress sutures, as I can then be assured that my first row of sutures will not cut out, as is usual when the ordinary suture is applied. The second row of sutures is a simple running suture of the everted edges of the fascia and peritonæum, resulting from the mattress suture.

The next suture is that of the anterior layer of the rectus sheath, and finally the skin closure suture. If the case has been infected I place a rubber tissue drain in the lower angle under the skin and fat only.

The drainage tube in cholecystotomy and choledochotomy I leave until the fifth to the seventh day, when by trial they are usually found loose. Usually, except in infections of marked evidence, no subsequent drainage material is placed in these channels. The cigarette and gauze drains are removed as the conditions warrant.

Bile excretion is often very much increased in the early morning hours, from 1 to 4 a. m., and is particularly disagreeable by reason of soiling of dressings and the skin irritation resulting. The flow can be markedly diminished by giving the patient a cracker or bit of toast and milk about 11 or 12 p. m., while the skin irritation is overcome by free use of an ointment of ichthylol, from ten to thirty three per cent., or of boracic acid.

It is my habit, and has been for several years, unless the bile is from a markedly infected cholangitis or cholecystitis case, to pinch the tube from one to eight hours daily after the second postoperative day.

In my opening paragraph I stated that the operative field preparation is made low enough to do an appendectomy should occasion demand, etc. I have so frequently seen the appendix also involved that I have been in the custom of removing this organ through the same incision, when possible. This is to me of such importance that I cannot but urge, in considering the technique of biliary surgery, that this additional procedure, removal of the appendix when feasible, is not only warranted, but indicated.

I first called attention to the associated pathological conditions in a paper read in December, 1903, before the Passaic City Medical Association of New Jersey (see *Medical News*, March 26, 1904), and call attention to an editorial in the *Journal of the American Medical Association*, June 29, 1907, in which the association of diseases is strongly presented to the profession.

60 WEST FIFTY-SECOND STREET.

#### THE DIAGNOSIS OF UNILATERAL TUBERCULOUS NEPHROCYSTITIS, WITH A REPORT OF SIX OPERATIVE CASES.\*

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Although I am not able to materially add to our fund of knowledge on the diagnosis of renal tuberculosis beyond that which has already been contributed by able exponents, yet I hope to offset any disappointment that may be yours in not receiving anything novel, by the presentation of a critical review of the practical workings in arriving at such a diagnosis, based in part on a personal experience of six cases of unilateral tuberculous kidney successfully operated on.

Tuberculous nephrocystitis belongs with other diseases in the borderland of medicine and surgery. It, therefore, is necessary to pronounce this diagnosis on the merits of a strictly clinical and surgical analysis.

The symptom complex of polyuria, pyuria, slight hæmaturia, pollakiuria (frequency of urination), painful urination, as present in greater or less degree, and of these the cystic symptoms predominated. It was, however, the persistence of these latter symptoms, their rebelliousness, and as often their intolerance to prolonged therapeutical measures, mainly unyielding to silver nitrate, that, in most instances, aroused the suspicions of the physician that tuberculosis might be an underlying cause.

Right here, I take it to be opportune to protest against the "hasty" attitude of the physician who rests his diagnosis with "cystitis." This is an end result of some other underlying pathological condition which is the *ferus arripit* of the cystitis. Were this axiom always borne in mind, fewer cases of tuberculous nephrocystitis would escape recogni-

\*Read at the meeting of the New York Medical Society, at the meeting of November 14, 1907.

tion at a date when the lesion is one sided and amenable to surgical measures.

With the rebellious cystitis, the patient is brought to the consultant with the request for a cystoscopic examination, much after the fashion that the laryngologist is asked to use the throat mirror to unravel the mystery of a laryngitis which is called *chronic*. The competent laryngologist would furthermore want to know all physical signs before resorting to this. Such, also, should be the sequence of events prior to cystoscopy. The existence of tubercle in the genital tract, epididymides, testes, vas deferens, and prostate, have to be sought for and excluded, and a repeated search for tubercle bacilli are therefore to be made.

Authorities differ widely, and our position is the same, as to the frequency with which the tubercle bacilli may be found. These discrepancies, I think, are largely due to the personal equation of the examiner, wherefore I hold that such examinations should be left to a bacteriologist. If then, the tubercle bacillus is not found on a cover slip preparation from centrifugated urine, 1 c.c. of the latter should be inoculated, intraperitoneally, into a guinea pig, known to be free from tuberculous taint by the absence of reaction after a tuberculin injection. If the animal does not succumb at the expiration of six weeks, an autopsy is made to search for tubercles. Bloch has recently recommended a more rapid procedure, to inject some of the centrifugated urine into the cellular tissue of the thigh, and to massage and bruise the inguinal lymph nodes which, in the course of a week, become infected from the urine laden with tubercle bacilli. Nowadays the organism is not stamped as the tubercle bacillus until it has withstood the test of retaining its color after prolonged immersion in alcohol and weak acids. A further precaution to guard against contamination of the urine with the smegma bacillus is to withdraw the urine by sterile catheter after the canal has been copiously washed with sterile water. Young and Churchman assert never to have encountered the smegma bacillus after these precautionary measures. Smegma bacilli, if present, occur singly and not in groups as the tubercle bacillus and to expert eyes the smegma bacillus is thicker than the beaded organism of tubercle.

Suter has observed that if an agar tube, inoculated with pus urine, remains sterile, there is every reason to suspect that tuberculosis is at hand. This is, in itself, a justification for culture growth of every cystitis.

It is only at this stage, and with these data in your possession, that cystoscopy is justified. A dictum against the use of the cystoscope has been ventured from the moment we know the cystitis to be tuberculous; but the vindication for the use of this instrument of precision rests upon the basis that from this moment on, the vesical tuberculosis, as an end result of renal tuberculosis, is subordinated to the vital need of knowing which kidney is affected, and finally, cystoscopy is not exploratory, but confirmatory, and should only be undertaken with the express intention of an operation to follow, if the lesion is unilateral.

*Cystoscopy.*—Never has it been our fortune to

encounter a case so early, that the urine was so clear as to permit cystoscopy in the bladder distended with its own urine, as Fenwick reports. Always did we encounter pus, and at times bleeding, necessitating a cleansing of the bladder with repeated irrigations of boric acid solution, to make possible an inspection of the trigonum and the ureteral orifices. In the execution of this essential preliminary cleansing, we often learned of the diminished capacity of the bladder, in itself, a finger post pointing to tuberculosis, and when such contraction reached the limit of a distensibility of but 60 c.c. and less, examination was barely feasible, and that only under profound chloroform narcosis. Otherwise, it is advisable to anesthetize the entire urethral canal and bladder with 30 to 50 c.c. of a 2 per cent. cocaine solution or the less toxic surrogate, 2 per cent. alypin.

Ulcers were but exceptionally encountered, but more commonly dark red spots, some with mucous shreds adherent. The hæmorrhagic areas were very often situated about the ureter and in the intraureteric space. Another frequent finding was an oedematous translucent appearance of the mucosa thrown into folds, which is known as oedema bullosa. This condition is common to many inflammatory conditions in the bladder (Kolischer). At times these bullæ were as small as grape seeds, and very likely to be mistaken for small tubercles. A few times upon close examination fine, barley sized, grayish red, tubercles were found. There is a pretty constant new formation of blood vessels, and these often of quite large size, in the vicinity of the patches. The hæmorrhage was more often seen to come from these patches than from the ureters. An inspection of the ureteral orifices was the next order of routine. The one or the other ureteric meatus was surrounded by the changes enumerated, and if it was visible, discolored urine with flakes could be seen to dribble from it, in contrast to the forcible jet issuing from the other meatus, situated in healthy surroundings. At times, the meatus of the healthy functioning kidney alone was visible, and the ureteric orifice of the other kidney would be obscured by the extensive vesical changes, and appear defunct; yet upon manipulation of the suspected diseased kidney, as suggested by von Bergmann, some pus or flakes could be seen to escape from the diseased area. The diseased ureteric meatus when seen, appeared larger, round in contour, craterized form or golf holed, void of any peristalsis, and likely to be much displaced, which deviation could be estimated by the extreme degree of lateral tilting of the ocular end of the cystoscope necessary to bring the ureteric orifice into view.

These accomplishments of the cystoscope in placing the stigma of vesical tuberculosis on one or the other kidney, or both, was epoch making, but the brilliancy of this epoch was eclipsed with the appearance of the single and eventually the double ureteral catheterizing cystoscopes. Any doubt as to which kidney was now diseased, was to be dispelled by the possibility of separately withdrawing the excretion of each kidney. And there arises such doubt, when the urine is so faintly cloudy that it cannot be seen in its escape from either ureter, and

when condemnatory changes, though present, have left the ureters intact, and when associated with changes in one ostium, the other orifice presents some abnormal appearance. These, then, are pertinent reasons that would seem to mark the indication for simultaneous catheterization of the ureters.

Catheterization of one or both ureters has been practised to advantage by myself numerous times, as an aid to locating the source of pus, yet upon consultation of the records of fourteen cases of tuberculous cystitis, I find that in but three of the six cases operated on for unilateral tuberculous nephrocystitis, was it possible to enter the healthy ureter. Introduction of the ureter catheter into the diseased ureteral orifice, was foiled in four instances by the free bleeding which hæmorrhage, in turn, was also responsible for failure to enter the ureter of the accredited intact kidney in three remaining cases. Quite recently again, I have had two more patients with renovesical tuberculosis, who have not as yet consented to operation, in whom it was possible merely to enter the healthy ureter. The urine withdrawn from the healthy appearing ureteral orifices, in two of the operated cases, showed some pathological conditions, as casts, albumin, pus cells, epithelial cells, and yet these two patients who were nephrectomized, made a good recovery. That such is actually the true working state of affairs in the hands of others, you may convince yourself by a perusal of cases reported by Casper, Albowan, Fenwick, Newman, Kelly, Willy Meyer, Tilden Brown, and Kapsammer, who practise ureteral catheterization, and having learned at times of the pathological excretion of the other kidney, none the less advocated removal of the tuberculous kidney. König, Kuster, Lange, Rössing, Israel, and Senn, who do not perform ureteral catheterization, and see no reason why a totally diseased kidney should not be removed, even if the opposite kidney is partially diseased, report successfully operated cases under such circumstances. We must, therefore, question the real worth of ureteral catheterization. Furthermore, it is likely in guiding the catheter into the ureter of the healthy kidney, via the medium of tuberculous bladder walls and infected contents, to contaminate the urine of that side with tubercle bacilli, and finding them therein, to impugn this kidney as also tuberculous. From this transplantation of tubercle bacilli, the possibility of an infection arising where none existed heretofore, is but fiction thus far. In support of this development of the diagnosis of renal tuberculosis by cystoscopic examination alone, we cite the formidable expert, Fenwick, who considers ureteric meatoscopy paramount for conclusions to operate, and I quote Nitze's words of warning, in his posthumous second edition, "If it is the intention to extirpate one kidney, nothing should be undertaken which might in any way be detrimental for the remaining kidney. Wherefore, I have abandoned double ureteral catheterization, and recommend the use of the occlusive catheter, only to be employed on the diseased side. In addition, a catheter in the bladder will now collect the urine which comes from the healthy kidney only."

Fenwick has recently drawn attention to two

cases, where a descending tuberculous nephrocystitis existed on one side and the intramural portions of the ureter of the other kidney were (tuberculous) diseased by extension of the infection (ascending), and this ureter so stenosed as to preclude catheterization beyond one inch. On bilateral exploration, which Rössing often resorts to, he found the one kidney tuberculous and the other normal.

At this stage we enter the realm of testing the efficiency of the kidney to be left. My experience from the paucity of material is limited, and I dare not speak with authority, save to say that all of these tests are carried out under too artificial conditions.

Two years ago, when interest in this matter was at its height, my attention was attracted by the statements of Casper, of a lowered mortality of 14.3 per cent., and of Kümmel, of that of 10 per cent. From the study of the literature I unearthed these telling data published by me in the *American Journal of The Medical Sciences*, June, 1905: Schmieden up to 1902, collected 201 cases of nephrectomy for nephrovesical tuberculosis, the greater number of which were diagnosed without the aid of the cystoscope, and obtained a mortality of 29 per cent., which corresponds to a like mortality of 29 per cent. in 136 cases reported by Palet. Morris, who denies himself the use of ureteral catheterization, reports eighteen cases with a mortality of 27 per cent., which is again exceeded by König who takes the same stand, and also reports eighteen cases, with a mortality of 33 per cent.

Contrast these figures with those from the advocates of ureteral catheterization: Tuffier, nine cases, no deaths; Tilden Brown, eighteen cases, 7 per cent. mortality; Albarran, 12 per cent. mortality; Bangs, 135 cases (collected), 5 per cent. mortality; and Kuster, seventeen cases, no deaths.

Now, Casper and Kümmel would have us believe that their further reduction of the mortality is due to the still greater precision in the methods for determining operative intervention gained from cryoscopic findings; and yet their mortality is 14.3 per cent. and 10 per cent., respectively, two figures that are surpassed on the one hand by those of Israel who, in 1896, had but 12 per cent. opposed to ureteral catheterization at that time, and, on the other hand, by those of Tilden Brown, whose mortality with ureteral catheterization was 7 per cent. and the 5 per cent. in the collected cases of Bangs.

This last mortality figure agrees fairly closely with that of Rössing, who reports eighty-six cases of nephrectomy, with a mortality of 8.1 per cent., performed in defiance of the results of cryoscopy, though often availing himself of the exposure of both kidneys notwithstanding the accurate uranalysis of the separate urines previously obtained at times by ureteral catheterization. Some exceptional cases of hæmaturia and sepsis will always justify the risk of the removal of the diseased kidney in the face of all odds of the conduct and condition of the opposite kidney.

A very simple way of testing renal efficiency and efficiency, the drop-cystoscope of Volkmann and Joseph, has recently been introduced. Following an incision into the duct of 30 cc. of a fluid prepared and warmed to a per cent. amount of Morrin's



indigo carmin in physiological saline solution (0.9 sodium chloride), the urine issuing from each ureter will appear colored in varying degree within six to twelve minutes. A delay in the appearance of, a diminution in the intensity of the color, and a sluggish delivery of the stream, we are told, indicate disease of the kidney. Fritz Völcker has drawn attention to a type of stream peculiar to renal tuberculosis, in which the colored urine issues after delay as a long continued, slowly moving cloud, instead of the normal, short, quickly passing cloud. This phenomena he harmonizes with the polyuria of the affected kidney often encountered in renal tuberculosis.

At the first congress of the Society of German Urologists, held at Vienna, in October of this year, 1907, it was the universal opinion that the indigo carmine injection was of value in diagnosis of renal function. Suter said it is eliminated simultaneously in six to twelve minutes from both kidneys in health, and Kapsammer, in thirty-seven cases of renal tuberculosis, essayed a delay in the appearance of the stream, and a diminution in its intensity, which differences grew in direct proportion to the extent of kidney lesion. Though tried but a dozen times, I am willing to vouch for its partial value. Nitze has masterfully sized up the situation by saying (*l. c.*), that all these tests for renal function are unavailing, inasmuch as they have nothing to do with that which the surgeon would know, "*whether the one remaining kidney after a nephrectomy is alone capable of eliminating the metabolic products.*"

Once all the evidence for the diagnosis of nephrovesical tuberculosis is in, we try to sustain the verdict by a revision of the palpation of the suspected kidney. Most times it is enlarged, but more often it cannot be felt because it is drawn up under the costal arches by adhesions. In consequence of this displacement by the contraction of the adhesions, the kidney loses its characteristic of respiratory excursions. At times, the opposite healthy kidney takes on an enlargement because of compensatory hypertrophy, and its excursions with respiration are more easily appreciated. If, now, the pain is also referred to this side, an error is very likely. An examination of the pelvic ureter from the rectum or vagina may reveal a thickening, and pressure upon it evoke pain in the penis or side of the affected kidney.

A number of the cases have received an injection of 0.5 to 1 milligramme of Koch's old tuberculin, and the elevation of temperature noted, and also local reactions in the presence of a tuberculous lesion, such as swelling of the affected kidney, with increased pain in it, appearance of blood in the urine, and at times, tubercle bacilli in greater amount than heretofore. The absence of a reaction to tuberculin injection does not count against a tuberculosis being present.

Case of S. G. is one in question, where the tuberculosis was grafted upon a gonorrhoea. With a negative reaction to tuberculin, and all the other means available gone over, we were but able to diagnose a unilateral pus kidney. Even after the kidney was removed, the pus containing pure staphylococci to culture, our belief was finally only verified by the finding of the tubercle in sections of the kidney.

In every way at times renal and ureteral calculi, in the absence of the tuberculous organism,

may simulate nephrovesical tuberculosis, but the use of the x ray will be the final arbiter in these doubtful cases, although in instances of long standing renal tuberculosis, calcareous deposits may also show up in radiograms as shadows not as sharply defined as those from the calculi.

To fasten the stigma of tuberculosis upon a kidney is, therefore, justifiable only from a rigid diagnosis *per exclusionem* in which the tentative clinical diagnosis is supported by the aids of the laboratory, radioscopic and cystoscopic examinations.

In support of the facts reviewed in this article, I herewith append a brief history of the six cases of unilateral tuberculous nephrocystitis in which I operated at Mt. Sinai Hospital in the service of Dr. H. Goldenberg, to whom thanks are due for his valuable advice and care in the management of the cases.

CASE I.—L. S., æt. twenty-six (Surgical No. 88094). Antecedent history, family or personal have no bearing upon the present complaint; no gonorrhoea.

April 29, 1906.—On October, 1905, patient had a suprapubic cystostomy performed elsewhere for suspected stone, which was not found. Urination frequency every half hour, day and night, and bloody and painful as well at that time, and the urine was cloudy. These symptoms had persisted, and a small suprapubic fistula remained after cystostomy. Four months later orchidectomy was performed on the right testicle for a swelling of the testes the size of an orange, which had persisted for four weeks. There was no evidence of a sinus. Since then he had to have morphine for the pain. His chief complaints were frequent micturition, pain at the end of penis, which increased upon urination. There was also hæmaturia, and loss in weight.

Physical Examination.—Dulness and diminished breathing over right apex.

Rectal Examination.—Tenderness over prostate and thickening of both coruna of the prostate. Urine, acid, gravity, 1.020 to 1.028, but at one time were tubercle bacilli found. Urine catheterized in sterile manner *remained sterile upon culture*. After exhibition of 0.5 increasing to 2 milligrammes of the old tuberculin (Koch), the temperature previously normal, rose to 102° F., attended with pains in chest and middle and right side of the abdomen. Examination for tubercle bacilli at this time was again negative.

Cystoscopy by Dr. H. Goldenberg: Right ureteral orifice was normal. Jets of pus could be seen to come from the left ureter. There was no difficulty in washing the bladder clean. A week later an attempt to catheterize ureters (Dr. Ware) was abandoned because of pain. The day following the right healthy ureter was catheterized, under chloroform with 100 c.c. bladder contents. The left was found to be diseased, and could not be entered; to c.c. of slightly blood tinged urine was collected. Reaction of the urine was slightly acid. Albumin, in unappreciable quantity, was referred to the blood from traumatism by ureter catheter.

Microscopical examinations showed pus cells, epithelial cells, and red blood cells.

Operation was performed on May 11th, nephrectomy. Slight pyocyaneus infection of the wound followed. This organism was obtained in culture from the pus in the kidney. The latter was reported tuberculous. Two weeks later the suprapubic fistula closed. Frequency of urination persisted somewhat and craving for morphine was unabated at the time of discharge, one month after removal of the kidney.

CASE II.—L. K. (surgical No. 84964, 1905), female, æt. twelve. Patient had had all the exanthemata and pneumonia at six years of age. No menses as yet. Six months ago she suddenly began to have painful, frequent micturition and terminal hæmaturia. No benefit from bladder irrigations was derived. Urine was cloudy, contained pus cells, epithelium detritus, and tubercle bacilli in great number. Bladder capacity, 50 c.c.

Cystoscopy.—Right ureter showed small slit, left ureter large and crescent shaped and many bloodvessels leading to it. Owing to contracted state of the bladder cystoscopy was performed under chloroform anesthesia.

## Catheterization of ureters:

## Right Side.

Amber.  
Clear.  
Albumin, minute trace.  
Many pus cells, hyaline  
and hyaline granular casts.  
No tubercle bacilli in cen-  
trifuged urine.

## Left Side.

Amber.  
Cloudy.  
Albumin, heavy trace.  
Loaded with pus cells,  
moderate number of red  
blood cells.  
Centrifuged urine con-  
tained tubercle bacilli.

Nephrectomy and resection of two inches of thickened ureter were performed, and drainage instituted. Specimen contained a large pus sac communicating with pelvis; all of the papillae were seat of smaller abscesses. Wound went on to healing and a sinus closed after many months. Relief for six months, then urinary symptoms appeared as before operation. Cystoscopy and catheterization of the right ureter now also showed the presence of tubercle bacilli.

CASE III.—S. G., September, 1905, *et. twenty*. Family history negative. Patient had had a gonorrhoea seven months ago, since which time he had had urinary disturbances, characterized by frequent urination, pain at head of penis during urination, and haematuria. A urethral discharge present contained gonococci. Testicles were normal, and prostate not tender nor enlarged.

Endoscopy.—Urethra was injected throughout the canal. At one point a polypoid growth was seen, but torn off by manipulations, and was not available for examination. There was congestion and oedema of urethra. Urine by sterile catheter was sent to laboratory; reports stated staphylococci. Urine continued to contain pus and blood, and cystoscopy proved a failure. Nothing, in spite of clear return of water, could be made out because trigone was, too injected. Patient was complaining of tenderness over left kidney, and was running a septic temperature. Cystoscopy under gas and ether proved again a failure. Blood culture was negative, also radiograph negative. There was persistent tenderness over left kidney. Temperature continued irregular, intermittent and high; temperatures of sepsis afforded indication for operation.

Operation.—Lumbar nephrotomy with vertical incision. The fat capsule was found very much adherent to surroundings. In trying to separate the adhesions to free the kidney, the patient collapsed, but rallied under intravenous saline infusion so that the nephrotomy could be performed. The kidney was found to be riddled with abscesses. Pus sent to the laboratory was reported to contain staphylococcus, and a small section of kidney removed was reported to show inflammatory changes. The kidney was drained, and the patient made a recovery within a month. At this time he was discharged for out patient treatment with a lumbar sinus and some frequency of micturition persisting. Cystoscopy showed a normal bladder. Six weeks later, January 17, 1906, he returned for operation of persisting renal fistula.

Cystoscopy was performed by Dr. Goldenberg. The right ureter was seen as a round hole, very velvety in appearance and no eversion. The left ureter appeared golf holed. There was eversion of the mucous membrane and numerous punctate hemorrhages about the ureter.

January 19th.—Nephrectomy was performed by lumbar route. Kidney on section contained numerous abscesses. The report of the pathological department stated that the extirpated kidney was tuberculous. Four months thereafter the patient had gained fifty pounds, and he stated that he no longer urinated at night.

CASE IV.—M. K., *et. fifty*, married, four children, October, 1905. Mother had died of tuberculosis; patient had had at age of thirteen dropsy, but there was no other urological history. Patient was in one of the hospitals for perineal abscesses, the sinus persisting.

Cystoscopy by Dr. Goldenberg.—Right ureter was catheterized; contained much pus, while the urine collected from the bladder contained practically no pus. Urine of right ureter showed a few pus cells, hyaline casts, and a few pus cells, representing the output of the left kidney. Subsequently both ureters were catheterized by Dr. Ware, and the right kidney, showed a few pus cells, and a few pus cells. Left kidney, on part of the tract, and trace of staphylococci. No tubercle bacilli were found.

Operation.—Lumbar nephrotomy. Ligament on pedicle slipped and clamps securing the vessels were left *in situ* for six days. Subsequent recovery was uneventful. Post-operative drainage, and drainage of the sinus, was

kidney proved to be the seat of tuberculosis. Revision of perineal sinus was unsuccessful, leakage at times. Now (1907) urine was clear, but patient was attacked with tuberculosis of the wrist, but gained fifteen pounds.

CASE V.—W. N., *et. fourteen*, 1904. Was discharged from the old hospital upon closing, with diagnosis of tuberculosis. He had suffered from cystitis six months ago, and tubercle bacilli were found at that time. Small size of meatus precluded cystoscopy. He returned to the new hospital with original symptoms of frequency of micturition day and night, with occasional blood, but tubercle bacilli were not found in the urine.

Cystoscopy, with the children's cystoscope, size 19 F., showed pus escaping from the right ureter, while the left ureter appeared normal. No small ureter catheterizing instrument was at hand.

Operation.—Lumbar nephrectomy. An uneventful course thereafter, and the boy discharged cured and free of all symptoms one month later. He has been in perfect health since.

CASE VI.—L. M., *et. thirty-five*, May, 1904. One year previously operated upon for abscess of the kidney (nephrotomy) in a hospital of this city, since which time a lumbar fistula of the left side persisted. Urine was cloudy, and there was frequency of urination, twice at night, attended with pain.

Cystoscopy.—Right ureter appears normal; left ureter larger than normal, situated on an oedematous papilla, surrounded by much injection.

Operation.—Lumbar nephrectomy. Kidney was found with difficulty in a mass of dense adhesions under the costal arch, therefore a rib had to be resected. Clamps were left on the pedicle in addition to ligature for security. After six weeks healing was complete, except a small sinus. Patient was seen subsequently; he had gained in weight ten pounds. Urine was clear, but contained albumin and pus; patient complained of dyspnoea and oedema of legs.

Epicrises.—Of these six cases, all but Case IV were in the beginning mistakenly interpreted. One was treated for a vesical calculus, another was operated upon (nephrectomy) for a pyonephrosis grafted on a gonorrhoea, which eventually demanded a difficult secondary nephrectomy. A young girl was treated for six months, in vain, for a cystitis. After nephrectomy of one kidney in the face of inflammatory changes of the other kidney (casts, pus cells by ureter catheter), a tuberculosis of this remaining kidney resulted, possibly, by an ascending process. Still another patient operated upon previously for perineal abscess which did not heal, nor give relief to his urinary symptoms (pyuria) was nephrectomized on the basis of findings with the ureter catheter. Two nephrectomies were performed in spite of pathological conditions of sister organs. No cryoscopy or other tests for renal sufficiency were applied, and no deaths resulted. But these experiences emphasize anew the needs of an early cooperation between physician and surgeon to make possible an early diagnosis.

JOHN LEXINGTON, M.D.

## PATHOGENESIS OF STUMP HALLUCINATION

*A Study of a Case of Stump Hallucination.*

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Read at a Session of the American Neurological Association, held at the University of Pennsylvania, Philadelphia, December 12, 1917.

It is a common observation that in cases of amputation of a limb the sensation of the latter remains a more or less prolonged period of time. The patient feels every segment of the absent limb either spontaneously or upon pressure of the stump. The spontaneous sensation is apparently more than

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the sensation provoked by irritation of the terminal ends of the resected nerves.

The notion of a limb is a synthetic conception which is made up of several elementary sensations. Whether the feeling of an amputated limb arises without or with a local stimulation of the stump, it is the brain that congregates the old images, tactile, muscular, articular, and osseous of the limb.

In a large number of cases the spontaneous recollection gradually grows weaker so that after a certain number of weeks or months it disappears totally. The sensation of the lost limb caused by peripheral irritation on the contrary persists for an indefinite time. The question naturally arises, Is the stump hallucination only of peripheral origin?

While there are ample proofs that the cicatricial stimulation constitutes the point of departure of the peculiar phenomenon, the question of its pathogenesis has not been entirely settled, as the so called peripheral view does not explain all the cases. In favor of that view speak cases in which cocaineization of the stump removed the hallucination, cases in which electrization or application of extreme cold or heat reproduced the knowledge of the limb. In all of them there was an expansion of nerve filaments, a neuritis, or a neuroma in the cicatrix, an excitation of which was transmitted to the cerebrum, and the old images were reproduced.

That the cerebrum alone without intervention of the cicatricial irritation plays sometimes an independent rôle in causation of a phantom limb, there cannot be any doubt. Four examples have been presented by Reny in 1899 (*Thèse de Nancy*). Souques and Poisot (*Revue neurologique*, 1905), report a case of a woman of sixty-three, whose right arm was amputated two years prior to the publication of the history. She could see her entire arm all white with the cicatrices every night. Cases have been reported where the sight of very cold water produced a chilly sensation in the amputated arm. There is a well known experiment which consists of striking the place upon which the patient localizes mentally his phantom limb. As soon as it is done, the stump becomes retracted.

Moreover, spontaneous reproduction of images of amputated limbs without the presence of an exciting cause is unquestionably in favor of a purely central origin of the stump hallucination.

If an independent effect of the brain has been observed in some cases, its participation in the curious phenomenon is nevertheless constant, as the brain is the only organ in which hallucinations originate. Whenever the cicatrix of the stump includes terminations of nerves or neuromata, pressure or any excitations of the latter will transmit the sensory impulse to the cerebrum where awakening of the old arm image takes place.

The case I am about to report is interesting from the standpoint of the pathogenesis of the affection. It tends to prove that while the hallucination is easily reproduced upon the least irritation of the stump, nevertheless the phenomenon appears at times spontaneously. Since the cerebral hemorrhage occurred the neuralgic pain from which the patient suffers in the absent arm is decidedly worse. Finally the duration of the malady, viz., twenty-seven years, shows that instead of losing the habit the patient is still able to recall vividly the image

and the sensation of the amputated arm. It is therefore a primary cerebral phenomenon.

His history is as follows:

W. S., aged 51, a railroad man without any special personal or family history, met twenty-seven years ago with a serious accident in which his left arm was crushed. An immediate amputation was considered urgently necessary. Since the operation he had always felt the presence of his removed arm. At first, he suffered continuous excruciating pains which were localized, so to speak, mentally in the absent limb. Gradually, the severity of the pain decreased, but he has never been free from it. Upon examination the stump appears to be covered with a cicatrix. The latter is tender. Pressure upon it causes a sharp pain which extends downward to the entire absent limb. He feels it particularly over the ulnar side of the forearm and hand. He speaks of two lost fingers which are then tingling. The same phenomenon is observed by him whenever he happens to strike the stump accidentally against a hard object, or if anyone passing alongside of him would involuntarily press against the stump. A prick of a pin will also produce pain in the same area. If cold or hot water is applied to the stump, a sensation of cold or heat respectively will be felt by the patient in his phantom arm and hand. Should electricity be applied to the same spot, a tingling will be felt by him down the absent limb as far as the tips of imaginary fingers. So far it can be seen that a peripheral irritation of the cicatrix, which undoubtedly contains the ends of the resected nerves, is the exciting cause of the hallucination.

More remarkable is the spontaneous sensation of the absent limb which originates in him without any apparent external cause. In fact, he constantly feels the presence of the arm. He feels it hanging alongside of the body; he feels the arrangement of the fingers and sometimes their movements. But there is a constant unpleasant feeling, a numbness in the phantom limb. Moreover, he gets sometimes a spontaneous sharp pain of neuralgic character in that arm, which makes him flinch and double up. This pain, he says, runs through the ulnar side of the arm.

A few months ago the patient suffered an apoplectic seizure, following which developed a left hemiplegia. Since this cerebral disturbance the former stump phenomenon became aggravated. The spontaneous pain in the absent arm is more frequent and intense, the numbness causes him more discomfort than previously, and finally the response to stimulation of the stump is decidedly greater.

**Conclusion.**—The appearance of the hallucination upon a physical irritation of the cicatrix of the stump speaks in favor of its peripheral origin. The spontaneous development of the phenomenon when the patient is at rest and without external irritation, aggravation of symptoms after an apoplectic seizure, are all manifestations which originate primarily in the brain. The question of the pathogenesis can not, therefore, be decided in exclusive favor of one or of the other view. Both elements play an important rôle in producing the stump hallucination.

The most interesting feature of the case is the unusual duration of the hallucination. Cases with the stump phenomenon persisting for several years have been reported, but a twenty-seven years' hallucination is very uncommon. The habit of transferring to the periphery all sorts of sensations is due to the association of visual, tactile, and motor images. Normally this habit gets gradually lost; in some cases at the end of a week or a month, and in others at the end of several years. When the hallucination persists for a great many years, the cerebral centres are more or less in a state of an instability. Such a brain cannot be considered normal. My patient is alcoholic. For a number of years he used intoxicating beverages in unusually large quantities (10 to 12 whiskies and as many beers a day). This fact illustrates the validity of the view concerning the cerebral origin of stump hallucination.

1430 PINE STREET.



## POTASSIUM IODIDE IN MENTAL DISEASES.

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The consideration of this subject is not entirely new. However, I hope that perhaps it may be of practical value to the general practitioner, as well as those practising along special lines. I believe potassium iodide has a much wider use in mental diseases, aside from cases due especially to syphilis, and that in most instances we have not been giving this drug in sufficiently large doses. My experience with this drug has been along the lines of special work, viz., nervous and mental diseases, and I am beginning to feel that it is the one drug, if I was to be limited to one single drug, which would accomplish the most good in this class of diseases. I will consider potassium iodide from two standpoints, viz.: (1) Physiological action and dosage not touched upon by most of the textbooks, also method of administration, and (2) its effect and the possibility of enormous doses in mental diseases, especially syphilitic and alcoholic.

Church in his textbook on nervous diseases advises 20 gr. doses three times daily and increase 10 gr. daily until in rebellious or critical cases 100 or even 200 gr. are given at one dose. He also says it is clinically proved that the syphilitic process can gain such a tolerance for either mercury or iodide that their specific effect is lost. I believe the reason for the supposed tolerance to iodide especially is due to the comparatively small doses of the drug, as 200 gr. three times daily is insufficient in a great number of specific cases. I will also recite a few cases of specific and nonspecific mental diseases which have tolerated much larger doses of iodide than recommended by this author.

Pearce in his treatise on nervous diseases speaks of vigorous and thorough application of antisyphilitic remedies, as potassium iodide, in 20 gr. doses, increased to 100 or 200 gr. a day, taken in solution.

Very few of the authors of *matéria medica* and therapeutics, if any, advise more than 1 drachm doses of potassium iodide three times daily.

Following is a brief summary of several cases under my personal care at St. Joseph's Mercy Asylum for Nervous and Mental Diseases. I will not deal exhaustively with history and symptomatology, my object being to call attention to the possibilities of the drug in mental diseases:

CASE I.—E. F., male, single, age forty. Admitted February 2, 1904. Diagnosis: Cerebral syphilis. His history showed that he had had syphilis in 1884, twenty years previous to date of admittance. He was committed to an asylum for mental disease, 1894. At the time he came under my observation for the present trouble, he had secondary and tertiary lesions, showing this was possibly a secondary infection of syphilis. Mental symptoms were of active type, religious mania, loud singing and dancing. He was started on dr. 1 doses of saturated solution of potassium iodide three times daily, and increased dr. 1 daily. Also pills of protiodide of mercury gr. ¼, three times daily, and increased one pill daily until physiological effect had been obtained, when the mercury was withdrawn for a short time, but the potassium iodide was steadily increased until dr. 15 or 600 gr. were reached, which was on the thirteenth day. After a rest of two weeks the same treatment was again instituted. The patient at this time was very much

improved, mentally and physically, and continued to improve until the full effect of potassium iodide was obtained, when he became stupid for a few days, was also nauseated and vomited freely. He was at this time getting dr. 18 or 720 gr. per day and was gaining flesh rapidly. After recovering from the period of stupidity, which lasted four days, he improved steadily until discharged, which was two months after the last course of potassium iodide. This patient was heard from one year later, being under the care of his family physician for a recurrence of the mental trouble. His condition was not improved after one month of treatment with ¼ gr. of mercury protiodide three times daily and potassium iodide in dr. ¼ doses three times daily, advised by his family physician. Large doses of potassium iodide were recommended as outlined in the foregoing, and the patient showed improvement almost immediately and made an uninterrupted recovery.

CASE II.—F. C., male, single, age thirty-seven. Admitted January, 1905. Diagnosis: Cerebral syphilis. He suffered from very active hallucinations and delusions, religious mania. I started patient at once on potassium iodide dr. 1 doses three times daily, and increased dr. ½ daily. This man took the drug uninterruptedly until dr. 30 or 1,200 gr. daily were taken, which was the fifty-fifth day of administration; at this time he was very stupid for four or five days, vomited a number of times and refused all food. There was no marked rash, however; conjunctivæ were injected; face was swollen and puffy. After the fifth day his mental condition became very much improved. He would converse intelligently and do a small amount of work, although he was likely at any time to stop his occupation and begin praying, this feature of his mental disorder being the last to disappear. After two weeks' rest the drug was continued as before and discontinued at the same quantity as the first course. At this time he was writing letters to his sister and had gained twenty-five pounds. After the third course (which was delayed for six weeks, hoping the patient's mental condition would improve) he was discharged cured on February 22, 1907, and has been doing farm work all summer and has been taking dr. 1 of potassium iodide three times daily for seven months without any ill effect, in fact, weighs more and is in better health than ever before.

CASE III.—R. C., male, single, age twenty-six. Admitted July 25, 1905. Diagnosis: Cerebral syphilis. His physical condition was fair. On July 30, 1905, the patient was started on dr. 1 doses of potassium iodide three times daily, and increased dr. 1 daily. Medicine and food, which were liquid, were administered through stomach tube, as he refused all nourishment. After the first week he was taking food voluntarily, appetite was good, and he gained two pounds; he developed rash on face and chest and was slightly nauseated immediately after taking medicine. As potassium iodide was increased, rash and nausea disappeared, patient's appetite was ravenous, and he had gained eight pounds on the sixteenth day, at which time he was getting dr. 18 or 720 gr. a day. He continued to improve until the twenty-fifth day, when he became stupid, refused food, except in small quantities; conjunctivæ were injected; face was puffy and swollen; on the twenty-eighth day he was getting dr. 30 or 1,200 gr. per day. The drug was discontinued at this point, as the patient was vomiting frequently, also had profuse watery discharge from the bowels. He was kept in bed four days, allowed liquid diet and bismuthum subnitricum gr. 30, every two hours, until vomiting and diarrhæa were checked. On the fifth day, August 27, 1905, his mind was clear, except slight religious hallucinations. This same treatment was subsequently repeated twice, with a rest of two weeks between each course. Patient was discharged cured on January 1, 1906. He was afterward employed at the institution until October 20, 1906, and showed no mental impairment or effect of the potassium iodide treatment during this time, and has been working every day since leaving our employ.

CASE IV.—P. O'C., male, single, age twenty. Admitted August 13, 1906. Physical condition good. Diagnosis: Raptus melancholicus, due to hereditary influence. Ordinary treatment appeared to have no effect whatever; in fact, patient's outbreaks seemed to be getting more violent and frequent; he had been getting dr. 1 doses of potassium iodide three times daily for six alternating weeks. I then

mined to increase the drug. He showed improvement after dr. 7 or 280 gr. daily had been reached. It was increased dr.  $\frac{1}{2}$  daily until dr. 28 or 1,120 gr. were being taken, which was the fifty-first day. He had the usual four or five days of stupidity, when he regained his usual mental vigor and was discharged cured, March 13, 1907, one month later.

CASE V.—Wm. H., male, single, age twenty-one. Admitted January 14, 1907. Patient's physical condition was poor. Diagnosis: Cerebral syphilis. Patient had treatment at Hot Springs two years previous, for syphilis. On January 1, 1907, his mental symptoms first asserted themselves. This man was bad, physically and mentally, and required constant attention, as his habits were filthy. Altogether, it was one of the extreme cases of this disorder. On January 16th he was started on dr. 1 doses of potassium iodide, three times daily, and increased dr.  $\frac{1}{2}$  daily until dr. 33 or 1,320 gr. were reached, which was on the sixty-first day. There was some improvement, mentally and physically. After a rest of two weeks another course was begun; he gained flesh rapidly, and his mental condition had improved to such an extent that he was doing some light work, viz., sweeping, dusting, arranging beds, etc. Drug was stopped at dr. 28 or 1,120 gr. At this time he weighed more than ever before, and after recovering from the few days of stupidity, he wrote letters to his family. Potassium iodide was given the third time until dr. 28 had been reached. He was discharged on June 22, 1907, cured. I have kept in touch with this patient and know that he suffers no ill effects from the potassium iodide. He has taken dr. 1 three times daily ever since his discharge.

CASE VI.—F. M., male, single, age twenty-seven. Admitted December 18, 1906. Diagnosis: Cerebral syphilis. This case was of the active type rather than the melancholic. Potassium iodide was given as before until the twenty-fifth day, when he was getting dr. 15 or 600 gr. a day. This was repeated the second time, and patient was discharged cured on June 30, 1907.

CASE VII.—J. L., male, single, age thirty-eight. Admitted March 28, 1907. Diagnosis: Depressive melancholia. His physical condition was fair. Two days after being admitted he had an attack of acute mania; temperature was  $106^{\circ}$ ; pulse 104 per minute. Icebag was placed on his head, cool sponging used, and dr. 1 of fluid extract of ergot administered every two hours. He recovered from the attack in thirty-six hours, but was left very much weakened, and lost twenty pounds in two weeks. He refused all food and was filthy, rather bestial in habits. As soon as he had recovered sufficiently from his acute illness, potassium iodide was started in the usual size doses, given with milk and fed through a tube; this was kept up for thirty-nine days. His physical condition improved very much, and he had gained ten pounds. At this time he was getting dr. 22 or 880 gr. a day. His mental condition was somewhat better. After a rest of two weeks, potassium iodide was again started and reached dr. 28 or 1,120 gr. (fifty-first day). He had added fifteen pounds to his weight, and mental condition had improved so that he was taking food voluntarily. After a wait of six weeks, during which time no improvement was noticed, the drug was started the third time and reached the same as before, dr. 28. He was discharged October 12, 1907, cured.

CASE VIII.—A. K., male, married, age fifty-seven. Farmer. Admitted June 6, 1907. Diagnosis: Alcoholic insanity. This man reached dr. 33 or 1,320 gr. a day at two different times. He has improved mentally and physically, but is still confined in the institution. He has taken as large a dose as any of the syphilitic cases.

CASE IX.—A. J., male, married, age forty-three. Liquor dealer. Admitted July 4, 1907. Diagnosis: Alcoholic insanity, also suffering from advanced stage of pulmonary tuberculosis. Potassium iodide was given after ten days of other treatment had failed to do any good. He improved rapidly, both physically and mentally. When dr. 15 or 600 gr. a day were reached, he was sufficiently recovered to be removed to the hospital; by reason of this, five doses of the drug were missed; the nurse attempted to make up the amount lost, and in doing so the patient was made sick and medicine was discontinued. Had this not happened I am sure he would have taken a much larger amount. This man was coughing almost incessantly and raising large quantities of mucopurulent material. Until 300 gr. a day were being administered, the amount of expectoration was increased markedly; later it ceased almost entirely, as did also the cough. The patient was gaining flesh rapidly, two to four pounds per week, and was dis-

charged August 4, cured of the insanity. I saw this man as late as October 20, 1907, when he had gained, all told, thirty-seven pounds.

CASE X.—Mrs. F., married, age forty. Admitted May 15, 1907. Diagnosis: Puerperal insanity; very active delirium. After treating three months with ordinary remedies, it was concluded to try potassium iodide. At dr. 22 or 880 gr. patient became very quiet, talked rationally, and read the daily papers. When dr. 25 was reached she became very stupid and vomited freely. After a rest of two weeks we gave her dr. 3 of potassium iodide three times daily for a period of thirty-four days, then increased it dr.  $\frac{1}{2}$  a day until dr. 16 were reached, when we were compelled to discontinue it. Later she became restless and noisy, when dr. 1 doses three times daily quieted her; in fact, potassium iodide administered in this way seems to exert a greater hypnotic effect in this case than  $\frac{1}{4}$  gr. doses of morphine which I had formerly used. It is the only hypnotic I am using at the present time in this particular case.

CASE XI.—E. F., male, single, age nineteen. Farmer. Admitted September 17, 1907. Diagnosis: Depressive melancholia. This patient had been treated at home for about one year by the family physician; during this time he had been slowly getting worse. Until October 1 there was no change noted in his condition. At this time I started him on potassium iodide. On the twenty-third day he was taking dr. 14 or 560 gr. daily; his back, face, and chest were covered with large pustules, which cleared up as the dosage was increased. When dr. 20 or 800 gr. were reached, he showed marked improvement mentally; was eating heartily, playing cards, arranging beds, and doing some work in the laundry. On the forty-third day he was taking dr. 24 or 960 gr. daily and was well enough to go home.

During my observation of these cases, I have noticed several things about potassium iodide which seemed to be of importance, viz., it is utterly impossible in most cases to give enormous doses of the drug unless the patient is on a full diet and given immediately after meals. However, I have divided the doses so as to give a comparatively small dose between meals, but not with the same tolerance as when given immediately after meals. I use the saturated solution in water or given in milk; contrary to the usual custom of considering dr. 1 of the saturated solution as containing gr. 1 of potassium iodide in computing my dosage, I figure according to Potter dr. 1 of saturated solution as containing 40 gr. of potassium iodide; hence the apparent smallness of the dosage in grains as compared with the usual method of computing 60 gr. to dr. 1, which would increase the number of grains one third of the full amount (as 1,200 gr. usually considered 1,800 gr.).

I have yet to find a person, especially of the class of cases cited, who was unable to take very large doses of potassium iodide. I have also noted in most every case we have what I may call a primary eruption, situated principally on the chest and face; in most cases this occurs at from 300 to 500 gr.; also slight nausea; both of these conditions disappear upon dosage being increased. This seems to be the rule in nearly every case, and, in so far as my experience goes, I have found in a good percentage of cases of cerebral syphilis, if treatment is begun within three months after mental impairment is first noticed, the patient will invariably regain his normal mental faculties. The eruption and nausea spoken of seem to be a primary physiological effect of potassium iodide, as nausea disappears and the skin clears up on increasing the dose to its limit or full physiological action, which is evidenced by the patient's face becoming puffy and swollen, conjunctiva injected, abundant secretion

from the mucous membrane of the nares and bronchi, severe vomiting, acne-form eruptions covering nearly all of the body (however, this may or may not be present); diarrhoea, loss of appetite, and stupidity, which lasts from four to five days; during the period of diarrhoea and emesis pulse is increased ten to fifteen beats per minute, and lasts for about forty-eight hours, after which it becomes normal.

I have had some trouble in getting the dose above 300 to 400 gr. in a few cases, but only when it has been impossible to induce the patient to eat heartily, and I have a number of patients whom after leaving the institution have been taking dr. 1 doses three times daily for months without any deleterious effect whatever—in fact, appears to exert a decided tonic effect and increase the appetite. In Case IX the effect of potassium iodide appeared to be very marked, as the tuberculous process was well advanced and bacilli had been demonstrated in the sputum; the man did not get any other medication whatever. Hence I feel that potassium iodide was responsible for the mental improvement, also the decided change in the progress of the tuberculosis. It may have been its alterative effect alone, or by reason of its being excreted by mucous membranes a sufficient amount may have reached the seat of the trouble to exert its antiseptic influence. At any rate, I believe it to be worth a trial in selected tubercular cases.

Grünberg reports cases to sustain his assertions in regard to the frequently beneficial action of potassium iodide and of mercury on primary tuberculous processes in the nose and throat. Syphilis could be positively excluded in his cases, and he thinks that some of those that have been published as syphilitic affections of the upper air passages simulating tuberculosis and cured by potassium iodide or mercury were in reality purely tuberculous processes.

Stern, of New York, recommends a saturated formic acid iodide solution in pulmonary tuberculosis and alleges improvement or cure in 70 per cent. of eight hundred patients.

There may be in the minds of some a question as to whether or not potassium iodide is being digested or passes directly through the bowels without any change. As evidence that I think it is, I can point to the steady gain of flesh, the marked improvement in the patient's mental condition as the dosage is being increased, especially the syphilitic cases, also the urine of every case gives positive tests for iodine.

#### GLAUCOMA IN THE YOUNG.\*

By C. A. VEASEY, M. D.,  
Philadelphia.

At the Philadelphia meeting, 1907, I had the honor of reporting before this section, in conjunction with Dr. E. A. Sherris, who made the pathological and

examination, of some of simple glaucoma in the young, the history of which was briefly as follows:

A B. an unmarried colored woman, was first seen in April, 1902. Her family history of any similar cases could

\*Read before the Section on Ophthalmology at the annual meeting of the Association of Ophthalmologists, November 19, 1907, at Philadelphia.

be elicited. A grandmother aged ninety-three, and an aunt, aged ninety-one, were still living and possessed good vision. At sixteen years of age the patient had typhoid fever, during which there was an indefinite history of a mild attack of inflammation in both eyes. The patient is positive, however, that the vision of the right eye began to fail during convalescence from the attack of fever. There were at no time any inflammatory symptoms or pain. The vision gradually diminished until it was finally entirely lost when she was nineteen years of age, or about three years from the beginning of the disease. From this time on there were occasional attacks of severe pain, becoming more and more frequent, and located by her in the eyeball, temporal region, and along the side of the head, and it was for relief from this condition that she sought advice.

Examination showed a divergent strabismus of 45°, no inflammatory symptoms, and a typical complete glaucomatous cup, the bottom being best observed with —S. 9 D., the macular region appearing practically emmetropic.

Ophthalmoscopic examination of the left eye showed a normal disc of healthy appearance with a small physiologic cup and pulsating veins. The tension was normal.

The refractive error of the left eye was carefully corrected, and after a year's treatment of the glaucomatous eye with myotics locally, and sodium salicylate, bromides and the various analgesics internally, the eye was enucleated. The sections were exhibited at the time of presenting the paper, and showed a very deep kettle shaped excavation of the nerve, the lens was unusually large, the epithelial cells markedly pigmented at and beyond the corneal limbus, and there was also found considerable pigmentation between the bundles of the ciliary muscle and around the loose meshed tissue between the canal of Schlemm and the angle of the anterior chamber.

Here was a case, therefore, in which chronic simple glaucoma began in the sixteenth year of age, and which rapidly progressed to total blindness in the nineteenth year, with no appearance of glaucoma in the other eye thirteen and a half years later.

Eight months ago, three and a half years after reporting the case and seventeen years from the appearance of glaucoma in the first eye, the patient came to see me complaining of dim vision in the remaining eye, which she stated had been observed first three months before. Ophthalmoscopic examination showed a beginning glaucomatous cup, the vessels being crowded to one side and the visual field being considerably contracted. The tension was slightly elevated. Myotics were faithfully employed locally and strychnine and nitroglycerin internally, but in spite of this the cup of the optic nerve became more and more extensive and the field of vision more and more contracted. When it was found after some weeks that the myotics in gradually increasing strengths did not seem to check the advance of the glaucoma, iridectomy was proposed and respectfully declined. Eight months have now elapsed, the patient having always declined operative procedure whenever such was proposed, and although the myotic treatment, together with optic nerve stimulants, have been carefully and faithfully employed, the patient is now almost blind, there remaining but a small amount of eccentric vision, and the field being restricted to a small limited area.

1831 CHESTNUT STREET.

#### TYPHOID FEVER AND TETANUS—A CASE.\*

By A. V. MASON, M. D.,  
Elmira, N. Y.

Typoid was the first disease, followed by tetanus. The phases of onset and progress. Tetany is an uncommon disease and not particularly well defined. Some authorities consider it akin to hysteria, others as a tetanoid, and still others as a disease of infection. Therefore the following case is presented as one devoid of interest, even if full concurrence is not had in the diagnosis:

Read before the Association of Physicians and Surgeons, November 19, 1907, at Philadelphia.

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five days before, had returned from a week's visit in the country. He presented the symptoms ordinarily ascribed to intestinal parasites, and as his mother said he had been troubled with worms, he was prescribed for accordingly. There was no headache, no coating on tongue, no evidence of fever at this time, although his mother said he had been feverish for two or three nights. There was, however, marked prostration and irritability, which his mother thought was due to the child's having played overmuch the week previously.

I was called again at 2:30 a. m., August 5th. The child had been feverish and restless all night, and delirious since 12 o'clock. I found him tossing from side to side, and talking incessantly in a voice that could be heard half a block. His pulse was rapid, full and strong. I did not get count of pulse or temperature. The medicine given at my first visit had acted freely on his bowels with apparent benefit, and the child had seemed quite well for the past two days, except for the continued and progressive weakness. I quieted his present excitement with chloroform. At 9 a. m. he seemed quite well—pulse 88, temperature 99.6° F., but his right eye was strabismic. The rest of this day, the 6th, 7th, and 8th passed without any marked symptoms, the depression gradually increasing, the pulse running from 88 to 96, the morning temperature from 100° to 100.8° F., and the evening temperature from 100.8° to 102° F. On the 7th a diagnosis of typhoid fever was made.

On the 8th, while passing the house at 7 p. m., I was called in on account of convulsion. I saw the child within five minutes of occurrence of a fit and found his body flexible, but arms slightly rigid, with fingers closed in palms. His mother stated that the whole body became rigid. Temperature, 100.2° F.; pulse, 98; respiration, 32. There was fall in temperature since 5 o'clock of 2.4°. During the night he was very restless.

August 9th.—Temperature ranged from 99.6° to 102° F.; pulse, 90 to 100; respiration, 30 to 34. Alternating contraction and relaxation of fingers more marked on the left side—occasionally affecting the arms, readily induced by Trousseau's test for tetany. Restlessness continued, with occasional periods of sleep from twenty minutes to two hours duration.

August 10th.—Temperature range from 99.6° to 101° F.; pulse, 84 to 90; respiration, 26 to 28. Left arm was paralyzed, fingers closed in palm, could readily be extended, but on being released slowly closed into palm again. Trousseau's test was positive on muscles of arm, and here it may be remarked that throughout the disease, even when in deep stupor, the patient's muscles responded to this test. Delirious from 11 a. m. to 4 p. m.

August 11th.—Temperature range, 101° to 102° F.; pulse, 84 to 120; respiration, 12 to 24. It will be noticed the beginning of the remarkable fluctuations in the pulse rate. The diminished number of respirations appeared to be due to spasm affecting the muscles of the chest, which, however, was of short duration. At this time the back of the neck was found to be tender, and head was slightly extended. He was delirious by spells. During the night there was deep stupor.

August 12th.—Temperature range, 100° to 105.6° F.; pulse, 94 to 160; respiration, 28 to 40. Power of deglutition was lost; whole left side was paralyzed, facial muscles rigid and jaws set; left hand and foot were strongly adducted. At the morning visit I found right arm intermittently contracted and relaxed. At noon the whole body became rigid by spells; intervals of relaxation were few and short. Blood was now taken for Vidal test, which promptly gave positive reaction. Just here I would remark the difficulty in getting even a drop of blood. The lobe of the ear was punctured, then the finger tip, then the ear again several times before a drop of blood could be obtained.

August 13th.—Temperature range, 102° to 104.4° F.; pulse, 120 to 172; respiration, 38 to 56. The whole body was strongly rigid most of the time. Periods of relaxation were longer apart and imperfect. Here the case presented the typical features of the complicating disease. The fingers contracted into the palms; the wrists were strongly flexed; the forearms flexed and crossed with the elbows close to the sides; the toes and ankles flexed and adducted; the knees semiflexed; the right vertical and the left horizontal, the facial muscles were rigid, and the head slightly extended. Towards evening the muscular rigidity was less

marked, and alternating contractions and relaxation were noticed on the right side.

August 14th.—There appeared to be signs of improvement. Temperature range, 98.6° to 102.4° F.; pulse, 120 to 178; respiration, 30 to 54. Rigidity of arms and legs was less marked; he moved head slightly; opened eyes occasionally; had limited voluntary motion of right leg and both arms, and of the left leg in very slight degree. Face muscles were still rigid, but less pronounced than yesterday.

August 15th was a day of hope. Temperature range, 99.4° to 101.6° F.; pulse, 120 to 160; respiration, 30 to 56. All the symptoms improved except the breathing, which was irregular and catchy. There was general muscular rigidity; he could open his eyes and mouth a little, and was sensitive to touch; he was in a semiconscious state.

August 16th.—Patient was rapidly growing worse, except muscular rigidity, which during the day was entirely relieved. Temperature range, 102° to 104.8° F.; pulse, 160 to 264; respiration, 28 to 68.

August 17th.—Temperature range, 102.8° to 108° F.; pulse, 200 to 260; respiration, 40 to 88. Patient died at 3:30 p. m.

In review I have to add that the bowels had been freely opened at the beginning of the sickness and remained so throughout. Elimination was sought by frequent high enemas of normal salt solution, which generally came away clear. Nothing given by rectum was retained, and when endeavor was made to nourish by this route it failed completely.

The kidneys acted freely and urine was discharged normally until the 15th, when continuous bed wetting was noticed, and the bladder thereafter relieved by the use of the catheter.

His diet consisted of malted milk, junket, and albumin water administered by mouth until the 12th, and then, after one day's delay in trying to nourish by rectum, was given regularly by nasal route until noon of the 17th.

Remedial measures seemed almost entirely without effect, except in the temporary relief of certain symptoms. Increase in temperature was met by cold or tepid sponging, according to state of skin and pulse. From the first the pulse was very weak and various cardiac stimulants were resorted to without satisfactory results. For the rigidity the warm pack, and twice the tub bath, were used with apparent benefit. Time and again difficulties in respiration were relieved by the use of atropine or sulphuric ether, but notwithstanding the disease, or diseases, marched steadily on to lethal issue.

Now several interesting if not particularly important questions present themselves, viz.:

1. Did this child have tuberculous or cerebrospinal meningitis?

2. Was the case one of typhoid with the complication of cerebral or cerebrospinal congestion?

3. Were there two separate diseases, distinct entities, complicating and interfering each with the other?

Regarding the first, there was nothing in the history pointing to tuberculous infection. The usual prodromal symptoms of such condition were absent. There was no headache, no vomiting except at the outset in connection with the operation of the physic, and no fever except at night. There was no hydrocephalic cry or anything approaching it. The only pain complained of was a vague discomfort and tenderness in the abdomen. The pulse was not rapid at first, nor did it subsequently assume the character of the tuberculomeningitic pulse. The pupils were dilated from the beginning. Convulsions, tremors, paralyses, and spasms may occur in tuberculous meningitis, but they are all quite different from those in the case cited.

The ordinary form of cerebrospinal meningitis may have the initiatory symptoms of headache and pains in the back, but it is more apt to come on suddenly with chill, vomiting, and headache, none of

which occurred in this case. Even in mild cases the headache and nausea are so uniformly present as to be regarded almost as essential to the disease. Spasms also occur, both tonic and clonic, the former tetanic in their character, and the latter having little resemblance to the gradual contraction and relaxation which marked the case under consideration. In cerebrospinal meningitis, Osler says that "strabismus is a frequent and important symptom." It will be remembered that this was an early symptom in my case, manifesting itself on the fifth day. This, with the active delirium and strong, full pulse at first, was strongly suggestive of meningeal inflammation, but the subsequent course of the disease was hardly consistent with that view. Osler further says: "Of sensory symptoms, headache is the most dominant and persists from the outset." "Delirium occurs at the onset occasionally of a furious and maniacal kind," and, he adds, "the delirium gives place in a few days to stupor, which, as the effusion increases, deepens to coma." In this case there was no time when the patient could be called comatose. The deepest stupor was on the eleventh and twelfth days, but even then he gave evidence of discomfort on being moved or disturbed.

In regard to meningitis as a complication of typhoid, Osler remarks, "Meningitis is extremely rare." He did not find it in any of his autopsies, and it occurred in only eleven of the 2,000 Munich cases. He further states that he has examined post mortem three cases with pronounced cerebral symptoms, in two of which the diagnosis of cerebrospinal fever had been made. "In not one of these was there any trace of meningeal inflammation, only the most intense congestion of the cerebral and spinal pia," and continues, "Stokes's dictum that 'there is no single nervous symptom (in typhoid) which may not and does not occur independent of any appreciable lesion of the brain, nerves or spinal cord,' is too often forgotten."

Of tetany with typhoid, he writes, "True tetany occurs sometimes, and a number of cases have developed in certain epidemics. It may set in during the full height of the disease. This complication is extremely rare in this country, and Janeway, as far as I know, has alone reported instances."

As for tetany itself, various causes are ascribed. In children it is frequently associated with rickets. It has followed extirpation of the thyroid gland. Dilatation of the stomach is frequently found in fatal cases, and it is stated that any exhausting disease may be a possible cause. Its pathology gives no constant or characteristic lesion. J. Madison Taylor in Sajous's *Encyclopædia* says: "The evidences point to the conclusion that tetany is a disorder of the nerves, somewhat generally distributed, and of toxic origin."

A tender fishbone lodged in a tracheus will usually not cast a shadow on the x-ray plate. In such a case bronchoscopy and auscultation are more reliable diagnostic measures. In addition to a variety of moist râles, one may hear, associated with the inspiratory or expiratory murmur, or both, a musical or vibratory note, when a bone or pin lies in the bronchus.—From *Five Hundred Surgical Suggestions*.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXIX.—How do you treat post partum hemorrhage? (Closed December 16, 1907.)

LXX.—How do you distinguish alcoholic stupor from other conditions resembling it? (Answers due not later than January 15, 1908.)

LXXI.—How do you treat gallstone colic? (Answers due not later than February 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXVIII has been awarded to Dr. Arthur S. Risger, of Blackwell, Oklahoma, whose article appeared on page 1209 of the preceding volume (LXXVI, No. 26).

### PRIZE QUESTION NO. LXVIII.

THE TREATMENT OF THE VOMITING OF PREGNANCY.

(Concluded from page 1216.)

Dr. William H. Wells, of Philadelphia, writes:

The treatment of the vomiting of pregnancy will depend on the cause and time of pregnancy.

We have the slight morning nausea caused by a nervous reaction produced by the growing uterus. This form is usually seen in the early weeks, particularly of a first pregnancy. It is felt commonly in the early part of the day or on rising from the recumbent position. The blood serum should be examined so as not to mistake this condition for the much more serious form to be described later. Allow the patient to take her breakfast lying down. Her diet should be light, easily digested liquids prepared in a dainty manner and always in quantity a little less than the patient wants. No smell of cooking should be allowed near the patient. The bowels should be kept open, preferably by enemata, one of the normal salt solution doing well enough. Minute doses, say 1/24 to 1/40 grain of calomel with 1/2 grain cocaine hydrochlorate and 5 grains cerium oxalate every four to six hours will do for drug medication. The condition usually passes in from four to six weeks.

Nausea produced by uterine displacements.—These usually have pain accompanying the nausea. Other symptoms characteristic of displacement are usually found. It is obvious that the correction of the uterine displacement will cure the nausea. The uterus must be put back in position; usually this may be done by tampons until it is large enough to ascend out of the pelvis. If the organ cannot be replaced vaginally, it must be done by abdominal section.

Hyperemesis gravidarum is often a trying condition of pregnancy. The diagnosis is often difficult, as it so much resembles pernicious nausea. The diagnosis must be made by a careful study of the case in conjunction with frequent examinations of the blood and urine. The blood will not show the

changes found in the toxæmic form, and the excretion of solids will be fairly good. Also the excretion of free ammonia nitrogen will be comparatively low. Except in hysteria in an albuminuric subject there should be no albumin and casts in the urine, and no oedema. The patient should be put to bed under the care of a reliable trained nurse. She should be in a quiet room, away from disturbing elements of life, and as much as possible with the nurse alone. All displacements of the uterus should be corrected if present. Her bowels should be kept open by small doses of calomel, say 1 grain in divided doses, if she can retain it, or by aperient waters, if well borne; otherwise a daily enema of normal salt solution or magnesium sulphate  $\frac{5}{8}$  j, and glycerin,  $\frac{5}{8}$  j, in a quart of soap suds. Her diet should be of liquids—milk or chicken broth or small quantities of champagne. The chief point in the diet is to give small quantities of food and at frequent, regular intervals. Mental suggestion is often useful in quieting the condition.

The most dangerous form is the toxæmic, found in patients suffering from the toxæmia of pregnancy, either of renal or enterohepatic form. This type may occur at any time in pregnancy, but in my own experience has been seen most frequently from the fourth to the seventh and a half months. It frequently occurs earlier. There are usually some blood and urine changes associated with the condition. In the latter the solid excretion is decreased, the excretion of urea and urea nitrogen is less than normal, while the output of free ammonia and certain other substances is increased. The patient is constantly nauseated, breath foul, temperature somewhat raised, as is also the respiration and pulse. Frequently the patient does not seem to lose weight.

The vomitus is composed first of the contents of the stomach, later bile, and in the late stages the "coffee ground" vomit. The urine is scanty and frequently passed in small quantities; in the earlier stages it is of lower specific gravity, and usually contains albumin and an increased output of free ammonia or nitrogen in other combination than urea. In the latter stages the urine may be concentrated.

The treatment consists in putting the patient to bed in a quiet room. An attempt should be made (1) to feed the patient by the mouth with predigested milk or broth; this usually fails; (2) to feed the patient by the bowel after having thoroughly evacuated all fecal matter. Too much time should not be lost, as these attempts for rectal feeding are too often only a slow form of starvation. The subcutaneous injection of salt solution may do for a short time. Usually we are forced to empty the uterus to save the patient's life, and it should be done early, as too much time is usually lost in trying other methods of treatment.

*Dr. Eugene R. Corson, of Savannah, Ga., remarks:*

The simpler forms of this trouble require little or no treatment. The condition may be regarded as a natural one, to be borne like other disagreeable features of pregnancy; nor does the general health suffer from it. When more pronounced, treatment becomes necessary. Still, up to a certain point, proper hygienic regulations, a selected diet, suitable exercise, absence of coitus, a proper psychic surrounding, and the simpler drug treatment, control

the majority of the cases. It is here that cerium oxalate, nux vomica, ipecac, ingluvin, calomel, haphazard doses of bromide, or what not, relieves the case, and the successful drug has gained a new votary. Again, there may be certain local conditions, an unhealthy vaginal mucous membrane, erosions of the os, an endotrachelitis, or a misplaced uterus, all of which should be looked to on general principles.

Yet, while we shall probably see an improvement from the local treatment in the simpler or ordinary cases, where the disease assumes the more violent form, my experience is that we must look for help elsewhere. The worst forms I have seen have been without any apparent local trouble. As to the value of cervical dilatation, a practice made popular for a time by a very capable man, it may be valuable in some cases of the simpler type, but I believe it is precarious and uncertain in the violent forms, cases which require prompt action in a different way. And rectal feeding, which has been found valuable in a few cases, will also fail when most needed. The bromide sleep makes both these methods unnecessary.

Let the condition become more pronounced, let it pass a certain point, and the problem which confronts us is a wholly different one. Now, any old thing will not do; the ordinary drugs not only fail, but they aggravate, for every additional spell of vomiting carries the patient further down stream. Thus a systematic treatment becomes necessary, with a keen regard to every possible detail—the trained nurse, everything by clockwork, and the utmost vigilance.

I have found but one drug upon which I can rely, sodium or potassium bromide, and since I have learned *how* to use it, it has become, to my mind, the one sovereign remedy. In the simpler cases it can be given by mouth in 20 grain doses in plain water, at such intervals as the case demands, and it is a drug which the stomach stands well. In the severer form, where everything is vomited, it can be given by rectum in one or two drachm doses every two, three, or four hours, and it is a drug well borne by the rectum. In the majority of cases the vomiting will cease when a pleasant somnolence has been induced. In the severest cases this will not be sufficient, and the regular bromide sleep will become necessarily a gentle sleep withal, for the patient is easily aroused and will take her nourishment without trouble every two, three, or four hours, as the case may be. To put the "vomiting centre" asleep we must put the patient asleep.

The food I have found best suited for these cases is ice cold buttermilk or kumyss, or egg albumen lemonade. Individual peculiarities may require some other forms of liquid diet.

Patients can thus be kept gently asleep for several days, when they can be allowed to come somewhat out of the sleep, and the vomiting watched. I have had several bad cases cured by a week of such treatment. Personally, I have never seen it fail, while I admit, of course, that there may be cases where everything fails, and an induced miscarriage becomes the only remedy. When this measure has to be considered do not delay too long. My practice is to introduce a large leaded bougie



well up into the uterus under the strictest asepsis. Labor comes on usually in twenty-four hours, and it is wonderful how the patient's condition improves immediately or soon after the passage of the bougie.

Before I used the bromide treatment I was obliged to induce a miscarriage in four cases, if my memory serves me. Recently in a case complicated by typhoid fever this treatment acted admirably and labor came on later spontaneously at the seventh month.

The patient, of course, is kept flat on her back, and in some cases the head lowered. I also use an ice bag on the epigastrium, and I may give  $\frac{1}{4}$  grain calomel triturates at short intervals to help the upper bowel, and *increase the flow of urine*, so frequently greatly diminished in this trouble. Should the bowels be loose, I use bismuth subnitrate in drachm doses. If the pulse is very rapid, a common condition in bad cases, I use aromatic spirits of ammonia with the bromide. For drinking water I use Irish soda or ginger ale, but no form of alcohol.

Other forms of intractable vomiting, due evidently to this same reflex pyloric spasm, are relieved, if not cured, by this wonderful drug.

*Dr. B. W. Wilson, of Youngstown, Ohio, states:*

There is no affliction that presents so marked a variance of symptoms as does the vomiting of pregnancy. Its cause is mainly reflex from the growth and dilatation of the uterus and cervix, with possibly some degree of toxæmia and consequent irritation of the stomach. Its treatment must be governed accordingly.

The very mild cases of "morning sickness," with occasional vomiting, may require little more than a cup of hot water with a little salt or sodium phosphate. This should be taken in the morning, twenty to thirty minutes before rising. The bowels should be kept loose, and daily regularity at stool should be enforced. The diet should contain plenty of fruits and vegetables, with a liberal supply of water. Cas-cara should be taken with morning and evening meals, if there is a tendency toward constipation. A saline enema may be required if the bowels do not move freely.

When the weather is favorable the patient should take daily walks in the open air or ride in a comfortable carriage. She should avoid the odor from the kitchen as much as possible.

With some cases such treatment seems to have no effect whatever. These are the ones that draw upon our resources and test our ability to allay their suffering, and especially to keep their mental and nervous systems from running riot.

Cerium oxalate and bismuth, which by many are recommended so highly, I have found insufficient. They have never proved satisfactory, except in mild cases, and then when given in combination with cocaine. My experience has been similar with wine of ipecac, nux vomica, creosote, aconite, iodine, Fowler's solution, the bromides, and others, any one of which may be sufficient in mild cases. It is wise to change drugs occasionally to prevent habit or other deleterious effects. Of all the former, cerium oxalate, bismuth, and cocaine in small combination doses shortly before meals or before rising, give the best results. Quinine and cinchona juice, popoorn, light wines or whiskey (diluted)

taken moderately at intervals, may assist. Washing out the stomach gives but temporary relief.

I have obtained by far the best results from the following drugs in combination: Cocaine, resorcine, atropine, nitroglycerin, and morphine. The cocaine and resorcine act locally upon the stomach wall. The atropine tends to cut off all peripheral nerve endings, while the nitroglycerin acts upon the centres. The dose of each must be regulated according to the patient. One powder should be given with water from fifteen to twenty minutes before meals. If the patient is very bad I require her to lie quiet upon the right side for two hours after meals. The ice bag over the epigastrium, or a blister over the fourth or fifth dorsal vertebra, may relieve the symptoms.

The cervix should be examined for any ulceration, which, if present and properly treated, may relieve all trouble. Often a pessary, if properly applied, performs wonders. A tampon containing a one or two per cent. solution of cocaine placed against the end of the cervix may do the same, especially if the cervix has been kneaded between thumb and finger.

Should these measures fail, and the patient become weak, I put her to bed, give morphine with atropine hypodermatically in sufficient doses to control vomiting, requiring her to eat hearty meals. By paying attention to the bowels many may be carried in this way until the fourth month, when all symptoms often disappear like magic. If the vomiting does not abate the cervix should be dilated, even at the risk of a miscarriage resulting, which is not likely if carefully performed. Rectal feeding may be necessary to keep up the nourishment. If, however, in spite of every effort, the vomiting still persists, and the patient is very weak, with pulse over 120, possibly vomiting blood, and with some fever, it may be necessary to bring about a miscarriage. We should not wait so long as to endanger the life of the mother. Such cases, however, are rare. Yet they cross the path of the physician who has been long in practice, and his first duty as a medical man is to the mother.

*Dr. A. Ernest Gallant, of New York, states:*

The time at which vomiting usually appears is the third to fifth week of pregnancy; the nausea, with or without vomiting, on changing from the reclining to the upright posture, relieved by lying down; the similarity to the nausea induced by instrumental dilatation of the cervix without miscarriage; its cessation when the uterus has risen out of the pelvis and enlarged sufficiently to be supported by the pelvic brim; and the frequent failure of drugs to give relief until the uterus does emerge from the pelvic cavity; each and all confirm the view that the "morning sickness" of pregnancy is due to the increasing tension exercised on the internal os by the growth of the fetal sac, from within the uterus plus the additional weight brought about by the physiological congestion and increase in size of the uterus as a whole.

Treatment.—When the nausea is fresh it is preferable to place the patient in the left lateral Sims position, and carefully palpate the vagina with tampons or moistened cotton, applied in a manner of about median position, for ten or fifteen minutes.

The cessation of the nausea will confirm the diagnosis. After a few days the tampons may be discontinued and replaced by a hollow, soft rubber pessary, which may be left *in situ* for a month, if necessary, removed, cleaned, and replaced, or a new one inserted.

Whenever, in the vomiting of pregnancy, the external os uteri can be reached by the examining finger, the uterus should be lifted up and supported by tampons or pessary until it rises well above the superior straight. Should the vomiting continue later than the fourth month, if we add rest and quiet, posture, and diet, multiple incisions of the cervix or deliberate abortion will seldom or never be indicated.

Persistent vomiting of pregnancy is most frequently caused by displaced uterus, tubes, and ovaries, incarcerated in the pelvis, held by adhesions which prevent the uterus from emerging out of the pelvis, or weighted down by tumors, which sometimes cause the uterus to bulge at the vulva, and can be, in most instances, gradually released by placing the patient in the knee chest posture and introducing small tampons or gauze dipped in a mixture of ichthylol, two drachms, and glycerin, one ounce, and renewed every second or third day. Sometimes the uterus can be elevated in one or two sittings; occasionally the treatment will require a few weeks to accomplish its purpose. Under the solvent action of the ichthylol glycerin the adhesions soften and stretch, the organ is supported on the tampons, the tension is relieved, and the vomiting ceases, and even where miscarriage seemed inevitable a full term child has frequently been delivered. Under these circumstances patients must not be permitted to lie upon the back, but must be instructed to rest upon the side, or, better still, upon the abdomen, in order to facilitate the release of the impacted uterus. Most patients do better if kept quiet and at rest in bed. Should the nausea, vomiting, and backache continue after the fundus is above the brim, the abdomen must be supported by a tightly fitting binder or corset, put on while in the recumbent posture (*Journal of the American Medical Association*, xlviii, p. 1357, 1906). In no instance have we found it necessary to moderately dilate the cervix, as advised by Copeman.

General Measures.—The diet must be limited to fluid or semisolid, light and nourishing food, and at first it may be well to give nothing by mouth but six ounces of water every hour, until the stomach regains its normal status; sedatives in the form of sitz baths, moderate doses of bromide and chloral, avoiding opium preparations (unless a miscarriage is imminent, as they only upset the stomach the day after); counter irritants, mustard, blister, or cups over the epigastrium; mild laxatives, castor oil, licorice powder, at times olive oil or soap suds enema to insure free evacuation of the bowel twice daily.

In a limited number of cases, persistent vomiting, associated with pregnancy, may be due to malaria, kidney disease, acute or chronic gastritis, gastric ulcer, chronic appendicitis, typhoid fever, displaced kidney, anal fissure, gallduct disease, etc., each of which must be recognized and appropriate treatment applied.

*Dr. H. Tucker Lyons, of Brooklyn, N. Y., observes:*

In vomiting of pregnancy the resourcefulness of the physician will be taxed many times. Although we know that the aetiology may be sought in one of the three great avenues, viz., the gastrointestinal tract, pelvic deformities and injuries, and reflex irritation, still there remain many cases where the aetiology is in doubt or unknown.

In gastrointestinal catarrh due to a sluggish circulation, together with an impoverished condition of the blood and a torpid liver, the administration of fractional doses of calomel, or in a single dose of three grains, temporarily relieves the overburdened organs and allows appropriate treatment in time to become effective. Where there is a deficiency of the hydrochloric acid, as evidenced by delayed digestion, flatulence, etc., the administration of five to eight drops of the dilute hydrochloric acid three times a day, ten minutes after meals, will prove effective. Here the alkalies before meals, as the bismuth salts, magnesium and calcium carbonate, render valuable aid. If hepatic torpor is pronounced, sodium phosphate night and morning should be given, as well as sodium salicylate and the well known rhubarb and soda mixture.

Should flatulence be a prominent symptom drop doses of spirits of turpentine three times a day may be tried, or the preparations of salol and creosote carbonate. For the anæmia, which is so often a pronounced symptom, the various preparations of iron may be given, provided the bowels are active. Exercise in the open if possible should be insisted upon, for it is one of our best stimulants to the general well being that we possess. I have seen the judicious use of this treatment give most happy results. A glass of lukewarm water on arising will often allay the vomiting when medicinal agents fail. Of course a regulation of the diet must be insisted upon, otherwise our best efforts may prove fruitless. The preparations of codeine, cocaine, and drop doses of iodine tincture and dilute hydrocyanic acid should always be withheld to the last. In many cases of natural pelvic deformities we are actually helpless so far as the correction of the same is concerned. Here we must decide the momentous question, Can the patient be conducted to a safe motherhood? and if so act accordingly.

In the multiparous woman prolapse of the uterus, due to cystocele and rectrocele, with its train of symptoms, may be an aetiological factor; associated with the foregoing condition we may have a laceration of the cervix extending up into the broad ligament, with its constant pressure and irritation upon the uterine plexus, retroversions and retroflexions being freely coexistent. In the primipara a cystic ovary may be at the seat of the trouble or a uterine polyp, many of these patients presenting an endometritis of recent origin. The treatment for these cases is purely surgical.

Should the vomiting be unrelieved by any of these measures, the life of the patient in danger, we must deal with a pernicious state, the question of emptying the uterus presents itself. This procedure should be undertaken only after consultation with colleagues for the best interests of all concerned and for self protection.

## Therapeutical Notes.

**Treatment of Intestinal Hæmorrhage in Typhoid Fever.**—E. Hirtz and Cl. Simon, in *La Clinique* (November 29, 1907), advise the following procedure in the treatment of intestinal hæmorrhage, occurring in typhoid fever: Every two hours, or seven times during the day, give a teaspoonful of the following mixture:

B	Ergotine, .....	8.0 grammes;
	Calcium chloride, .....	6.0 grammes;
	Distilled water, .....	150.0 grammes.

M.

In the intervening hours administer one tablespoonful of a mixture made as follows:

B	Extract of opium, .....	0.10 gramme;
	Syrup of orange peel, .....	6.00 grammes;
	Syrup .....	140.0 grammes.

M.

Ice bags should be kept constantly applied to the abdomen.

**Nutritive Soup for Infants.**—In *Les Nouveaux remèdes* a formula for a nutritive soup is credited to Pierre Lesage. The soup is recommended in gastroenteritis, being well borne and readily taken by children of all ages. The soup is composed thus:

Potatoes, .....	60.0 grammes;
Carrots, .....	45.0 grammes;
Turnips, .....	15.0 grammes;
Green peas, .....	.....
Haricot peas, dried, .....	ââ 6.0 grammes.

These ingredients are added to one litre of cold water contained in a covered casserole or other porcelain vessel. Heat is applied and the mixture is allowed to boil for four hours. It is then strained to reject the peas and beans, and the volume is made up to one litre with boiling water. About 5 grammes of table salt is added for each 1,000 grammes of liquid. Infants to whom this soup is administered may do without milk for from two to eight hours.

**The Therapy of Gold.**—Professor Grasset (*Province médicale*) employs the double salt of gold and sodium (gold and sodium chloride) in the treatment of chronic rheumatism as follows:

B	Gold and sodium chloride, .....	0.10 gramme;
	Distilled water, .....	300.0 grammes.

M.

Professor Lemoine prescribes gold bromide in epilepsy, one or two teaspoonfuls of the following solution being ordered to be taken at night time:

B	Gold bromide, .....	0.20 gramme;
	Distilled water, .....	500.0 grammes.

M.

Gold bromide is also said to be efficacious in the treatment of cancer of the stomach and cancerous affections generally.

**The Uses of the Glycerophosphates.**—An editorial note in *The Prescriber* directs attention to the value of the glycerophosphates in gout, diabetes, phthisis, etc. It is shown that while they do not directly combat such maladies, they assist the vital powers. Combined with formates they form a useful tonic, the muscle-forming properties

of formic acid assisting the general process of building up. It is probable, remarks the writer, that the glycerophosphates act as foods to the nervous system, their good effects being most marked in nervous exhaustion from overwork. The salts most in use are sodium, potassium, calcium magnesium, and iron glycerophosphates, two or more of these usually being combined in solution with formates of sodium and potassium. Quinine glycerophosphate is usually given alone in doses of 3 to 8 grains in cachets.

**Powders for Inhalation in Asthma.**—Sawyer, in *Folia Therapeutica*, gives the following formulas for asthma powders:

I.

B	Potassii nitratis, .....	15.0 grammes;
	Pulveris anisi, .....	15.0 grammes;
	Pulveris stramonii, .....	30.0 grammes.

M. et fac pulverem.

Sig.: Ignite a thimbleful of the powder, and inhale as directed.

Mold with the fingers a thimbleful of this powder into a pyramid, place on a plate, and ignite at the pointed top. The plate should then be held near the patient's face and the fumes inhaled.

II.

B	Potassii nitratis, .....	15.0 grammes;
	Pulveris stramonii, .....	30.0 grammes;
	Pulveris anisi, .....	8.0 grammes;
	Pulveris lobelia, .....	4.0 grammes;
	Pulveris theæ sinensis nig. fol., .....	4.0 grammes;
	(Black tea leaves.)	

Olei eucalypti, .....

M. et fac pulverem.

Sig.: Ignite a small portion for inhalation, as directed.

III.

B	Potassii nitratis, .....	15.0 grammes;
	Sulphuris sublimati, .....	2.0 grammes;
	Pulveris anisi, .....	15.0 grammes;
	Pulveris stramonii, .....	30.0 grammes.

M. et fac pulverem.

Sig.: Ignite a small portion for inhalation, as directed.

When a pharmacy is not handy for the preparation of this prescription, "a mixture of one part by weight of saltpeter and two parts of black tea leaves, powdered and rubbed together, makes a good inhalant" in emergency cases.

**Picric Acid for Plantar Hyperidrosis.**—A 5 per cent. solution of picric acid in absolute alcohol applied with a swab of absorbent cotton on the end of a rod is effective in removing the pain, smell, and sweat of plantar hyperidrosis. Chandèze, who recommends this (*Journal de médecine, through The Practitioner*), advises if the feet are in very bad condition, the skin, thin, macerated, and bleeding, that the dressing should be done twice on the first day of treatment, and then once a day for three or four days.

**Enema in Gout Accompanied with Gastric Disorders.**—Milton (*Journal de médecine*) is credited with the following enema for use in the treatment of both acute and chronic gout in cases where medicine is not well borne by the stomach:

B	Starch water (5 per cent.), .....	1000 grammes;
	Infusure of colchicum root, .....	1.0 grammes;
	Wine of opium, .....	30 drops.

M.

The ink and mixture is used after dilution.



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## THE COMMAND OF HOSPITAL SHIPS.

More than a year ago a joint board of army and navy medical officers was convened by executive order with instructions to prepare a plan for the unification of the medical services of the two arms to as great a degree as possible. This board recommended that hospital ships be put under the command of medical officers, a recommendation that received the approval of both the Secretary of War and the Secretary of the Navy. This recommendation was recently put into force by President Roosevelt, who, on the recommendation of the surgeon general of the navy, gave instructions that a surgeon be assigned to the command of the hospital ship *Relief*, which was about to go into commission. Coincidentally with the publication of this order, Rear Admiral Brownson, chief of the Bureau of Navigation, through which such orders pass, tendered his resignation, and it is understood that he did this as a protest against the appointment. The resignation has been accepted by the President, the appointment stands, and a statement by Surgeon General Rixey covering the matter has been made public, while Admiral Brownson's letter of resignation, which presumably presented the objections to the proposed order, has not been made public.

So far as we can ascertain, the objections which line officers in the service raise to the appointment is that it places in command of the vessel a man who in the nature of the case probably has no knowledge of navigation or seamanship, and who

therefore cannot accept the full responsibility for the welfare of the ship. This divided responsibility will, they say, not only be possibly disastrous in case of emergency, but will, they argue, require a complete revision of the rules of the service, all of which are based on the assumption that the commanding officer afloat is responsible for everything which occurs on board the ship. For instance, when through the laxity of a junior engineer officer the *Bennington* was blown up, the officer in command was court martialed. While this is the most cogent reason which has been advanced by the line of the navy against the placing of a medical officer in actual command, the warmth of feeling which has been developed in the matter and the acrimony with which the point is argued suggest the possibility that the officers of the line resent what they look upon as a gain of prestige on the part of the staff and a loss of prestige on the part of the line even more strongly than they condemn the proposed change from a purely theoretical point of view.

In the army this matter was definitely settled during the civil war when the policy was adopted of placing medical officers in command of hospitals and hospital ships and assigning a civilian crew and sailing master to such vessels. No instance has been cited where this practice proved objectionable. The very ship now involved, the *Relief*, formerly belonged to the army, and was commanded by a medical officer when used as a hospital ship. In the war with Russia the naval hospital ships of the Japanese were placed in command of medical officers, though when the war opened they had been in command of the officers of the line. It is said that one of the factors in determining this matter for the Japanese was a question as to the status of the hospital ship under the Geneva and Hague agreements. If such a ship were in command of a line officer and manned by a regular navy crew, circumstances might arise under which the peaceful status of the vessel might well be questioned. With a medical officer in actual command, such question could scarcely arise.

As a matter of fact, a hospital ship is merely a hospital afloat, and there is every reason why a hospital, whether afloat or ashore, should be under the immediate and actual command of a medical officer. None of the arguments which have so far been advanced in opposition to this plan will, we think, prove convincing to any person free from prejudice who gives the matter careful consideration in all its various phases. While it is to be regretted that this incident may cause a recrudescence of the ill feeling between the line and the staff, which has been allayed to a certain extent by the effect of the per-

sonnel bill, the arguments in favor of the change in policy seem to us to much outweigh those against it, and we congratulate the President and the Secretary of the Navy upon their firmness in carrying out a reform against such pronounced opposition on the part of the line officers.

### FALLING OF THE HAIR IN WOMEN.

An exceedingly sensible article on this important subject appears in the *Gazette de gynécologie* for December 1st. It is by Dr. R. Sabouraud, of the Hôpital Saint-Louis. M. Sabouraud says positively at the outset that the state of a woman's general health has nothing whatever to do with the loss of her hair, save for that which often follows an acute febrile disease; the falling of the hair is wholly due to an abnormal local condition characterized by overproduction of oily matter by the glands of the scalp, except of course in cases of a specific nature, which assume forms easily distinguished from the ordinary loss of hair.

The onset of baldness, as we all know, varies in the two sexes as a rule. In men the trouble begins at the crown of the head, though it may be supplemented by recession of the hair from the forehead; in women it is in the regions of the forehead and the temples that it is first conspicuous. The loss of hair usually sets in when the woman is between eighteen and twenty-two years of age, but it has long been preceded by indications that it is about to occur. At first dry pellicles form on the scalp, and they are somewhat difficult of removal; after a time these are succeeded by a yellowish greasy accumulation on the skin, and then the hair begins to fall. The loss may for a time be confined to the summer months, when the production of oily matter is more abundant than in winter.

The prime remedy for falling of the hair is the frequent removal of the greasy accumulation by the vigorous application of soap, and care must be taken that the soap employed does not contain enough potash to prove irritating. It is not the hair in its entire length that needs to be soaped, but only about five inches from the roots. After detritation of the scalp, the hair should be separated into plaits and the roots of each plait in succession, and particularly the portion of scalp concerned, rubbed vigorously with a tooth brush infused with soap and water. The solid cake of soap itself should not be applied, for then there would be left on the hair fine masses of soap which would serve only to collect dirt. After the soaping, the hair and scalp should be rinsed with warm water and dried with a soft towel, with the aid of gentle heat if necessary. The attempt must be made to correct

the resulting temporary dryness of the hair by means of oily applications.

The falling of the hair having thus been controlled, the growth of new hair may to a certain extent be stimulated, but the applications commonly employed, especially those of cantharides, should be avoided. There are a few substances which are reputed to have some effect in stimulating the growth of hair. Among them are pilocarpine, quinine, caffeine, and camphor, to any of which some perfume which is agreeable to the patient may be added. The author suggests the following formula, though he remarks that the proportions of the ingredients should be varied to suit individual cases:

R Pilocarpine hydrochloride, .....gr. iiij;  
Water, sufficient to dissolve the pilocarpine;  
Spirit of lavender, .....fl. 5v;  
Ether, .....fl. 5v;  
Ammonia water, .....fl. 5ss;  
Alcohol, sufficient to make, .....fl. 3viii

M.

When a woman finds that a particular prescription proves beneficial in her case, the author remarks, she is very apt, in the goodness of her heart, to pass it around among her friends, but disappointment is almost sure to result, because hardly any two cases in the circle of her acquaintances are exactly alike, and it would be as futile to order one prescription for indiscriminate use as to prescribe the same eyeglasses for all persons with visual errors.

### VIVISECTION IN THE STATE OF NEW YORK.

Promoters of legislation purporting to be in the interest of the moral and the humane are prone to show more zeal than discretion and to close their eyes to certain grave evils likely to result from the enforcement of the measures which they advocate. It was in deprecation of this tendency that in our issue for October 20th, commenting on an expected attempt to hamper the work of the Rockefeller Institute, we said: "It is well known to our readers that we have always condemned cruelty in experiments on animals, and we are quite ready to oppose the needless repetition of experiments undertaken simply for the purpose of demonstrating anew such facts as have been abundantly proved. We do not mention the subject of an animal to discomfit, to say nothing of actual suffering, for mere show purposes. But we do insistently advocate noninterference with the full liberty of vivisection done in the interest of real research, always, of course, with the understanding that the experiments shall be conducted with the most scrupulous avoidance of cruelty, and be entirely without the infliction of unnecessary pain or harm." While we still hold to

this view, we are willing to admit that a proper regard for the humane feelings of all right minded persons would naturally lead to the substitution, to a reasonable extent, of legal regulation for individual discretion.

It is quite probable that the radical antivivisectionists, unrestrained by really humane considerations, will press upon the legislature of the State of New York at its present session certain drastic enactments that would tend powerfully to retard the progress of medicine in the State, but we are glad to be able to add that a number of humane persons have drafted a bill to which we can give our cordial approval. It is entitled An Act to Prevent Cruelty by Regulating Experiments on Living Animals. It restricts experiments on living vertebrate animals to those authorized by responsible persons—that is, representatives of institutions, such as colleges and hospitals, qualified by their character to grant such authorization, or of the State or city. It confines the experiments to licensed places. It prescribes conditions which will tend to reduce the infliction of pain to the smallest amount made necessary by the demands of science, but will not interfere with an experiment seriously undertaken for scientific purposes. It requires reports to be made to the commissioner of health regarding such experiments as are performed. In this synopsis of the provisions of the bill we have employed very largely the words of one of the chief promoters of the bill, a man whom we believe to be actuated by entirely worthy motives and wholly free from any desire to hamper legitimate scientific investigation.

It is known to us that this bill has met with the endorsement of many representative members of the medical profession in the State, and we hope that the legislature will see the wisdom of giving it the preference over certain mischievous measures that are almost sure to be brought before it, and we trust that, in furtherance of this end, our New York State readers will exert their influence in favor of the bill upon the legislators representing them.

#### STUDIES CONCERNING CHLOROFORM ANÆSTHESIA.

On former occasions we have referred in these columns to the work of Buckmaster and Gardner in connection with chloroform anæsthesia (*New York Medical Journal*, February 2d and September 7th). In the *Proceedings of the Royal Society* for November 18th, their papers are continued. One communication deals with the rate of the absorption of chloroform by the blood during anæsthesia, another treats of the functions of the red blood corpuscles in chloroform anæsthesia, and the third re-

lates to the rate of elimination of chloroform. It was found that the chloroform contained in the blood rose in the initial stages of the anæsthesia with great rapidity to an amount which approached a maximum. During this period the chloroform appears to affect the respiratory centres so that breathing becomes slower and often ceases during the first few minutes of the anæsthesia. If the animal successfully passes this stage of the anæsthesia, on continuing the administration the amount of chloroform again rises toward the maximum. Then an equilibrium is maintained between the amount of intake and output of the chloroform. This equilibrium may be maintained for a considerable length of time, but the margin between it and death is very minute, and the condition is dangerous. The authors insist that chloroform kills by failure of the respiration, succeeded by asphyxia. They have never noticed a death by heart failure.

They find that chloroform is carried from the lungs to the cerebral centres by the red blood corpuscles, and that the percentage of chloroform in the blood does not suffer any variation corresponding to differences in the volume of the circulating blood. The rate of elimination of chloroform is at first comparatively rapid and subsequently slower. This is quite in accord with the facts known about the elimination of other substances from the body. When the blood contains a relatively high percentage of material to be eliminated the rate of excretion is naturally more rapid than when there is a smaller quantity in the circulating fluids. The elimination of chloroform is, however, a much less rapid process than its absorption.

#### SPURIOUS HENBANE.

Dr. A. B. Lyons, in a recent issue of the *American Druggist*, directs attention to the appearance in the American market of a variety of hyoscyamus which contains practically no hyoscyne, but does contain 0.8 per cent. of hyoscyamine, or approximately ten times the total alkaloidal contents of the pharmacopœial drug, which is derived from *Hyoscyamus niger*. It is important to guard against the substitution of this drug for the official one, both on account of its greater potency and by reason of the difference in the character of the effects produced. Since the *Pharmacopœia* standardizes the preparations of the drug on the basis of total contents of alkaloids, the substitution of the spurious henbane would not probably be discovered save in the difference in the therapeutic effect. Dr. Lyons says that the new drug is probably derived from *Hyoscyamus muticus*, which is used in the Orient under the name of *blang*, or *hasheesh*, and is sometimes used



in conjunction with cannabis indica, which is also known by the same names. From its effects it was formerly known as *Hyoscyamus inasus*, and is still called "sakin" (drunken) in Egypt.

### DANGER FROM BROMOFORM.

It appears that the use of bromoform as a remedy for whooping cough is not so free from danger as has been supposed. Löbl (*Wiener klinische Wochenschrift*, 1907, No. 19; *Berliner klinische Wochenschrift*, October 28th) reports a number of cases in which severe symptoms of poisoning occurred, although the usual dose was exceeded by only a few drops. Unfortunately, he says, the poisonous dose cannot be definitely stated, for individual susceptibility is very variable.

### News Items.

**The Geneva, N. Y., Medical Society** held its annual meeting on January 2d, and elected officers for the ensuing year.

**Association of Military Surgeons.**—The seventeenth annual meeting of this association will be held in Atlanta, Ga., on October 7 to 9, 1908.

**A State Sanatorium for the Treatment of Tuberculosis** is to be established in North Carolina. The State has made an appropriation of \$35,000, and the work will be started at once.

**The Manhattan Clinical Society** held a meeting on Friday, December 27th. The paper of the evening was read by Dr. Thomas F. Reilly on Some Observations on Grecco's Sign in Pleurisy with Effusion.

**A Research Laboratory** has recently been established in Tananarivo, Madagascar. In addition to scientific research work, the laboratory will be used for the analysis of foodstuffs and for other practical purposes.

**Charitable Bequests.**—By the will of Mrs. Louisa M. Bodine, the Kentucky Antituberculosis Association will receive \$20,000, and the Children's Free Hospital and the Children's Infirmary, Louisville, will each receive \$1,000.

**The Queens-Nassau Medical Society.**—The semi-annual meeting of this society, which was to have been held on Saturday evening, December 14th, has been postponed till Saturday, January 11th, when the same programme will be presented.

**The Internes of the Mount Sinai Hospital of Philadelphia** have formed the Alumni Association of the Hospital. Dr. George Rosenbaum is the president, Dr. D. M. Toll is the vice president, and Dr. M. B. Cooperman is the secretary and treasurer.

**Buffalo Medical Union.**—At the regular meeting of the union, held on December 18th, officers for the ensuing year were elected as follows: President, Dr. Vertner Kenerson; vice president, Dr. Edward J. Meyer; secretary and treasurer, Dr. C. B. Macdonald.

**Infectious Diseases in Chicago.**—During the week ending December 27th, 1907, there were reported 1,077 cases of infectious diseases, as follows: Typhoid fever, 10; scarlet fever, 10; diphtheria, 10; measles, 10; whooping cough, 10; pneumonia, 10; influenza, 10; tuberculosis, 10; syphilis, 10; gonorrhea, 10; skin diseases, 10; and other infectious diseases, 10. Total, 1,077.

**The Boston Society of Examining Physicians and Surgeons** will have its next meeting and dinner at the Hotel Somerset on Wednesday evening, January 8th. The meeting will be devoted to a discussion of life insurance examinations, and the principal speaker will be Dr. Augustus B. Knight of New York.

**Prince George County, Md., Medical Association.**—At the regular meeting of the association held in Hyattsville on December 14th, the following officers were elected:

President, Dr. John Cronmiller, of Laurel; vice president, Dr. Harry Nalley, of Brentwood; secretary, Dr. H. B. McDonnell, of College Park; treasurer, Dr. A. O. Etienne, of Berwyn.

**New Counsel for the Medical Society of the County of New York.**—Mr. Champe S. Andrews, who has been counsel to the society for the past seven years, has tendered his resignation, which has been accepted, to take effect on January 1st. It is understood that he is to be succeeded by Mr. Emery C. Weller and Mr. Philip C. McCook, who have been associated with Mr. Andrews.

**Vacation Lectures at the University of Berlin.**—The medical lectures during the coming vacation, held by the Lecturers' Association of the Medical Faculty of the Berlin University, will begin on March 2d and will close on March 28, 1908. A catalogue of the lectures will be sent free of charge by applying to Dr. Melzer, Langenbeck Haus, 10 and 11 Siegelstrasse, Berlin, Germany.

**Georgetown University Hospital.**—A department for the examination and treatment of patients suffering from tuberculosis has been opened at this hospital, in connection with the outdoor department. Dr. W. C. Gwynn has charge of the clinic, which meets every week on Monday from 11 to 12 a. m. A nurse from the Instructive Visiting Nurse Society visits patients at their homes to aid them in carrying out the physician's instructions.

**The New York Herter Lectures by Professor Starling.**—Dr. Ernest H. Starling, professor of physiology in the University of London, will give the Herter lectures of the year on the subject, *The Fluids of the Body*, beginning January 6th, at 4 p. m., and continuing daily at the same hour throughout the week, at the Carnegie Laboratory of the University and Bellevue Hospital Medical College, 338 East Twenty-sixth street. All interested are cordially invited to be present.

**The Seaboard Medical Association**, which is composed of physicians from the tidewater sections of Virginia and North Carolina, have elected the following officers for the year 1908: President, Dr. Armistead K. Tayloe, of Washington, N. C.; first vice presidents, Dr. E. C. S. Taliaferro, of Norfolk; Dr. B. F. Halsey, of Roper, N. C.; Dr. J. G. Woodward, of Norfolk; Dr. J. R. Harker, of Tyner, N. C.; treasurer, Dr. Israel Brown, of Norfolk; secretary, Dr. John R. Bagby, of Newport News.

**Obstetrical Society of Philadelphia.**—At the regular meeting of this society, held on Thursday evening, January 2d, Dr. Edward P. Davis showed a patient with an interesting dextroty. Dr. C. C. Norris and Dr. Charlotte B. Mitchell reported a case of primary ovarian pregnancy. Dr. Barton Cooke Hirst reported a case of abdominal pregnancy in which the ovum was implanted in the pelvic peritoneum, remote from the tubes and ovaries. He also exhibited a specimen of unusually large hydrosalpinx.

**Typhoid Fever in Porto Rico.**—We learn from press dispatches that an epidemic of typhoid fever has broken out in Caguas, Porto Rico. Governor Foster personally inspected the town and found one hundred and twenty-five cases. He has given orders to construct a temporary hospital in which to segregate the sick, and to disinfect or burn all houses where the fever has been found. All American school teachers have been ordered to leave the infected district. It is said that the outbreak is due to contaminated water.

**Dr. Robert Reyburn Honored.**—At the regular meeting of the Medical Alumni Society of Worcester, Mass., on January 2d, a silver loving cup was presented to Dr. Reyburn by the society, in appreciation of his fifty years of active practice. After routine business had been transacted, a literary and musical programme was presented. Dr. Reyburn read a paper entitled *The Prevention of Death During Anesthesia by Chloroform and Ether*, and Professor Kelly Miller delivered an address on the Allegiance of the Alumni to the Alma Mater.

**Gift to Union Hospital, Fall River, Mass.**—The Union Hospital, Fall River, Mass., has received a gift of \$1,000 from the Medical Alumni Society of Worcester, Mass. The gift was made in recognition of the services rendered by Dr. Robert Reyburn, who has been a member of the society for fifty years. The gift will be used to secure other contributions which were given conditionally.

contributions being that of \$45,000 by Mrs. Frank S. Stevens, of Swansea, \$10,000 by the late John D. Flint, and \$7,500 by M. C. D. Borden.

**Personal.**—Professor Simon Newcomb, of Washington, D. C., and Professor Emil Fischer, of Berlin, have been elected members of the Göttingen Academy of Sciences.

Dr. Frederick Montzambert, of Ottawa, Canada, and Dr. E. P. La Chapelle, of Laval University, Montreal, have been elected Fellows of the Royal Sanitary Institute.

Dr. Carl D. Camp, of Philadelphia, has been appointed clinical professor of nervous diseases in the University of Michigan, in the place made vacant by the death of Dr. William J. Herdman.

**An Operation for Appendicitis in Midocean.**—The Cunard liner *Pannonia*, while on her way from the Mediterranean to New York, was stopped for an hour in mid-ocean to permit the surgeons to perform an operation for appendicitis on a member of the crew. The operation was performed by Dr. J. Fraser Orr, ship surgeon, who was assisted by Dr. Torok, of the Hungarian Government. The sea was running very high and the vessel rolled badly, but the operation was entirely successful, although it took one hour to complete it.

**The General Practitioners' Medical Society, of Columbus, Ohio,** held a meeting on December 10th, and elected the following officers: President, Dr. Ida Wilson; vice president, Dr. S. O. Griffin; secretary and treasurer, Dr. A. B. Davenport. After the business meeting a banquet was held, at which addresses were made by Dr. C. F. Gilliam, Dr. Emma O. Jones, Dr. Fred O. Williams, Dr. E. A. Hamilton, and Dr. J. W. Clemmer. Dr. Wilson, the newly elected president, is also vice president of the Women's Medical Club of Columbus.

**Sydenham Hospital, New York.**—The following members of the medical board of this hospital resigned in a body on December 27th: Dr. Edwin Beer, Dr. Herman J. Boldt, Dr. C. G. Kerley, Dr. L. La Fetra, Dr. S. Oppenheimer, Dr. G. Seeligman, Dr. A. Strouse, and Dr. A. Wiener. The following adjuncts have also resigned in a body: Dr. Richard Weil, Dr. Richard Lewisohn, Dr. Arthur Stein, Dr. Joseph E. Field, Dr. De Witt Stetten, Dr. A. Richard Stern, and Dr. Ernst Danziger.

**Cortland County, N. Y., Medical Society.**—The annual meeting of this society was held on December 20th. Officers for the ensuing year were elected as follows: President, Dr. H. C. Hendrick, of McGaw; vice president, Dr. S. J. Sornberger, of Cortland; secretary, Dr. R. P. Higgins, of Cortland; treasurer, Dr. C. D. Ver Nooy, of Cortland. The retiring president, Dr. F. S. Jennings, delivered an address on Tendencies in Medicine. Dr. T. H. Halstead, of Syracuse, read a paper on Esophagotomy and Bronchotomy, and Dr. S. J. Sornberger read a paper on Some of the Reflex Neuroses.

**Scientific Society Meetings in Philadelphia for the Week Ending January 11, 1908.**—*Monday, January, 6th,* Philadelphia Academy of Surgery; Biological and Microscopical Section, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society. *Tuesday, January 7th,* Academy of Natural Sciences; Philadelphia Medical Examiners' Association. *Wednesday, January 8th,* Philadelphia County Medical Society. *Thursday, January 9th,* Section Meeting Franklin Institute; Pathological Society. *Friday, January 10th,* West Branch, Philadelphia County Medical Society.

**The Philadelphia Neurological Society.**—At the regular meeting of this society, held on Monday evening, December 23d, Dr. Alfred Gordon reported a case in which the parietal lobe of the cerebrum was destroyed and in which there was a preservation of the stereognostic function. Dr. W. B. Cadwalader reported a case of segmental asteriognosis resulting from a lesion in the parietal area. Dr. Charles K. Mills and Dr. J. W. McConnell exhibited two cases. Dr. T. H. Weisenburg reported a case of ascending post-rolateral sclerosis. Dr. D. J. McCarthy reported a case of ascending paralysis. Dr. Lightner Witmer reported a case of a better knowledge of psychology. Dr. Walter S. Cornell read a paper on The Backward and Mentally Deficient Children in the Public Schools. Dr. S. D. Ludlum reported a case of degeneration in the periphery of the spinal cord.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending December 21, 1907, there were during the week 592 deaths from all causes, as compared with 618 for the corresponding week last year. The annual death rate in 1,000 of population was 14.65. The principal causes of death were: Apoplexy, 8; Bright's disease, 37; bronchitis, 22; consumption, 72; cancer, 26; convulsions, 5; diphtheria, 12; heart diseases, 49; influenza, 4; intestinal diseases, acute, 20; measles, 6; nervous diseases, 15; pneumonia, 92; scarlet fever, 13; suicide, 10; typhoid fever, 10; violence (other than suicide), 48; whooping cough, 1; all other causes, 142.

**National Association for the Study and Prevention of Tuberculosis.**—The fourth annual meeting of this association will be held in Chicago on June 5 and 6, 1908. The organization of the sections has been arranged as follows: Sociological Section: Mr. Ernest P. Bicknell, of Chicago, chairman; Mr. Alexander M. Wilson, of Chicago, secretary; Clinical and Climatological Section: Dr. Henry Sewall, of Denver, chairman, and Dr. H. W. Hoagland, of Colorado Springs, secretary; Pathological and Bacteriological Section: Dr. L. Hektoen, of Chicago, chairman; Surgical Section: Dr. A. E. Halstead, of Chicago, secretary; Section in Tuberculosis in Children: Dr. William F. Cheney, of San Francisco, chairman.

**Training in Medical Organization.**—The students of the University of Pennsylvania Medical School have formed an organization, the purpose of which is to acquaint the undergraduates with the workings of the American Medical Association, after which it is very closely modeled. The various student societies take the place of the State organizations and elect members to a house of delegates which transacts all the business of the association. An annual meeting is held, at which papers are read by chosen members, thus encouraging original research and a scientific spirit. The organization is named The Undergraduate Medical Association of the University of Pennsylvania and already has over two hundred and fifty members.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Health Department for the following statement of new cases and deaths reported for the two weeks ending December 28, 1907:*

	December 21-28.		December 23-30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	35	12	42	18
Smallpox	3	..	2	..
Varicella	108	..	123	..
Measles	117	30	340	26
Scarlet fever	412	22	426	22
Whooping cough	10	2	3	2
Diphtheria	138	37	347	30
Tuberculous bronchitis	131	171	308	101
Cerebrospinal meningitis	7	7	6	6
Totals	1,888	285	1,603	205

**Quarantine Work of the Public Health and Marine Hospital Service.**—The Public Health and Marine Hospital Service last year inspected 4,635 vessels, of which 478 were disinfected at the forty-three national quarantine stations in continental United States. Inspection has been maintained on both the Canadian and the Mexican borders. A train inspection service was maintained during the year to prevent the introduction of smallpox into the State of Maine from New Brunswick and Nova Scotia, where it prevailed in epidemic form. National quarantine has also been maintained at eight ports in Porto Rico, seven in Hawaii, and seven in the Philippines. During the fiscal year 1,285,349 immigrants were inspected under the provisions of the immigration laws and regulations.

**The Health of Pittsburgh.**—During the week ending December 14, 1907, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chickenpox, 16 cases, 0 deaths; typhoid fever, 112 cases, 17 deaths; scarlet fever, 20 cases, 1 death; diphtheria, 12 cases, 1 death; measles, 68 cases, 4 deaths; whooping cough, 8 cases, 1 death; pulmonary tuberculosis, 20 cases, 0 deaths. The total deaths for the week numbered 155 in an estimated population of 403,330, corresponding to an annual death rate of 19.08 per 1,000 population. During October there were 567 deaths from all causes in Pittsburgh, corresponding to an annual death rate of 15.24 per 1,000 population for the month.

**Popular Medical Lectures at Harvard.**—A course of free public lectures has been arranged by the Faculty of Medicine of Harvard University, which will be held in the new buildings of the medical school, Longwood avenue, Boston, on January 4th at 8 p. m. and Sundays at 4 p. m. beginning January 4th and ending April 26th. No tickets required. The lecture on January 4th will be delivered by Dr. Walter B. Cannon on Recent Discoveries in the Physiology of Digestion; on January 5th, Dr. Edward H. Bradford will deliver a lecture on the Human Gait; the January 11th lecture will be delivered by Dr. Elliott P. Joslin on the Modern Crusade against Typhoid Fever, and the lecture on January 12th will be on Common Salt, by Dr. Lawrence J. Henderson.

**Southern Surgical and Gynecological Association.**—The twentieth annual meeting of this association was held in New Orleans on December 17th to 19th, and it is said that the meeting was one of the largest and most successful in the history of the organization. The following officers were elected: President, Dr. F. W. Farham, of New Orleans; first vice president, Dr. Willis F. Westmoreland, of Atlanta; second vice president, Dr. Henry D. Fry, of Washington, D. C.; secretary (reelected), Dr. William D. Haggard, of Nashville; treasurer, Dr. Stuart McGuire, of Richmond; council, Dr. George Ben Johnson, of Richmond; Dr. Richard Douglas, of Nashville; Dr. Howard A. Kelly, of Baltimore; Dr. Lewis A. McMurtry, of Louisville, and Dr. George H. Noble, of Atlanta. The next meeting will be held in St. Louis.

**The Fifth Pan American Medical Congress** will be held in Guatemala, Central America, the second week in August, 1908. Guatemala is situated on an elevated plateau which is comparatively cool, and the weather will probably not be uncomfortable. The trip from New Orleans or from New York by steamer to Porto Barrios is an agreeable one. The arrangements for the trip will be in the hands of the chairman of the committee on transportation. There will be no charges for transportation within the Republic of Guatemala. The Government and the people of Guatemala are taking an active interest in the meeting, and are doing everything in their power to make it a great success. Further information regarding the congress can be obtained from Dr. Ramon Gutierrez, 75 West Fifty-fifth street, New York, who is the secretary of the International Executive Committee.

**The Health of Philadelphia.**—During the week ending December 14, 1907, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 76 cases, 8 deaths; scarlet fever, 50 cases, 5 deaths; chickenpox, 73 cases, 0 deaths; diphtheria, 93 cases, 14 deaths; cerebrospinal meningitis, 3 cases, 1 death; measles, 34 cases, 1 death; whooping cough, 15 cases, 5 deaths; pulmonary tuberculosis, 87 cases, 53 deaths; pneumonia, 84 cases, 66 deaths; erysipelas, 6 cases, 2 deaths; septicaemia, 1 case, 0 death; diphtheria, 1 case, 0 death; German measles, 2 cases, 0 deaths; scarlet, 24 cases, 28 deaths. The following deaths from other transmissible diseases were reported: Tuberculosis, other than tuberculosis of the lungs, 13; puerperal fever, 2; dysentery, 1; diphtheria and scarlet, and two cases of age 11. The total deaths numbered 568 in an estimated population of 1,300,505, corresponding to an annual death rate of 19.61 in 1,000 population. The total infant mortality was 112; under one year of age, 109, between one and two years 13. There were 37 still births, 10 males, and 18 females. The total population was 2,177 males.

**Philadelphia Bureau of Health Statistics.**—During the month of October, in the Division of Medical Inspection 3,702 inspections were made, exclusive of schools; 636 of these were ordered, 18 cases were referred for special diagnosis, 1,068 were sent back to the schools, and 567 children were excluded from entering with school certificates. In the Division of Child Hygiene, 1,871 inspections were made, 1,041 of these were referred for special diagnosis, and 1,000 children were sent back to the schools. In the Division of Milk Inspection 1,068 inspections were made of milk at points of sale, of which 778 quart cans, 2,000 3-gallon cans, 1,000 half-gallon cans, and 1,068 quart cans were found to be satisfactory. In the Division of Meat and Cattle Inspection 1,767 inspections were made of which 1,000 were found satisfactory, 447 poor, and 320 diseased meat were condemned. 170 meat stores and 100 markets were made satisfactory. In the Division of Dairy Inspection 1,000 inspections were made, of which 1,000

let fever; 326 for diphtheria; 89 for typhoid fever; 172 for tuberculosis; 142 for miscellaneous diseases, and 34 schools were fumigated. In the Bacteriological Laboratory 1,104 cultures were examined for the presence of bacillus diphtheriae; 363 specimens of blood were examined for the serum diagnosis of typhoid fever; 1,083 specimens of milk were examined; 149 specimens of sputum were examined; 7 disinfection tests were made, and 3,983,600 units of antitoxine were distributed. In the Chemical Laboratory 147 analyses were made.

### Society Meetings for the Coming Week:

MONDAY, January 6th.—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

**TUESDAY, January 7th.**—New York Academy of Medicine (Section in Ophthalmology); New York Morphological Society (annual); Buffalo Academy of Medicine (Section in Surgery); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Medical Association of Troy and Vicinity (annual); Hornellsville, N. Y., Medical and Surgical Association; Long Island, N. Y., Medical Society; Bridgeport, Conn., Medical Association.

WEDNESDAY, January 8th.—New York Pathological Society (annual); New York Surgical Society; Medical Society of the Borough of the Bronx, New York; Alumni Association of the City (Charity) Hospital, New York; Brooklyn Medical and Pharmaceutical Association (annual); Richmond County, N. Y., Medical Society (annual).

THURSDAY, January 9th.—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y. (annual); Jenkins Medical Association, Yonkers, N. Y.

FRIDAY, January 10th.—New York Academy of Medicine (Section in Otology); New York Academy of Medicine (Section in Surgery); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

SATURDAY, *January 11th.*—Therapeutic Club, New York.

**The New York Academy of Medicine.**—A stated meeting of the academy, under the auspices of the Section in Pædiatrics, was held on Thursday evening, January 2d. The following papers on Tuberculosis in Infants and Children were read: The Pathological Findings, by Dr. John McCrae, of Montreal; Recent Diagnostic Methods, by Dr. W. H. Park, of New York; Laboratory Aids to Diagnosis, by Dr. T. Homer Coffin, of New York; Channels of Communication, Their Relative Significance, by Dr. S. McC. Hamill, of Philadelphia; Management and Treatment, by Dr. Lovett Morse, of Boston.

The Section in Dermatology will meet on Thursday evening, January 7th. After the presentation of cases, an executive session will be held.

The Section in Otology will meet on Friday evening, January 10th. The paper of the evening will be read by Dr. B. Alexander Randall, of Philadelphia, on Do Certain Ear Diseases Tend to Lateralize to the Right or Left Side? An executive session will be held.

The Section in Surgery will meet on Friday evening, January 10th. Dr. John F. Erdmann will present a patient with a four ounce brain tumor, Dr. A. Ernest Gallant will present a case of ureteral drainage through the vagina, and Dr. A. A. Berg will present six kidney cases showing some unusual features. A paper, entitled *Some Observations on the Surgical Treatment of the Kidney and Ureter*, by Dr. F. Brewer, Dr. Fielding L. Taylor will report a case of abscess of the frontal lobe, and Dr. Joseph Wiener will report three cases of unilateral hemorrhagic nephritis.

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## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

December 26, 1907.

1. The Attitude of the Medical Profession toward the Psychotherapeutical Movement. By E. W. TAYLOR.
2. The Use of X Ray Examinations in Pulmonary Tuberculosis. By FRANCIS H. WILLIAMS.
3. The Results of the Chemical Investigation of Tumors. By S. P. BEEBE.
4. The "Optometrist." A Warning Word. By JOHN C. BOSSIDY.
5. Strain as a Causative Factor in Infectious Arthritis. By JOHN D. ADAMS.

#### 1. The Attitude of the Medical Profession Toward the Psychotherapeutical Movement.

Taylor reviews the past and future of this treatment, and remarks that the comprehensive knowledge of the movement, as it exists in the medical profession would best be disseminated by taking the laity into the confidence of the profession through popular lectures and the press. He concludes that in our enthusiasm for the development of a highly significant therapeutic advance we should not allow the traditions of the profession to which we belong to be submerged. Our enthusiasm should not lead to the antagonism of any reasonable member of the profession. In our efforts toward what we regard as progress we should proceed with great deliberation and by recognized logical methods. To this end we should quote cases and exploit methods which have stood the test of experience. We should hesitate in appearing before the public with a detailed expression of our views and theories until we have secured the acquiescence of the conservative members of our own profession. We should not ally ourselves with movements over which we have no immediate control; we can ill afford misinterpretation, especially at the hands of our brother physicians. Our essential aim should be to develop a permanent interest in the psychotherapeutical movement within the ranks of the profession, and to do nothing which can in any way retard this effort. To this end we should urge reasonable but adequate recognition of the assertions of psychotherapy as a legitimate and necessary element in medical education. Finally, our one object as members of a liberal profession should be to insist upon the importance of psychotherapeutical methods with an enthusiasm which should only be increased by the legitimate limitations set upon its action.

5. Strain as a Causative Factor in Infectious Arthritis.—Adams reports several such cases, an analysis of which shows many common factors, namely, vocation, seat of disease, sequence of joints attacked, symptoms, and relief by treatment. In considering vocation as a factor one must not only analyze the character of the work but also the conditions under which it is done. Careful investigation showed that all these patients were tailors working in dry, well ventilated rooms, not exposed to drafts and in an even temperature. Their work, ten hours a day, was chiefly on heavy goods, mostly men's clothes. The symptoms were first noted in the thumb finger, and the histories showed a progressive infection of the joints in the right hand before any symptoms occurred in the left. The onset was rapid, and the pain and symptoms not

especially acute, but in all the cases, intensified greatly with use. The pain, intermittent in character, was more in the nature of a soreness rather than the throbbing pain of an infection. The symptoms were not affected to any extent by sudden changes of temperature. In all the cases there was absolutely no indication of any trouble in any other joint in the body. In other words, the trouble was absolutely confined to the hands. The problem confronting one in these cases is a serious one, as we have a patient otherwise perfectly well but incapacitated for making her daily bread. Such a condition of affairs brings about the most pronounced type of mental depression. The following line of treatment was pursued in all the cases: Urinary examination showed a marked hyperacidity in all the cases. General treatment, omitting all meats, forcing liquids; sodium benzoate, gr. v, t. i. d., to neutralize acidity. Local treatment, baking daily. This was done entirely by electricity. In the more acute cases a very intense heat was used, namely, a 100 candle power light, applied for a period of twenty minutes, close enough to be tolerated by patient over bare skin. In other cases, a small wooden box, one foot square, was made with two small apertures, large enough to insert hands, in one end. The box was lined with asbestos to prevent radiation, and fitted up with six 16 candle power incandescent lights. A temperature of 300 degrees F. was maintained here for a period of twenty minutes. The results were most gratifying. The counter irritation of the heat produced the usual hyperæmia to a marked degree, and all the cases showed a gradual diminution of pain, with a return on failure in systematic baking. The patients pursuing the treatment conscientiously for two months had entire relief from pain, with ability to return to work.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

December 28, 1907.

1. Brain Tumor with Jacksonian Spasm and Unilateral Paralysis of the Vocal Cord and Late Hemiparesis and Astereognosis. By JOHN L. ATLEE and CHARLES K. MILLS.
2. Tubal Twin Pregnancy. By CHARLES G. CHILD.
3. Diverticulum of the Vermiform Appendix. By ISABELLA C. HERB.
4. Pathophysiology and Therapeutics. By GEORGE F. BUTLER.
5. Clinical Observations in the Acute Infectious Diseases. By LOUIS FISCHER.
6. Phlegmonous Gastritis. A Report of Two Cases. By H. E. ROBERTSON.
7. Ossiculectomy in Chronic Middle Ear Suppuration. By FREDERICK L. JACK.
8. The Paravertebral Triangle of Dullness in Subphrenic Abscess (Grocco's Sign). By K. HEDERDEN BEALL.

2. Tubal Twin Pregnancy.—Child reminds us that there are recognized two varieties of multiple extrauterine gestation, where the pregnancy is tubal. In order to distinguish these two varieties they may be classified as follows: 1. Twin tubal pregnancy, where each tube contains an ovum. 2. Tubal twin pregnancy, where one tube contains both ova. Of the first variety, generally considered to be the rarer of the two, several cases are reported. Of the second variety he has been able to find but five reported cases, to which he adds a sixth case. The abdomen was opened through the median line in-

cision; when it, as well as the pelvic cavity, was found to contain a great quantity of fluid and clotted blood; the left tube was ruptured in three places, a segment two inches in diameter lying free in the blood clot. Twin fetuses lay outside of the tube, one attached by its umbilical cord, the other free. The proximal end of the tube was bleeding profusely, the distal end was densely adherent to the ovary, but showed no active bleeding. The tube and ovary were ligated and removed. The right tube was intact and adherent to the ovary and posterior face of the broad ligament. The peritoneal cavity was cleared of blood and clots, the wound closed, and the patient given an infusion of physiological salt. Death followed twelve hours later, with gradually rising temperature and pulse.

### 3. Diverticulum of the Vermiform Appendix.

—Herb describes her case and thinks that the attack of appendicitis eighteen years ago was responsible for the condition found. The fibrous connective tissue capsule with deposits of lime salts showed it was not of recent origin. It is possible that the occlusion occurred at that time; however, the character of the tissue forming the septum where the appendix was occluded rather precludes the possibility of its being as old as the connective tissue capsule of the diverticulum. The glands still retaining their functioning power to some extent, their secretion by pressure produced a diverticulum through the muscle undermined by the inflammation, or enlarged preexisting one. That the author was not dealing with a dermoid cyst was proved by the absence of epiblastic structures. The character of the wall as well as the content—no hooklets or scolices being found—indicated it was not an hydatid cyst. Enteric cysts extend into the bowel lumen and rarely, if ever, pass through the muscular coats; they are formed by the occlusion of the glands of Lieberkühn and do not communicate with the intestinal lumen. Mesenteric cysts can be excluded, as the diverticulum was situated on the free border; many mesenteric cysts, however, are intestinal diverticula, with a constricted base. The possibility of the diverticulum being an implantation cyst is also to be excluded, as the ovarian cyst was a simple, benign, unilocular cystoma without adhesions and a fluid content changed to a greenish yellow by hemorrhage occasioned by the pedicle being twisted. Cystic malignant disease is excluded for obvious reasons.

5. Clinical Observations in the Acute Infectious Diseases.—Louis Fischer, of New York, says he is convinced that an extra careful diet and absolute supervision, with the aid of a trained nurse, if possible, will do more good than all medication combined. The walking convalescent with a weak heart and low digestive power who is permitted meat and cake or unwholesome food of any sort usually invites infection, and thus complication commences. The desquamation of the skin permits easy chilling of the surface of the body. In like manner the high fever produces a marked subnormal condition. Pathogenic bacteria remain dormant in the nose and throat and in the general circulation, and these require but one of the factors just mentioned to begin an active inflammatory process. It is wiser to keep a child one week longer in bed and two if necessary, than the customary four or

six weeks, rather than be accused of carelessness and perhaps cause a fatal termination by a complication.

6. Phlegmonous Gastritis.—Robertson observes that phlegmonous gastritis is a rare form of gastric inflammation characterized by a diffuse or focal infiltration of the stomach wall by pus and serum. It is caused by the entrance into the submucosa of a virulent organism, usually the streptococcus, through some defect in the gastric mucosa, though cases are reported in which no defect could be found. It occurs more commonly in day laborers of the alcoholic type and at or past middle life. The clinical symptoms are vomiting, thirst, pain and tenderness in the epigastrium, fever, rapid pulse, signs of peritonitis, collapse, and death. The duration is from twenty-four hours to fourteen days, and the average is from four to six days. The diagnosis is usually made at autopsy only. The prognosis is extremely grave and treatment is of little avail. Post mortem examination frequently shows, besides the stomach condition, purulent peritonitis, and other associated lesions. Bacteriological examination usually yields the streptococcus in pure culture.

7. Ossiculectomy in Chronic Middle Ear Suppuration.—Jack thinks that between 9 and 10 per cent. of neglected cases of chronic middle ear suppuration sooner or later developed symptoms demanding surgical interference. Thorough medical treatment is first to be tried in all cases, excepting patients having symptoms of intracranial or mastoid involvements. The result of ossiculectomy has proved satisfactory in many cases. This operation avoids some of the dangers of the radical operation. Curettement of the eustachian tube is of great value in preventing reinfection of the middle ear cavity. The mortality of ossiculectomy is practically nil.

### MEDICAL RECORD.

December 28, 1907.

1. Some Unclassified Dangers in Anæsthesia, By JOSEPH D. BRYANT.
2. Environment and Personal Hygiene as Causes of Consumption, By RICHARD COLE NEWTON.
3. The Bacteria as Incitants of Malignant Endocarditis, By AUGUSTUS WADSWORTH.
4. Skiagraphy in Orthopædic Surgery, By FREDERICK H. ALBEE.
5. Hot Springs, Virginia, By GUY HINSDALE.
6. Appendicitis Due to the Presence of *Campylobacter* *jejuni*, By M. CLAYTON THURMOND.
3. The Bacteria as Incitants of Malignant Endocarditis.—Wadsworth states that malignant endocarditis develops on the injured or diseased endocardium as a secondary localization in the bacteræmia or pyæmia of infectious disease. It may be incited by many different species of bacteria, but usually the pneumococcus, streptococcus, staphylococcus, or gonococcus is present. It may be associated with any of the infectious diseases of man, but chiefly with pneumonia or some form of sepsis. As a complication of previous disease, malignant endocarditis is of so serious a nature and so often mortally or dominates the parent infection that separate consideration of it is justified. The exceptionally grave tenor of the prognosis is due to the anatomical situation of the lesion. The experimental studies of Rosenbach, Wyss-Koch, and others have demonstrated the importance of previous infection

the endocardium in determining the secondary localization of the infection in the heart, a fact of definite practical significance to both surgeon and physician in the prophylaxis of the disease. This study has also shown that the lesions of the endocardium once freed of their mycotic nature tend to heal, and thus recovery, when it occurs, differs in no essential from that of infection in general, a fact as yet of little practical value owing to the inadequacy of present methods of specific treatment in bacteriæmic disease. Apart from accidents of infarction or thrombosis, the course, the prognosis, and the treatment of malignant endocarditis, as of infection in other parts of the body, depend primarily upon the balance between the two opposing factors of infection, the body cells and the bacterial cells. In this complex mechanism of infection the different processes of immunity in the body tissues, on the one hand, and on the other the development of the bacteria, their susceptibility, and virulence, vary in their relation one to the other with different bacterial species and under different conditions. Since the control of these subtle conditions is beyond the reach of modern therapy, the manifestations of the disease, even the elevation of temperature, are to be regarded in general as indicative of the effort of the body tissues to maintain a favorable balance. The limitations of rational treatment are thus apparent, and departure from a rigid, conservative, personal, or physiological hygiene is sanctioned only under exceptional conditions arising in the individual cases.

**6. Appendicitis Due to the Presence of *Oxyuris Vermicularis*.**—Thrush describes such a case. He removed the appendix, which had all the appearance of an acute infection with marked congestion of the bloodvessels, the only peculiar feature being a bulb like expansion of the tip into a mass about one inch long and about double the caliber of the remainder of the organ. On incising the appendix it was found that this mass consisted of a thick mucoid substance, with a constriction separating it almost completely from the appendiceal canal, and in this jelly like substance was a large number of worms of various sizes of development, and moving around freely. Some were quite small, others of full development. Altogether there were about one hundred of these worms. Microscopical examination confirmed the diagnosis of the *Oxyuris vermicularis* as being the variety of worm observed. Rectal examination of the patient showed, as was expected, an abundance of these worms present. They had spread far up into the colon until they reached the region of the appendix, where some of the ova became imprisoned and developmental changes occurred, causing the attack. The patient made an uneventful recovery.

#### BRITISH MEDICAL JOURNAL

December 14, 1907.

1. Prognosis in Relation to Treatment of Tuberculosis of the Genitourinary Organs (Bradshaw Lecture).  
By R. J. GODLEE.  
By B. PORTER.
3. Periclit. Sinistra with Abscess Formation: Recovery.  
By R. DONALDSON.
4. The Part Played by *Pediculus Corporis* in the Transmission of Relapsing Fever.  
By F. P. MACKIE.
5. A Possible Explanation of Late Return Cases in Scarlet Fever.  
By W. HABGOOD.

**4. Relapsing Fever and Lice.**—Mackie investigated an outbreak of relapsing fever, occurring in Bombay, and summarizes the results of his observations as follows: 1. An epidemic of relapsing fever broke out in a mixed settlement of boys and girls living under similar conditions. 2. A very high percentage of the boys fell victims to the disease in the course of a few weeks. 3. A much smaller percentage of girls fell ill and at infrequent intervals, extending over three months. 4. The most notable factor in which the boys differed from the girls was that they were infested with body lice, from which parasite the girls were almost free. 5. A well marked percentage of the lice taken from the infected ward contained living and multiplying spirilla. 6. The stomach of the louse was the chief seat of multiplication, and this was carried on in the face of active digestion and after the disappearance of all other cellular elements. Other organs become secondarily infected. The secretion expressed from the mouth of infected lice contained numbers of living spirilla, and they also existed in greater or less numbers in the upper alimentary tract. The ovary was frequently infected, but spirilla were not found in deposited ova. 7. With the increase of the epidemic among the girls, body lice became more in evidence. 8. With the subsidence of the epidemic amongst the boys the percentage of infected lice fell. 9. An attempt to infect a monkey by means of lice failed. These facts are sufficient to throw grave suspicion on the body louse as a transmitter of relapsing fever. Many epidemiological facts point to this mode of transmission as being a likely one, and the life history and habits of body lice show that these parasites well fulfill the necessary conditions for spreading the disease. Thus relapsing fever has always been associated with poverty stricken, overcrowded, and half starved communities, and it is just under such conditions that lousiness is at its worst. Again, in mixed communities the disease attacks the poor and dirty living in squalid tenements, to the exclusion of those of cleanly habits and better conditions of life. Relapsing fever is a "personal" and not a "place" disease, and among stricken communities the infection spreads from person to person very rapidly after only a few days' exposure, and mere contiguity without contact is not sufficient to carry on the infection. It is probable that the infected secretion of the louse's mouth is the medium responsible for transmission during the height of an epidemic, but whether the ovarian infection plays any part in the linking together of epidemics or in the carrying over of the disease during the off season it is impossible to say, but the failure to find spirilla in nits is against this theory.

**5. Return Cases of Scarlet Fever.**—Habgood states that of recent years it has been recognized that where return cases of scarlet fever occur the discharged patient will be found to have some purulent or mucopurulent discharge. While admitting the impossibility of being sure that all inflammation has ceased in the upper respiratory tract, he is inclined to believe that cases are occasionally sent out free from any nasal discharge and not infectious, but do again become infectious by the occurrence of an ordinary attack of nasal catarrh, which causes some remaining scarlet fever germs to renew their activity.



## LANCET.

December 14, 1907.

## 1. Prognosis in Relation to Treatment of Tuberculosis of the Genitourinary Organs (Bradshaw Lecture).

By R. J. GODLEE.

## 2. On Some Gastric Conditions in Wasted Infants, with Special Reference to Hypertrophic Pyloric Stenosis.

By R. MILLER and W. H. WILLCOX.

## 3. Two Cases of Congenital Deficiency of the Muscles of the Abdominal Wall Associated with Pathological Changes in the Genitourinary Organs.

By G. H. HALL.

## 4. A Case of "Caisson Disease."

By F. H. RUDGE.

## 5. Three Successful Cases of Operation on the Labyrinth.

By S. R. SCOTT.

## 6. Twenty-six Cases in which Both Eyes Were Operated on for Senile Cataract.

By A. C. ROPER.

## 7. Compensatory Collateral Circulation with "Caput Medusæ" in Cirrhosis of the Liver without Ascites.

By V. N. BRAHMACHARI.

## 8. The Synchronous Movements of the Lower Eyelids with the Tongue and Lower Jaw Observed in Certain Diseases: A Sign of Disease in Connection with the Lower Eyelids.

By H. J. ROBSON.

1. **Genitourinary Tuberculosis.**—Godlee in the Bradshaw lecture discusses prognosis in relation to treatment of tuberculosis of the genitourinary organs. As regards the most frequent form, tuberculosis of the testicles, he has come to the following conclusions: 1. That it is usually a chronic disease and that a majority of those cases which appear to be acute or subacute have been preceded by a slow enlargement of the organ which has escaped the attention of the patient. And this is based upon the facts that thickenings of the epididymis are often discovered accidentally, and that in operations on the acute or subacute cases more extensive cheesy masses are usually met with than it is possible to suppose could have been formed since the apparent onset of the disease. No doubt the acute process does occur, but it is exceptional. 2. That it is so common as to be almost the rule for the second testicle ultimately to be affected, whether the first has been removed or not. The writer has given up removing every tuberculous testicle, however quiescent, if no sign of the presence of tubercle could be found elsewhere, because it so often leads to disappointment, the patient returning with the other testicle affected. For the same reason he deprecates extensive operations upon the vas deferens and vesicular seminales. He does not hesitate, however, to remove one testicle which is completely disorganized, both body and epididymis, if it is causing much pain or inconvenience, and under such circumstances takes away as much of the vas as can easily be got at. Thorough curetting of the epididymis often gives excellent results. If after orchidectomy the other testicle is subsequently affected it should not be removed, but the obviously diseased portions should be cut away or scraped. The internal secretion of quite a small portion of the organ is sufficient to ward off the unpleasant results of complete castration. A very considerable deposit of tubercle may occur in the prostate without causing any symptoms whatever, and the process go on to almost complete atrophy of the gland. Sometimes an abscess forms, causing retention of urine, and, if it does not burst in the bladder, necessitating a perineal opening.

## 2. Gastric Conditions in Wasted Infants.

Miller and Willcox suggest that in dealing with wasted infants we take advantage of the modern methods of analysis of the gastric contents. As a result of their investigations they find that differences exist in the gastric secretion in infantile wasting, corresponding to three clinical groups, as follows: 1. Pure marasmus or atrophic dyspepsia. As a result of prematurity, immaturity, insufficient or improper feeding, etc., the infant wastes. There is a furred tongue, with a tendency to diarrhoea and vomiting, and progressive wasting, with no signs of any acute local disease. Post mortem no changes are found other than atrophy. Examination of the gastric contents shows a diminished activity of both acid and ferment secreting glands, no retention of food in the stomach, and no mucin. 2. Hypertrophic pyloric stenosis. Most usually in a male child vomiting starts in the first few weeks of life; the vomitus quickly becomes large in amount, forcible in character, and is accompanied by rapid wasting. Constipation is usually marked, the stools being small and marblelike. The tongue is generally very furred. The physical signs are definite gastric peristalsis and a palpable pyloric tumor. The contents of the stomach show, as a rule, a marked increase in the ferment activity, together with excessive secretion of mucin. There is also very obvious retention of food in the stomach. The total acidity varies, but tends to be below normal. After regular gastric lavage has been carried out for a short period, the gastric contents lose their abnormalities. 3. Acid dyspepsia. Here the symptoms tend to occur in children three months of age or over. The vomiting is large in amount and may be rather projectile in character, and the bowels are constipated. The wasting is considerable, but less than in pyloric stenosis. The tongue is clean, and the abdomen is usually full. No true peristaltic waves are seen, nor is the pylorus palpable. The gastric contents show an increase in their total acidity, the ferment activity being normal, or below normal. There is no mucin present, but there is obvious retention of food in the stomach. In atrophic dyspepsia pepsin and acids should be given. In acid dyspepsia alkaline gastric lavage, together with the administration of alkalies, such as bicarbonate or citrate of soda, are indicated. In pyloric stenosis the best diet is one of a noncoagulable nature, such as a whey and cream mixture. The smallest practicable doses of food should be given, so as to avoid setting up a fatal diarrhoea in the atrophied intestine.

## 8. The Eyelid and Lower Jaw Phenomenon.

—Robson discusses the following phenomenon, which is apparently never present in health: Upon protrusion of the tongue or depression of the lower jaw, there is a slight eversion of the lower eyelids, the lids resuming their normal state when the tongue is retracted or the mouth shut. The writer regards it as a new sign of disease with some diagnostic significance. Among his general conclusions are the following: 1. The phenomenon cannot be detected unless it is specially looked for, because, as a rule, the tongue and eyes are not inspected at the same time. 2. Whenever it is present in chronic cases some severe asthmatic condition will always be found.

to exist, or it will be found that the patient has been a martyr to pain for many years. 3. The phenomenon for a time almost disappears after the tongue has been protruded several times and also after stroking the forehead or touching the lower eyelid. 4. In all cases observed but one it was present in both eyes. 5. In three cases the phenomenon disappeared as the patients convalesced from their various maladies. 6. In two cases it has gradually disappeared coincidentally with a marked improvement in the general health of the patients. 7. In two acute cases it disappeared when the urgent symptoms passed off. 8. In most of the chronic cases the patients are affected with various cardiac and abdominal diseases. 9. The phenomenon is never present in health. It comes and goes with the onset and cure of disease, and is a clear index or sign of disease.

## LA PRESSE MEDICALE.

November 30, 1907.

1. The Reaction of Bordet and Gengou in Respect to the Streptococcus in Scarlet Fever,  
By C. FOIX and E. MALLEIN.
2. Faradization in Syncope from Chloroform,  
By JEAN M. VILLETTE.
3. Mercurial Pills,  
By ALEXANDER RENAULT.
4. Atoxyl and the Sleeping Sickness,  
By R. ROMME.

1. The Reaction of Bordet and Gengou in Respect to the Streptococcus in Scarlet Fever.—Foix and Mallein state that without entering into a discussion as to the streptococcic nature of scarlet fever they can give the following as established facts; 1. The serum of persons with scarlet fever contains antibodies to the streptococcus, antibodies which they have found ten times out of twelve by means of the reaction of Bordet and Gengou. 2. They have found this to be the case as early as the fourth day, and as late as the thirty-eighth day. 3. The reaction of Bordet fails in regard to the streptococcus in the other streptococcic conditions. 4. It remains to be established whether this is a specific reaction to the streptococcus of scarlet fever, or a reaction common to all or to many species of streptococci. 5. This reaction may be utilized as serodagnostic.

2. Faradization in Syncope from Chloroform.—Villette reports some of his experiments on dogs and alleges that the use of faradization in syncope from chloroform is of advantage in three ways: It produces a large and complete respiratory effect, the procedure is of a true physiological nature, and it furnishes the adjuvant action of sensory stimulation.

December 4 1907.

1. The Treatment of Appendicitis According to Some Recent Views,  
By JAMES E. BRYANT.
2. The Changes in the Terminal Phalanges in Cyanosis,  
By E. JOHNSON.
3. Clinical Examination of the Outward Form of the Neck,  
By P. DESFOSSÉS.
4. Treatment of Delirium Tremens,  
By LEGRAIN.

1. Appendicitis.—Baumgartner reviews the questions which have arisen, as indicated by the title of his paper, and gives these conclusions: 1. Medical treatment may be permitted in the first attack of acute appendicitis, when no disquieting

symptoms are present, or when, after twelve, or at the most twenty-four hours, there is a manifest improvement which continues. 2. When any serious symptoms appear, or when improvement is not manifest after twenty-four hours of temporization, an operation should be performed immediately. 3. The operation should always consist of the ablation of the appendix, except in cases in which serious difficulties present a contraindication. 4. Every person who has had a clear attack of appendicitis should have the appendix removed, even though all morbid symptoms have disappeared.

2. Changes in the Terminal Phalanges in Cyanosis.—Jourdan describes with the aid of radiographs the alterations which took place in the terminal phalanges of a woman, twenty-two years of age, who suffered from chronic cyanosis due to valvular lesion of the heart. The changes in the bony tissue he ascribes to the lessened nutrition dependent on the trouble in the capillary circulation.

## LA SEMAINE MEDICALE.

December 4 1907.

1. What We Should Do in the Ordinary Practice of Obstetrics,  
By R. DE BOVIS.
2. The X Rays as an Ætiological Factor in Cancer.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

November 26, 1907.

1. Concerning the Dangers and Treatment of Placenta Prævia,  
By ZWEIFEL.
2. Concerning Appendicitis in Children,  
By RIEDEL.
3. Contributions to the Treatment of Tuberculous Phthisis of the Apex of the Lung and of Alveolar Emphysema by Operative Mobilization of the Thorax which is Stenosed and Rigidly Dilated in Its Upper Aperture,  
By FREUND.
4. Concerning the Surgical Treatment of Certain Cases of Pulmonary Emphysema,  
By STIEDA.
5. Acute Fatal Poisoning by Benzol Vapor,  
By LEWIN.
6. Concerning the Use of Solutions of Zinc Chloride in the Treatment of Endometritis,  
By HOFMEIER.
7. Successful Transplantations of Proliferations of the Epithelium of the Lenses of Salamanders Produced by Ether,  
By REINKE.
8. Recent Advances in the Field of the Chemical Physiology of the Cell Nucleus,  
By STEUDEL.
9. Stumpf's Bolus Treatment, Its Applicability in Diarrhoea and Meteorism of Varying Origin,  
By GÖRNER.
10. The Treatment of Epididymitis and of Buboës with Hyperemia,  
By STERN.
11. Support of the Perinæum,  
By MATHES.
12. Concerning Narcosis with Warmed Chloroform. Concerning Pubiotomy,  
By HAUN.
13. A Sterilization Apparatus for Laboratory Work,  
By PRAUSNITZ.
14. Impressions of America,  
By MÜLLER.

1. Dangers and Treatment of Placenta Prævia.—Zweifel thus summarizes the principal indications for treatment. Every severe hæmorrhage in the second half of pregnancy which suggests the thought of placenta prævia should be so treated, because of the very great danger that a second hæmorrhage may cost the life of the mother. To do this the woman should be tamponed for some time, at least a week, unless the birth takes place in a less time. For a long continued tamponade nothing can take the place of the colpeurynter. All material used for the tamponade must be aseptic. The best method to induce labor is the artificial rupture of the amnion, but this can be per-

formed only in cases in which the membrane bulges forward, and this is rarely the case in placenta prævia. As a rule the hæmorrhage is checked most certainly, and with the best maintenance of asepis by version performed as soon as possible, by the combined method of Braxton Hicks when the cervix is faultily dilated. Extraction should not follow until the cervix is nearly or quite dilated on account of the danger of lacerations of the cervix. At the same time this delay adds to the danger of the child and should not be persisted in to its detriment. Where a laceration is not to be feared active procedures should be taken, and as the laceration takes place only when the head is being drawn through it is possible while waiting in this stage of labor to prevent a laceration and yet to protect the child from suffocation by holding his fingers so that the child can draw air into its lungs by respiration, or by introducing a catheter into its mouth. In central placenta prævia one should first try to displace the flap of the placenta with the two fingers with which he performs the combined version, because this procedure is less injurious to the child than boring through the placenta. When this cannot be done the placenta can be perforated at any time, and as hardly a child survives there is no object then in hastening the delivery. Very often in placenta prævia the question is that of miscarriage, and then no active treatment should be undertaken, because this offers little hope of the life of the child and is more dangerous to the mother. The author deprecates the performance of either abdominal or vaginal Cæsarean section in these cases.

2. **Appendicitis in Children.**—Riedel states from a study of the cases met with in the clinic at Jena during the past twenty-one months that the mortality among children under fifteen years from appendicitis was 13 per cent., while that among adults was 2.9 per cent. The reasons he gives in explanation of this enormously greater mortality among children are the carelessness of parents and their dread to submit their loved children to an operation; the fact that it is more difficult to diagnose appendicitis in children than in adults; that from anatomical causes appendicitis is more dangerous in children than in adults, and that very little children are extraordinarily susceptible to infection from the appendix.

3. **Treatment of Pulmonary Phthisis and Alveolar Emphysema by Operative Mobilization of the Thorax.** Freund calls attention to the fact that he was the pioneer in this operation, that he performed it as long ago as 1858 or 1859, and asserts that if performed by competent surgeons it is not dangerous, and is able to relieve the conditions of tuberculosis of the apex of the lung and of alveolar emphysema.

4. **The Surgical Treatment of Certain Cases of Pulmonary Emphysema.** Stricker reports a case of emphysema in which he successfully performed Freund's operation and concludes that the operation is sure to be of benefit in certain cases of chronic pulmonary emphysema which are dependent on a primary rigidity of the thorax caused by degeneration of the costal cartilage.

5. **Acute Poisoning with Benzol Vapor.**—Lewin says that a man may be acutely poisoned by the inhalation of benzol vapor and recover; that long persistent sequelæ may afflict a man after a slight acute benzol poisoning; that chronic disease may be induced by repeated poisoning by benzol; that men who inhale a large quantity of concentrated benzol vapor may die in from a few minutes to an hour.

6. **Zinc Chloride in the Treatment of Endometritis.**—Hofmeier reports a case in which death from peritonitis followed the injection of a solution of zinc chloride into the uterus.

9. **Bolus Treatment of Diarrhœa.**—Görner has obtained favorable results with the administration of finely pulverized white clay and considers it particularly indicated in acute gastrointestinal catarrh.

10. **Treatment of Epididymitis and of Buboes with Hyperæmia.**—Stern speaks very highly of the results he has obtained by the use of hyperæmia in these conditions, and states that he has never seen any bad after effects. He produced the hyperæmia by means of large suction glass.

12. **Pubiotomy.**—Haun suggests that a pubio-pelvioplastic operation might be performed on young women with narrow pelves at the time of their first labor which would correct their condition once for all and render unnecessary a repetition of a pubiotomy with each succeeding pregnancy.

13. **Sterilization Apparatus for Laboratory Work.**—Prausnitz describes a sterilizer which he has used for twenty years in laboratory work. The sterilization is accomplished by means of steam.

#### THE PRACTITIONER.

December, 1907.

1. Remarks on Appendix Abscess, By W. H. BATTLE
2. Movable Kidney, By C. M. H. HOWELL and H. W. WILSON.
3. On the Formation of a Fungal or Suspensory Ligament after Hysteropexy, and its Dangers, By F. E. TAYLOR
4. Malignant Disease of the Testis, By R. HOWARD
5. Suppuration in the Region of the Pharynx, By D. C. L. FITZWILLIAMS.
6. Some Remarks on Ascites Associated with Hepatic Cirrhosis, with Notes of a Case Successfully Treated by the Operation of Omentopexy, By A. D. KETCHEN and A. E. THOMSON
7. An Analysis of 832 Cases of Scarlet Fever, with Observations on the Diagnosis and Treatment of the Disease, By W. N. BARLOW.
8. On the Necessity of Caution in Diagnosing Hysteria, By B. MYERS.

1. **Remarks on Appendix Abscess.**—Battle says that a waiting policy is not advisable in this condition, for a favorable termination can seldom be prognosticated with assurance. Many dangers may be avoided by the early evacuation of such an abscess, for (1) it may open into the bladder, large bowel, or rectum; (2) it may extend to the pelvis and left side of the abdomen, or into the hepatic region or even into the pleural cavity; (3) it may rupture into the peritoneal cavity; (4) it may cause general toxæmia; (5) it may be complicated by intestinal obstruction. Stress is laid upon the importance of rectal examination, especially in cases in which the symptoms are mistaken and the disease



signs few. It is thought that removal of the appendix is not indicated as a routine practice. The opening of the abscess is without danger if done by a competent person, but the search for the appendix in the wall of an abscess may cause serious trouble. The mortality of appendix abscess from all causes in a consecutive series is placed at 10 per cent., but if treated surgically from the first it should be under 5 per cent.

2. **Movable Kidney.**—Howell and Wilson find that in many cases of movable kidney no symptoms are present. In cases with pain this symptom varies within wide limits. The cases may be acute or chronic, and the former may be traumatic or acquired. In the acute cases the symptoms are referable to the mechanical obstruction of the renal vessels or the ureter, or of both at the same time. Resemblance to renal calculus is suggested by the paroxysmal character of the pain, by its frequent recurrence, by being made worse by exertion and relieved by rest, and by the presence of blood and albumen in the urine. An x ray examination will often assist in clearing up the diagnosis. Hydro-nephrosis is a possible result when there is rotation of the kidney. If the renal vessels are obstructed no tumor will be found in the loin, but the urine will contain blood, casts, and albumin. In the chronic cases pain which varies in severity is the most common symptom. Neurasthenia is often associated with movable kidney. Treatment in the majority of cases by the pressure of a well fitting truss will be satisfactory. In only a comparatively small percentage of cases is nephrorrhaphy indicated.

4. **Malignant Disease of the Testis.**—Howard states that the diseased testis should be removed as soon as the diagnosis is made, even though there is evidence of secondary enlargement of lumbar glands. No case in which the disease is thus advanced can be cured by operation, but death from subsequent recurrence in internal organs is thought preferable to the undisturbed progress of the primary disease. In only three of the author's recorded cases did recurrence take place in the scar of the wound. Operation is contraindicated if the lumbar growth is a large one, or if other organs are already infected. If the cord is infiltrated, removal of the organ will also be futile, as the growth will fungate through the wound, and the hæmorrhage at the time of operation may be very difficult to control.

5. **Suppuration in the Region of the Pharynx.**—Fitzwilliams recalls the fact that this subject has attracted the attention of many eminent writers. He analyzes a series of seventy-five cases observed among children, and divides them into the following groups: 1. Quinsy or suppuration in and around the tonsil, the pus being always superficial to the pharyngeal aponeurosis. 2. Retropharyngeal abscess, in which the suppuration starts in the retropharyngeal space. The abscess is outside the pharyngeal walls, between the buccopharyngeal aponeurosis and the prevertebral layer of the deep cervical fascia. 3. Postadenoid suppuration, which is between the lymphoid tissue in the mucous membrane and the pharyngeal aponeurosis. 4. Suppuration or caseation in the deep cervical glands,

and extending inward to the lateral pharyngeal wall. 5. Cold abscess due to spinal caries and lying behind the prevertebral layer of the deep cervical fascia. Opening of these abscesses by incision from the inside is desirable in the majority of cases. A general anæsthetic, to a moderate extent, should be employed, except in very young infants and in cases in which dyspnoea is urgent.

6. **Ascites Associated with Hepatic Cirrhosis.**—Ketchen and Thomson call attention to the fact that ascites due to hepatic cirrhosis is now better treated by surgical operation than repeated tapings. It is desirable, however, to first learn the cause of the ascites in a given case before submitting it to operation. Two classes of cases are recognized in connection with cirrhosis of the liver. In the first free fluid in the abdominal cavity shows itself when there are few symptoms of general systemic poisoning. Such cases are benefited by tapping. In the second class the ascites occurs in the late stages of the disease, when there is general systemic disturbance. The fluid in both varieties is due to peritonitis. In the first variety the peritonitis is not dependent on changes in the liver, but the same cause which produces the slow inflammatory changes in that organ also produces the peritonitis. Drainage is effective in such cases, and the disease may remain stationary for years. In the second variety the peritonitis is toxæmic; the poisons find their way into various organs, and removal of the fluid is in no way beneficial. If the patient's general condition is good, and the heart and kidneys in fair condition, an omentopexy will usually prove beneficial.

## Proceedings of Societies.

### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Meeting of December 16, 1907.*

The Vice President, Dr. R. E. VAN GIESEN, in the Chair.

**Memorial of Dr. Seth D. Close.**—The report of the committee on the death of Dr. Seth D. Close, of the borough of the Bronx, who died on October 20, 1907, was presented by the chairman, Dr. N. B. Van Eetten.

**Bile Changes in Infective Diseases.**—This paper, by Dr. H. BALDWIN, gave the results of an investigation of 225 autopsies made in various New York hospitals in the years 1903 and 1904. The study was conducted in Professor Herter's laboratory, under a grant from the Rockefeller Institute for Medical Research, and was undertaken primarily for the determination of cholesterol. In no fewer than seventy-two instances there were found marked definite changes from the normal condition, and yet during life the symptoms had been so mild that cholecystitis had been diagnosed in only two of the cases. The various abnormal changes detected in the constitution of the bile and the presence of abnormal elements were described. In a considerable number of instances infectious bacteria were found, in seven instances leucocytes, and in two blood. The results obtained indicated that in the infectious disease the frequency of bili-

ary involvement and the danger of the formation of gallstones was not sufficiently recognized.

**Blood Reactions of Inflammation.**—In this paper the author, Dr. E. E. SMITH, spoke first of the absolute number of leucocytes, stating that it was an established fact that often during the active period of inflammation there was an increase in the absolute number of leucocytes in the circulating blood. This increase was known to be a reaction resulting from the production at the site of the process of positive chemotactic substances, which substances might be derived either from the tissue cells or from infecting bacterial organisms. As an illustration of such substances originating from the first source he mentioned the exudative stage of inflammation in an active appendicitis, where it was fair to believe that the chemical substances calling forth the leucocytes were almost wholly the product of the defending tissue cells. If, however, the tissue cells had been so lacking in vitality as to be incapable of defense, the bacterial invasion would have predominated and a degree of injury to the tissue cells resulted, such as would produce death of tissue, instead of calling forth the process of defense. The same result might follow an unusually virulent bacterial invasion, even though the initial vigor of the tissue cells was not impaired. Under such conditions the calling forth of an absolute leucocytosis was less marked than in an active inflammation. Clinically, there was in an active process a high leucocyte count in proportion to the degree of activity; in the less active gangrene the leucocytes were increased to a lesser degree. In considering the increased leucocytosis it must be borne in mind that generally there was an accompanying increase of leucocyte formation by the blood producing organs. The view, thus put forth, that leucocytosis was proportional to the active production of chemotactic substances by the tissue cells, and that it was not produced altogether or in most instances largely by the bacteria, the speaker said, explained some supposed failures of the absolute leucocyte count in diagnosis. It was occasionally noted that pus failed of recognition by this means. In such cases it would always be found that the pus was more or less of the stagnant variety, and the failure of leucocytosis was not due directly to the walling in of pus, but to the absence of active defense, which the walled off product no longer aroused.

In the leucocytosis of inflammation there was not only an increase in the absolute number of leucocytes in the blood, but also, usually, a relative increase in the proportion of those of the polymorphonuclear variety. The existence of this relative increase might be regarded as of even greater diagnostic import than the absolute leucocytosis, particularly as its entire absence was much less frequent in cases presenting conditions which would be expected to call forth a blood reaction. It seemed to the speaker that the possible explanation of the relative leucocytosis, without a corresponding absolute increase, was to be found in two factors: 1. A diminished rate of formation of the chemotactic substances. 2. A less active leucocyte formation. Whatever the cause, the relative polymorphonuclear increase was a certain indica-

tion that there was a factor operative in bringing forth the leucocytes which was not physiological. Moreover, the greater the relative increase the more urgent was the call of the diseased tissue; while, again, the less response by an absolute increase the less was the injured tissue able to declare its needs.

The conclusion of the paper was devoted to a third change which the blood might undergo in inflammation, namely, an increase in the amount of fibrin formed when the blood was removed from the body. This character, Dr. Smith said, was so marked in certain cases, its detection was so simple, and its indications were so definite, that it was surprising that it was not more frequently considered. Fibrin formation was due to the action of fibrin ferment on the fibrinogen of the blood. The fibrin ferment in turn was formed from its inactive precursor, prothrombin or thrombogen, by the action of thrombokinase, which was liberated from the leucocytes. The throwing into the circulation of thrombokinase not only tended to produce fibrin in increased quantity at the site of the inflammatory process, but gave to the systemic blood in general the property of forming fibrin in increased amount. This fact afforded a most valuable diagnostic feature of the blood, being an index to the extent and degree of the formation of fibrinous exudate in the body. This being the case, we should expect to find no increase of fibrin in slight localized inflammation or in suppuration, and a great fibrin increase in inflammatory processes in which there was much formation of fibrinous exudate. The value of this observation was not only to determine the character of the process in a given case, but also to diagnosticate changes occurring at different stages of the disease.

**Bacterial Vaccines and Curative Sera.**—The author of this paper was Dr. C. F. BOLDMAN, bacteriologist of the Research Laboratory of the New York City Health Department. Having referred to the generally acknowledged success of diphtheria antitoxine, he said it was obvious that such toxine as had already combined with the cells could not be neutralized by the antitoxine. Hence, in desperate cases, seen late, the antitoxine should be given in a massive dose intravenously, under aseptic precautions; and in this way lives might sometimes be saved which otherwise would have been sacrificed. As was well known, tetanus antitoxine had not proved nearly so successful, and this was mainly due to two causes: 1. In tetanus the diagnosis was not made until the onset of tetanic symptoms, where the specific toxine had entered into so firm a combination with the susceptible cells that no amount of antitoxine would prevent the toxic action. 2. The strong affinity which the toxine had for the vitally important cells of the central nervous system. There was, however, a distinct field for tetanus antitoxine, in which its use was of unquestioned value. This was in a prophylactic in cases in which tetanus infection seemed probable, and here its employment should become more general than was at present the case.

Considerable work had been done with specific antisera in cholera, typhoid fever, and other diseases. These sera were bactericidal, killing and

dissolving the bacteria against which they were specifically directed; but clinical trials soon showed that they had little therapeutic value, while laboratory experiments subsequently disclosed many difficulties in their practical application. Such sera had, however, been used with some success in immunizing against infection, especially when employed in what was known as the combined method. In the past few years it had become more and more apparent that the limitations of serum therapy were, for the present at least, practically insurmountable, and therefore attention had again been turned to treatment by active immunization. The scientific foundation for this was laid by Pasteur, but, believing that the production of immunity required the action of the living virus, Pasteur vigorously combated the idea that immunity could be brought about by means of dead virus or of lifeless products of growth of the viruses. To Salmon and Smith, of this country, belonged the credit of first clearly demonstrating the possibility of immunization with dead cultures. Active immunization could, then, be carried out in several different ways: 1. By means of living cultures (usually attenuated) of the virus. 2. By means of dead cultures of the virus. 3. By the so-called combined method—by first administering a dose of the specific immune serum and subsequently the virus. This method had been used in typhoid fever, cholera, and plague. 4. By means of the products of autolysis of the cultures. 5. By means of various combinations of these methods.

At first, active immunization was applied only to prophylactic treatment, and the first attempt to use this method in curing an infection already in progress was Koch's tuberculin treatment of tuberculosis. Having presented some explanation as to how active immunization could accomplish anything in the curative treatment of an existing infection, Dr. Bolduan went on to say that this kind of treatment of infections had been greatly stimulated by the work of Wright, who had reported favorable results in a large number of infections. Richardson, in a recent publication on the treatment of typhoid fever, stated that by using certain bacterial vaccines prepared after the method of Vaughan he had found that the typhoid process was apparently made longer, but milder, and that by continuing the treatment into convalescence the liability to relapse was diminished. In the use of bacterial vaccines there should constantly be kept in mind the nature of the bacterium employed and the kind of immunity desired to be brought about. Everything depended on the way in which the vaccine was prepared. Having given Koch's method of preparing tuberculin, the author said it was probable that the technique recently introduced by Pirquet and by Calmette would lead to the more extensive employment of tuberculin in the diagnosis of tuberculosis in the human subject. He then described Wright's method of preparing a bacterial vaccine (for example, a staphylococcus, typhoid, or streptococcus vaccine), and stated that the doses to be administered varied with different bacteria, and also according to the indications, opsonic or clinical. The ordinary dose for the staphylococcus vaccine was from 200 to 1,000 million organisms;

for the streptococcus, from 50 to 100 million; and for typhoid, from 750 to 1,000 million. All the injections were given subcutaneously, and it was usually advisable to repeat the injections every three or four days.

With regard to the value of the opsonic index, which he defined as the relative phagocytic power of the patient's serum compared with the average of several normal sera, he said that these determinations were very difficult to make and were subject to a number of unavoidable errors. His own experiments had shown that the results of duplicate or more determinations of the same serum, at the same time and under apparently identical conditions, often yielded widely divergent results, while frequently also there was a considerable variation in the opsonic indices of several normal persons. Finally, the opsonic index and the clinical course of the disease did not always run parallel. It would certainly be surprising, therefore, if the opsonic power were to prove the real measure of the degree of immunity, and at the present time he believed it would be inadvisable to control active immunization with bacterial vaccines solely by measurements of the opsonic index. Clinical observations must still occupy a prominent place in determining results.

#### **Poliomyelitis Anterior as an Epidemic Disease.**

—Dr. HENRY W. BERG, who read this paper, said that during the recent epidemic he had seen some twenty-five cases, most of them in consultation. The disease was not limited to any class of society, and was often found in children living under the best hygienic surroundings. While some of the cases were of the character classically recognized as infantile spinal paralysis, or anterior poliomyelitis, in many the affection presented itself clinically as a combination of the symptoms characteristic of anterior poliomyelitis with those of acute bulbar paralysis, so that it might well be termed a poliomyelencephalitis. The patients in whom there was a febrile temperature of long duration suffered from a paralysis of lesser extent than those in which the duration of the fever was short. From his experience in this outbreak Dr. Berg had become impressed with the idea that epidemic poliomyelitis was a radically different disease from sporadic poliomyelitis anterior; differing, indeed, in aetiology, pathology, clinical history, prognosis, and treatment, and it seemed to him that if this distinction could be maintained, much that was confusing and contradictory in recent clinical and pathological studies of anterior poliomyelitis, as compared with the older and equally comprehensive studies, would be explained. The recent pathological observations were almost exclusively studies of patients dying in epidemics of the disease, while the older classical conceptions were based upon autopsy findings in sporadic cases. In sporadic cases the permanency of the paralysis was a distinctive feature, while in the epidemic form of the disease the paralysis not infrequently disappeared within two months or less. This and other points would seem to emphasize the importance of the clinical study of epidemic cases as contradistinguished from the sporadic; and particularly in view of the fact that the recent epidemic in New York and its vicinity was the largest yet recorded of this disease.



It was an interesting fact that epidemics of this disease appeared to occur in the hot months of the year, and particularly in seasons when the rainfall was abnormally small. From reports by the United States Weather Bureau he had found that in New York the total precipitation during July, 1907, was only 1.18 inch, of which .55 inch occurred on a single day of the month; while the average precipitation for July for thirty-seven years past was 4.38 inches. During August, 1907, the total precipitation was 2.48 inches, against an average for August for thirty-seven years of 4.53 inches. In MacPhail's report of the large epidemic in Vermont he noted that the season had been exceptionally dry. The question of the contagiousness, or rather the communicability, of the disease had been studied in some epidemics, particularly those occurring in Norway and Sweden, and Dr. Geiersvold, who reported his investigations to the Swedish government, had expressed his conviction that the disease was contagious. Horbitz and Scheel agreed in this view, although they acknowledged that in the city of Christiania a painstaking investigation failed to demonstrate any connection between the cases. In his own experience during the past summer Dr. Berg did not see more than one case in any one family. Most of his cases were seen in the family practice of other physicians, and these patients, like the great majority of those met with in the city, were in close contact with other children. That, under these circumstances, no cases pointing to direct contagion should have occurred, was strong, if negative, evidence that this epidemic disease was not contagious. One peculiarity of the epidemic form of the disease, distinguishing it from the sporadic, was the fact that it occurred in older children as well as infants, while even young adults had sometimes been attacked. Of the nineteen autopsies in recent epidemic cases in Norway studied by Horbitz and Scheel, eight were on adults.

The symptomatology of the epidemic type of the disease was very different in many respects from that of the acute stage in sporadic cases. Thus, the fever was of longer duration and was a more prominent and constant feature. There was hyperaesthesia of the entire surface of the body, and in many cases seen on the first, second, or third day there was some rigidity of the neck and spine. The patellar reflexes were absent in most of the cases, and the initial rigidity of the back of the neck usually soon gave way to flaccidity of the muscles in this situation. In some of the older children (from three to eight years of age) there were incontinences of faeces and urine; symptoms not met with in sporadic cases of the disease. Three of Dr. Berg's patients had acute bulbar paralysis, and died of symptoms due to the involvement of the hypoglossal, glossopharyngeal, and pneumogastric nuclei. Fortunately, there are now at our command the records of many autopsies in cases of death from epidemic (so called) poliomyelitis anterior during the acute stage, with careful macroscopical and microscopic findings in the spinal cord, brain, and other organs. Although such autopsies were extremely rare, we also had at least four carefully recorded autopsies in sporadic cases of the disease

terminating during the acute stage. Comparing these cases with some of those of death in the acute stage of the epidemic disease, it would be found that, while in the sporadic cases the lesions were limited to special parts of the spinal cord, in the epidemic cases there was a general inflammatory process extending throughout the brain and spinal cord, as well as the pia mater of both the brain and cord. No microorganism had as yet been found for the epidemic disease. The cerebrospinal fluid obtained by lumbar puncture had always proved sterile, cultures made from it were negative, and animals injected with the fluid suffered no pathological change. From his study of the affection Dr. Berg thought that it should properly be termed epidemic meningomyeloencephalitis. In conclusion, he reiterated his conviction that sporadic poliomyelitis anterior was entirely distinct from this. The sporadic disease was not infectious, while the epidemic disease was in all probability infectious, but not contagious.

Dr. HARLOW BROOKS said that, while he desired to congratulate Dr. Smith on the best presentation of the subject which he had ever heard, he could not but disagree with the author in the roseate view which he had taken of the importance of leucocytosis. After all, this was nothing but a symptom. In a great many instances we did not observe it where we had a right to expect it, and often the reverse of this was true. The same was true, he had found, in regard to the polymorphonuclear increase also. He must differ, too, in regard to the fibrin reaction. He had tried this again and again, with very uncertain results. It did not seem to be the simple matter that Dr. Smith would have us believe, and no two men could be found to agree as to the fibrin formation. Sometimes, indeed, it was present, but, in his opinion, more often it was not.

Dr. N. B. POTTER said that experience seemed to show that affections in which there was a localized infection, as in anthrax, were often decidedly improved by bacterial inoculation, while the general diseases were not as a rule so favorably affected. He referred to six cases of streptococcal infection reported by Myers in which streptococci were recovered from the blood, and said that three of the patients had recovered, while the other three had died. In two cases of Dr. Bristow's, of Brooklyn, he had personally employed streptococcus vaccine, and both patients had recovered. The same was true of two cases of puerperal infection in the practice of Dr. Charles Jewett, and he had had similar results in other instances also.

Dr. E. S. SMITH, speaking on Dr. Berg's paper, said that, while the recent epidemic had been discussed very fully in many societies, he thought it would have been very desirable if the discussion of the whole subject could have been postponed until a year from now. We were now learning about the disease, and, with the completion of the systematic investigation which was in progress, we should then know a good deal more about it than we did at present. He could not agree with Dr. Berg that the epidemic form of the affection was essentially different from the sporadic, any more than epidemic cerebrospinal meningitis differed from the sporadic. The

only distinction was that when anterior poliomyelitis occurred sporadically we had very little opportunity of studying the early manifestations of the disease. This epidemic had shown us that the disease as now seen was not at all the affection described by Charcot. We must accustom ourselves to the fact that we had to do with a distinctly infectious disease. In one of the cases which he had seen all the clinical features of a multiple neuritis were present, and yet he believed that it was entirely identical with other instances of poliomyelitis. This patient had been taken ill in August, and was still in the hospital. In another case, that of a boy, there was hemiplegia and also facial paralysis. As to the relation of a diminished rainfall to epidemics of anterior poliomyelitis, this would seem to be a matter of importance if such relationship could be established. Learning of Dr. Berg's studies in this direction, Dr. Strauss had obtained through the government at Washington some meteorological statistics from Sweden, and from these it would appear that the rainfall in the seasons when epidemics had occurred in that country did not differ materially from the average. Great care should be taken to avoid false inferences in such matters.

Dr. W. M. LEEZYNSKY said that sporadic cases did not correspond to those seen in an epidemic. Were it not that an epidemic was present, a large number of the cases met with would not be classed as anterior poliomyelitis at all. He described two illustrative cases presenting peculiar types, and concluded by expressing the hope that when the present investigation had been completed the name assigned to this epidemic disease would be something else than anterior poliomyelitis.

Dr. N. B. VAN ELTEN stated that in his practice he had met with three cases in one family, the children being taken ill about three days apart.

Dr. BERG said that in his paper he had expressly contended that the disease of the recent epidemic was not poliomyelitis. This, he believed, was fully established by the series of autopsies he had described. In the four recent autopsies in sporadic cases which were given the conditions found were entirely different from those met with in the epidemic cases.

### Book Notices.

*A Textbook of Clinical Anatomy.* For Students and Practitioners. By DANIEL EISENDRATH, A. B., M. D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois, etc. Second Edition. Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 535. (Price, \$5.)

Professor Eisendrath, in publishing his book, has filled a much felt want. The students are taught anatomy together with physiology and pathology as fundamental subjects of medicine, during the first two years of their course of education. Topographical anatomy is the bridge connecting these studies with the later ones, given in the clinics and clinical lectures. While anatomy is taught by post mortem dissection we very often see an entirely different picture *in vivo* on the operation table or the sick bed. A textbook of clinical anatomy, therefore, will be highly appreciated by both students and

practitioners. The present volume is the second edition, and is divided into chapters according to the anatomical region of the body, every chapter being introduced by an explanation of examination during life. The index is also of great help. The text is condensed without disadvantage to clearness, and gives a good description of the material. It is accompanied by well adapted and advantageously selected illustrations, which are clearly and distinctly executed. But why use the fig leaf? This device of prudish censorship may be called for—though we doubt it—in public places and museums, but it is out of place in books of art and absolutely absurd, not to say ridiculous, in medical works. Eisendrath's otherwise good book would gain immensely if these devices—which, by the way, are not even strictly carried through—were to disappear from future editions.

*Principles and Practice of Modern Otology.* By JOHN F. BARNHILL, M.D., Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine, etc., and ERNEST DE WOLFE WALES, B.S., M.D., Associate Professor of Otology, Rhinology, and Laryngology, Indiana University School of Medicine, etc. With 305 Original Illustrations, Many in Colors. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 575. (Price, \$5.50.)

A volume entitled *Modern Otology*, dedicated to all English speaking students and practitioners of medicine, and having in view, as the authors state, among other things, the modernization of the subject and the correction of certain strangely persistent beliefs in regard to aural ailments, attracts attention and challenges criticism. The authors have no reason to be dissatisfied with the results of careful perusal by an impartial reviewer. They have given a well written and particularly well illustrated presentation of the diagnosis and treatment of diseases of the ear, and, what is more, have laid more than usual stress on the subject of prophylaxis. Thus, the influence of nasal and nasopharyngeal disease, heat and cold, and of constitutional disorders are fully discussed in their practical bearing on otology. The operative and diagnostic technique is clearly described, and the cuts illustrative of the various procedures are excellent. The intracranial complications of otitic disease are discussed in the light of most recent clinical and pathological studies. The bacteriology of aural discharges, the surgery of the facial nerve, the relation of otitic suppurative to life insurance, labyrinthine syphilis, lumbar puncture, and the causation of ear diseases, are titles of chapters or subdivisions indicating the wide scope and completeness of the work.

*Pharmacology and Therapeutics.* By REYNOLD WEBB WILCOX, M.A., M.D., LL.D., Professor of Medicine at the New York Postgraduate Medical School and Hospital, etc. Seventh Edition, Revised, with Index of Symptoms and Diseases. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. ix-885. (Price, \$3.)

In the seventh edition of this book a good deal of condensation has taken place as compared with the sixth edition, which appeared two years ago. It is a welcome reference book, and every physician will appreciate its value. *Materia Medica and Pharmacy*, by the same author, should be taken as its second volume.





## Phague Foreign.

Brazil—Rio de Janeiro.....	Nov. 4-12.....	1	
China—Amoy and Kulangsu.....	To Nov. 9—Still present		
China—Tcheng-chow-fu.....	To Nov. 15.....	100	
	Estimated		
Egypt—Alexandria.....	Nov. 21-27.....	13	7
Egypt—Port Said.....	.....	3	2
Egypt—Provinces.....	.....		
Assiut.....	Nov. 26-Dec. 2.....	8	8
Dakhalieh.....	Nov. 27-Dec. 3.....	43	24
Minieh.....	Nov. 9-15.....	1	
India—General.....	Oct. 27-Nov. 30.....	13,210	
India—Bombay.....	Nov. 13-20.....	26	
India—Calcutta.....	Oct. 28-Nov. 10.....	46	
Japan—Nagasaki.....	.....		
Taira Mura, Goto Island.....	To Nov. 9.....	22	11
Japan—Osaka.....	Nov. 10-27.....	51	47
	Present to Nov. 27.....		
Peru—Caleta Celoso.....	Nov. 2-16.....	3	1
Peru—Imba.....	Nov. 14-20.....	1	1
Peru—Ferrenhufe.....	" ".....	1	
Peru—Paiza.....	" ".....	7	7
Peru—Tacna.....	Nov. 21.....	2	1
Peru—Trujillo.....	" ".....	16	8

## Public Health and Marine Hospital Service Reports:

*List of Changes of Stations and Duties of Commissioned and Noncommissioned Officers of the United States Public Health and Marine Hospital Service for the seven days ending December 28, 1907:*

- BAILEY, C. W., Acting Assistant Surgeon. Granted leave of absence for seven days from November 21, 1907, on account of sickness.
- CLEAVES, F. H., Acting Assistant Surgeon. Granted leave of absence for five days from September 23, 1907, under paragraph 210, Service Regulations.
- EARLE, B. H., Passed Assistant Surgeon. Granted leave of absence for ten days from December 24, 1907.
- GAHN, H., Pharmacist. Granted leave of absence for eight days from December 21, 1907.
- LLOYD, B. J., Passed Assistant Surgeon. Granted leave of absence for four days from November 22, 1907.
- NUTE, A. J., Acting Assistant Surgeon. Granted leave of absence for ten days from December 21, 1907.
- OAKLEY, J. H., Passed Assistant Surgeon. Reassigned to duty at Fort Townsend Quarantine Station, Washington, effective May 28, 1907.
- PARKER, H. B., Passed Assistant Surgeon. Reassigned to duty at Ellis Island, New York, effective December 7, 1907.
- ROSENAU, M. J., Surgeon. Granted leave of absence for six days from December 26, 1907, under paragraph 189, Service Regulations.
- RYDER, L. W., Pharmacist. Granted leave of absence for six days from December 21, 1907.
- STEARNS, H. H., Acting Assistant Surgeon. Granted leave of absence for nine days from December 7, 1907, on account of sickness.
- THOMPSON, W. R. P., Acting Assistant Surgeon. Granted leave of absence for twenty-one days from December 11, 1907.
- WILLIE, C. W., Passed Assistant Surgeon. Granted leave of absence for one month and twenty-two days from December 22, 1907.

## Promotions.

- BROWN, B. W., Passed Assistant Surgeon. Commissioned as surgeon, to rank as such from November 9, 1907.
- EAGER, J. M., Passed Assistant Surgeon. Commissioned as surgeon, to rank as such from November 9, 1907.
- FOSTER, A. D., Assistant Surgeon. Commissioned as passed assistant surgeon, to rank as such from November 28, 1907.
- ROBERTSON, H. McG., Assistant Surgeon. Commissioned as passed assistant surgeon, to rank as such from November 26, 1907.
- ROSENAU, M. J., Passed Assistant Surgeon. Commissioned as surgeon, to rank as such from November 9, 1907.

## Army Intelligence:

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the week ending December 28, 1907:*

- COLE, C. LER., First Lieutenant and Assistant Surgeon. Now at Lawrence, Kan., en route to Fort Thomas, Ky., will proceed to Jefferson Barracks, Mo., for temporary duty at that post, and upon the completion thereof will proceed to Fort Thomas, Ky., as heretofore ordered.

DAVIS, W. T., Captain and Assistant Surgeon. Granted thirty days' leave of absence.

SNYDER, C. R., First Lieutenant and Assistant Surgeon. Granted five days' leave of absence.

## Navy Intelligence:

*Official List of Changes in the Medical Corps of the United States Navy for the week ending December 28, 1907:*

BROOKS, F. H., Assistant Surgeon. Detached from the *Adams*, when placed out of commission, and ordered to the *Montgomery*.

DELANCY, C. H., Passed Assistant Surgeon. Orders of December 18th revoked; ordered to continue duty at the naval recruiting station, Chattanooga, Tenn.

HOYT, R. E., Passed Assistant Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered to the *Chattanooga*.

THOMPSON, J. C., Surgeon. Detached from the *Chattanooga* and ordered to Washington, D. C., and report to the Secretary of the Navy.

ZALESKY, W. J., Passed Assistant Surgeon. Detached from the naval recruiting station, Chattanooga, Tenn., and ordered to the naval recruiting station, New Orleans, La.

## Births, Marriages, and Deaths.

## Married.

AUERBACH—MILLICAN.—In El Paso, Texas, on Thursday, November 28th, Dr. Leo B. Auerbach and Miss Lillie Pearl Millican.

DECKMAN—GANTZ.—In New York, on Wednesday, December 18th, Dr. A. C. Deckman, of Boston, and Miss Ethel St. C. Gantz.

ZINKE—KENNEY.—In Leavenworth, Kansas, on Thursday, December 19th, Dr. Stanley G. Zinke, U. S. Army, and Miss Beulah Few Kenney.

## Died.

BIEGLER.—In Rochester, New York, on Sunday, December 22d, Dr. Joseph A. Biegler, aged seventy-five years.

BODINE.—In Louisville, Kentucky, on Wednesday, December 18th, Mrs. Laura M. Bodine, wife of Dr. J. M. Bodine, dean of the Medical Department of the University of Louisville, aged seventy years.

BUTTERFIELD.—In Manlius, New York, on Monday, December 16th, Dr. Edward F. Butterfield, aged eighty-one years.

COVERT.—In Ithaca, New York, on Wednesday, December 18th, Dr. James L. Covert.

GREEN.—In Louisville, Kentucky, on Tuesday, December 24th, Dr. James Green, aged eighty-five years.

HOFFMAN.—In Reading, Pennsylvania, on Thursday, December 26th, Dr. John Y. Hoffman, aged forty-nine years.

HUNTING.—In Albany, New York, on Sunday, December 22d, Dr. Nelson Hunting, aged seventy years.

JOHNSON.—In Blairstown, New Jersey, on Monday, December 23d, Dr. John C. Johnson, aged seventy-nine years.

JONES.—In Pittsburgh, Pennsylvania, on Saturday, December 21st, Dr. Matthew O. Jones, aged eighty-six years.

LASSAR.—In Berlin, Germany, on Monday, December 23d, Professor Oskar Lassar, aged fifty-eight years.

LINJER.—In Minneapolis, Minnesota, on Wednesday, December 11th, Dr. Ole Edward Linjer.

LIPPITT.—In Elmington, Virginia, on Friday, December 20th, Dr. Charles Edward Lippitt, aged seventy-eight years.

MORRILL.—In Assouan, Egypt, on Friday, December 27th, Dr. F. Gordon Morrill, of Boston, aged sixty-four years.

PEASEN.—In Chicago, on Thursday, December 26th, Dr. Joseph Peasen.

SMITH.—In Vincennes, Indiana, on Monday, December 23d, Dr. Hubbard M. Smith, aged eighty-seven years.

SMITHEY.—In Burkeville, Virginia, on Friday, December 20th, Dr. Frank R. Smithey, aged twenty-five years.

SPOONER.—In Republic, Ohio, on Thursday, December 19th, Dr. Harry K. Spooner.

WATERS.—In Boyds, Maryland, on Thursday, December 19th, Dr. William A. Waters, aged eighty-one years.

WEAVER.—In Syracuse, N. Y., on Wednesday, December 18th, Dr. Lewis F. Weaver, aged fifty-eight years.

# New York Medical Journal

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### Original Communications.

#### THE VOICE AS AN INDEX TO DISEASES OF THE THROAT, NOSE, AND EAR.\*

By G. HUDSON-MAKUEN, M. D.,  
Philadelphia,

Professor of Defects of Speech in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine; Laryngologist to the Frederick Douglass Memorial Hospital; Laryngologist to the Chester Hospital, Chester, Pa.

Some one has well said that the voice is the mirror of the man, meaning, of course, that it reflects man's character, his physical and even his moral and intellectual states. Every physician will agree with this proposition in so far as it relates to the physical condition, for who has not noted the weak and almost inaudible voice of the very ill person and observed its gradual strengthening during convalescence. Indeed, the general physical condition influences the voice to such a degree as to render obscure oftentimes certain definite lesions of the throat, nose, and ear, and this is a fact that should be kept constantly in mind in dealing with this subject.

But the moral state of the individual is also reflected in the voice. He whose business it is, for instance, to teach piety will unconsciously and undesignedly acquire a pious tone or the so called ministerial voice. The physician, whose function it is to comfort and heal the sick, will develop a sympathetic voice, and the lawyer, the colder and more judicial tones.

Moreover, culture and refinement are reflected in the voice, and the lack of these acquisitions are no less apparent. The good man, as a rule, will have a good voice and the bad man can with difficulty conceal his badness when he speaks.

The nervous states are also reflected in the voice. The high, thin voice of the nervous type of man is in striking contrast to the lower and heavier voice of the more phlegmatic type.

Good morals and good vocalization, however, do not come by nature, but they are the results of education and training, and this fact has a very practical bearing upon the subject under consideration. Skill in the use of the voice may temporarily and effectively render obscure certain abnormal and even diseased conditions of the throat, nose, and ear, as it may occasionally conceal the evil in one's character. For instance, every practitioner of our specialty doubtless has been surprised at one time or another to find large tonsils, relaxed palates, and

elongated uvulas in the throats of good and even famous singers, obstructions that have been almost entirely overcome by skill in the use of the vocal organs. The question of training, therefore, or the lack of training, must be considered in studying the voice as an index to the diseases of the respiratory tract.

The various kinds of voice that we think of in connection with this subject are the hoarse, the throaty, the tremulous, the muffled, the whispered, the falsetto, and the nasal voice. The hoarse voice is always pathognomonic, of either intralaryngeal disease or an intralaryngeal expression of some disease of the central nervous system. It varies in degree all the way from the scarcely perceptible hoarseness of the beginning laryngeal involvement of a common cold, to the marked hoarseness of an acute laryngitis immediately preceding the aphonic stage, when only the whispered voice is possible. The hoarseness of the various stages of acute laryngitis is due not only to the inflammatory thickening of the cords, but also to the general tumefaction of the laryngeal mucous membrane, making it impossible oftentimes for the cords to assume the normal position during vocalization. A common cause for the characteristic hoarseness of incipient tuberculosis is the thickening of one or both of the ventricular bands, which interferes with the normal approximation and vibration of the cords. An illustrative case of this condition is one that I exhibited recently at a meeting of the Section in Otology and Laryngology of the College of Physicians in Philadelphia:

The left ventricular band was about twice the size of the other normal one. The young woman's hoarseness was only incidental, to her own mind, to a form of stammering which has annoyed her for years, but it was quite intractable and did not yield to any form of treatment. She had a morning cough with slight expectoration, but there were no characteristic bacilli. The chest signs were only "somewhat suspicious," to use an expression of Dr. Eshner, who also examined the patient. The local treatment now in my hands consists in the application of mild astringents to the larynx, the use of breathing and light calisthenic exercises, and the usual training and practice for the improvement of the voice and speech. This particular patient, in my opinion, can only be saved from the ravages of the dread disease, tuberculosis, by the strictest hygienic measures, and by the practice of well chosen respiratory and vocal exercises.

Hoarseness is also symptomatic of intralaryngeal tumors, both malignant and benign, and the character of the hoarseness will often suggest to the practitioner the probable nature and location of the tumor. A case for diagnosis, however, is a small boy now under my observation.

He is four years of age and has never used his normal voice since birth. He is a very intelligent and bright child.

\*Read before the Academy General Session, at the Academy of Ophthalmology and Otolaryngology, held at Lancaster, Pa., September 26, 27, 28, 1907.

He inherits a nervous disposition, with a history of consumption on his father's side. His tonsils are imbedded and slightly enlarged, and a satisfactory rhinoscopic or laryngoscopic examination has not been possible. I confess that I am in doubt as to the condition of the larynx that gives rise to this peculiar voice. Whatever it may be it has existed for several years, and it is only recently, with some little persuasion and training, that he has used the resonant voice at all, and even this is very hoarse. My first thought was of papillomata, but after a further study of the case I am quite in doubt as to the diagnosis. In the attempts to get a laryngoscopic image of the larynx I have found the epiglottis hanging low and folded upon itself. The use of the mirror seems to give him considerable discomfort and some dread of total obstruction to respiration. There is no history of dyspnoea, but only of acute colds, during which vocalization is so difficult that he practically refrains from talking at all. I have not yet tried direct laryngoscopy, and the symptoms have not been sufficiently urgent to warrant etherization.

Intralaryngeal ulcers, especially those having infiltrated edges with copious secretions, are productive of a sort of moist hoarseness which is quite different from the hoarseness of a comparatively dry larynx.

The tremulous or broken voice is characteristic of very old people, but we find it also in those who are debilitated by overwork, and especially by extraordinary vocal effort. It is the voice of broken-down and worn-out clergymen. I have recently had two such cases under my care. They are described in the literature as "disphonia spastica." There is a nervous element in the condition similar to that which we find in stammering. The voice wavers in the glottis most unexpectedly at times, and the patient knows neither its cause nor its remedy. Moreover, he is in constant dread of its reappearance. It becomes a nervous habit, a veritable fear neurosis, and it is often accompanied by peculiar psychic disturbances. The oropharynx and larynx are normal except for a marked hyperæsthesia of the mucous membrane, making a laryngoscopic examination almost impossible. In one of my cases the tremulous voice alternates with complete aphonia, making a most curious admixture. Somewhat akin to this condition is one illustrated by a young man now under observation who has a peculiar catch in his voice, with a hesitation of speech, due to intermittent unilateral paralysis of the abductor laryngeal muscles. Although this condition of the larynx is rarely met with in stammerers, it is one that we should be on the lookout for and one that may be very easily overlooked.

The whispered voice is well illustrated in hysterical aphonia, in which there seems to be a sort of paralysis of the abductor muscles, and it appears also in acute laryngitis where there is a mechanical obstruction to the normal action of the cords. Of course any one of the defective types of the voice which I have mentioned may be and often is aphonic. A curious example of this condition is that of the small boy to whom I have referred. In the majority of cases of hysterical aphonia there have been, in my experience, local conditions which have shared in the sum total of the causal factors. Acute laryngitis, for instance, may be the original cause and the hysterical element a subsequent development. This emphasizes the importance of a careful examination of the larynx in all so called hysterical aphonias. It should be remembered that

hysteria is generally an acquired psychological condition and often the result of a simpler local condition.

The voice of the deaf is particularly characteristic. It has a high pitch and it is monotonously throaty. It is an unmodulated voice, owing to the fact that the deaf cannot hear themselves speak. The exact degree of deafness in children may be exceedingly difficult to determine, and the character of the voice is often our only guide. The child that is only partially deaf will modulate the voice, while the totally deaf child will speak, if at all, in high monotonous and throaty tones. This fact is of great practical and diagnostic importance. Only the other day I saw at my clinic a child that had been at a State institution for the deaf for nearly a year and sent home again, because it was found that she had some hearing, a fact that was discovered only after a considerable experimentation. The child with a congenital deficiency of hearing will, as a rule, be backward, speak little, if at all, and that little will be defective and contain only those sounds that it happens to hear. On the other hand, the congenitally deaf child, of course, will not speak or phonate at all, until it is especially trained to do so. The adult person who has acquired partial deafness will generally speak loudly, although he censures others for speaking too loudly. What helps him most to hear is distinctness of articulation.

The muffled voice is one that is more or less devoid of head resonance. It is the voice of those having faucial and pharyngeal tonsils, hypertrophied turbinates, nasal polypi, or other nasal and pharyngeal growths. The nasopharyngeal resonators are dampened, so to speak, and the voice is muffled.

The falsetto voice is generally indicative of no special throat, nose, or ear lesion, and it is due entirely to an erroneous conception of the true tones and a consequent misplacement of the tones. There is in it no laryngeal or chest resonance, but the larynx is markedly elevated and the vibrations are focused high up in the head.

The nasal voice is due in the majority of instances to inadequacy of the velum palati, which allows too great a proportion of the vibrating breath to pass up through the nasopharynx, thus giving a preponderance to the nasal resonance. This is well illustrated by two patients who have recently come under my observation—one a woman of twenty-four and the other a boy of nine years. In neither case is there a sufficiency of action in the levator palati muscles during the process of speaking. In that of the small boy there is no action of these muscles whatsoever, and they do not respond even to electrical stimulation. Curiously enough, there is no history in either case of an infectious disease to account for the parasis, and the character of the voice is the only symptom of the condition. The voice in these patients is strongly suggestive of a cleft palate.

The purpose of this paper is to demonstrate the importance of the voice as a factor in diagnosis and to emphasize the necessity for a more critical study of the voice, especially in its relation to diseases of the throat, nose, and ear.

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# THE ADVANTAGES OF SANATORIUM REGIME IN TUBERCULOSIS, WITH ESPECIAL REFERENCE TO THE TREATMENT OF EXTRAPULMONARY LESIONS.\*

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I shall endeavor to confine my remarks, for the most part, to the treatment of tuberculous lesions found in organs other than the lungs. But, inasmuch as many of these lesions exist as complications of tuberculosis of the lungs, and inasmuch as tuberculosis is the same disease wherever found, it will be necessary to discuss the treatment of tuberculosis in general to some extent.

In order to have the proper conception of these extrapulmonary lesions, we must bear in mind that tuberculosis is the same disease wherever found. The various manifestations differ only in that different organs are affected; the cause is the same, and the result from a pathological standpoint is the same. The pathology of tuberculosis of the kidney and bowels is the same as that of the lung and larynx.

Tuberculosis is a disease produced by a specific microorganism, and its cure, like that of all other infectious diseases, is brought about by the establishment of immunity. I do not mean immunity in that narrow sense whereby the term is usually understood as denoting an impossibility upon the part of an individual, either temporarily or permanently, of becoming infected; but immunity in that broader sense which means a degree of resistance whereby the organism through a response which is made upon the part of its tissue cells in reacting to the stimulation of some toxine, produces defensive bodies which have as their specific function the destruction of that toxine.

The symptoms of tuberculosis are produced, in part, by the tubercle bacilli and, in part, by the toxins which are produced by the bacilli and poured out into the circulatory fluids of the body. Its cure must come from the establishment, upon the part of the infected organism, of an immunity to both the bacilli and their toxins.

It has been shown that the action of the tubercle bacilli and their toxins is different, the former tending more to the production of fibroid tissue, the latter more to the production of necrosis. Hence, whether healing or necrosis shall occur, the resisting power of the patient being the same, depends very much upon the amount of toxine present. An infection caused by very virulent bacilli or by great numbers of bacilli pours out into the circulation a toxine of greater potency and toxine in great amounts and consequently causes necrosis, while an infection caused by bacilli of a less virulent strain or by a smaller number of bacilli is more apt to be followed by the formation of fibroid tissue and result in healing.

In support of this statement I would cite the fact that dead bacilli which are not producing toxins are more apt to be followed by the formation of fibroid tissue than the same bacilli when alive;

and the even more convincing experiments of Störk (*Wiener medizinische Wochenschrift*, July, 1907) whereby he has been able to produce fibrosis in 100 per cent. of pigs by injecting them with a culture of tubercle bacilli of low virulence.

This, then, gives us the key to the treatment of tuberculosis, which is to do all we can to lower the virulence of the infecting bacilli and to counteract the effect of and destroy their toxins. Anything which will do this must do it by the production of specific protective or immunizing bodies. These bodies are produced by the body cells themselves; therefore any measure or measures which will improve the nutrition of these cells and make them capable of producing more antibodies, or any products which will stimulate these cells to the production of more antibodies, will aid in bringing about a cure. It is needless to say that, aside from these, all distressing symptoms should be treated in the proper manner.

It can readily be seen, then, that fresh, pure air, good food, carefully regulated rest and exercise, hydrotherapy, suitable tonics, and favorable climatic conditions act by giving the patient well nourished cells, so that he is capable of responding in such a manner as to produce a maximum quantity of antibodies when the proper stimulus is afforded. The stimulus which is required to act upon the cells to cause them to produce these immunizing bodies is furnished in all infections by the specific germ causing the infection, and this can be furnished artificially as well as by natural infection. The introduction of dead germs or their toxins stimulates the cells to the production of immunity. In tuberculosis, by artificially introducing products made from the tubercle bacillus we are able to stimulate the cells to the production of two or three times as many protective antibodies as they will produce without this stimulation. The real scientific cure of tuberculosis, then, consists in building up the patient, making his cells capable of responding to the production of as many antibodies as possible, and then introducing some product made from the tubercle bacillus, such as tuberculin, bacillus emulsion, or bacillus extract, which will artificially stimulate these cells to the production of a maximum amount of these immunizing bodies.

The cure of tuberculosis is slow. Unlike the acute infections, which run their course in a few days or a few weeks, tuberculosis lasts for months and years. As its pathology indicates, it cannot heal rapidly. This fact adds to the difficulty of treatment and makes results much less satisfactory than the disease itself warrants.

Patients suffering from tuberculosis, even in the advanced stages, feel well a goodly portion of the time. This fact reacts against them and prevents them from having the best chance of cure, because during this time they tax their systems by doing foolish things. When acutely ill, as with typhoid fever or pneumonia, the patient feels so sick that he goes to bed and sends for his physician; when afflicted with tuberculosis, on the other hand, he manages his case alone or with the advice of a host of friends and neighbors and perhaps with a few indefinite instructions from a physician. Thus the tuberculous pa-

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tient is usually badly managed, he goes from bad to worse, and nearly always dies of his disease.

That such a result should occur when so serious a disease as tuberculosis is treated in so unscientific a manner is a foregone conclusion; but such a result is entirely unnecessary, for tuberculosis is a disease which yields to rational, scientific treatment. Does it not seem almost beyond comprehension that the members of the medical profession should give careful attention to detail in treating the ordinary petty illnesses that make up a considerable portion of every man's practice and then turn the same patient away to rely on himself or the advice of his neighbors when he becomes afflicted with one of the most serious of all diseases? This apparent neglect, however, springs from and is a monument to the honor of the medical profession. The members of our profession have considered tuberculosis as hopeless, and have felt that they were helpless in undertaking to treat it, and rather than take money from patients to whom they felt unable to render competent service they have told these unfortunate sufferers that they could do nothing for them, and thus they have cast them adrift to find help or harm for themselves.

It is now time that the honor of the medical profession demands a change in its attitude. Tuberculosis is now known to be a curable disease. During the past fifty years, but more particularly the past ten years, favorable reports on the treatment of this disease have been accumulating, and now we can say it is the most curable of all chronic diseases.

The most favorable results in the treatment of tuberculosis have been produced in sanatoria, especially conducted for the purpose, and the results in these institutions vary greatly according to the conditions under which treatment is carried on and the methods employed. Thus the result in early cases ranges from 65 to 95 per cent. of apparent cures; in moderately advanced cases from 10 to 65 per cent., and in far advanced from none to 20 per cent.

When we compare these results with those obtained in treating tuberculosis in the usual ambulatory manner we can see that the results are almost beyond credence.

It is well for us to inquire, then, why sanatorium treatment offers such superior advantages in treating tuberculosis. Why is it necessary to send patients who do not seem or feel ill to an institution for treatment? Why especially should those who are in the early stages of the disease be sent to sanatoria? A glance at statistics from institutions where all stages of the disease are treated should answer the question, for these show that where early cases can nearly all be cured, later cases are cured with difficulty, and the very late nearly all die. But figures are not always convincing and sometimes remain to be explained.

Tuberculosis is a disease which heals slowly, and, as explained before, one whose healing depends upon the resisting power of the patient. There is a constant tendency for the disease to spread to new areas, and upon this fact, together with the complications resulting from it, the life of the patient depends. The greater the area of involvement the greater the opportunity for bacilli to escape and cause new foci, and the more detrimental the ef-

fect on the system; hence the more serious the disease. Whether or not the bacilli which escape from the foci of infection shall cause a new infection and whether or not the old infection shall heal depends upon the resisting power of the patient. A patient whose resisting power is good—that is, one whose cells respond to the stimulation of the toxins resulting from the presence of the invading bacilli, by the production of a large amount of antibodies, will, unless the virulence of the bacilli be too great, offer a strong resistance to the disease process present as well as a barrier against the bacilli which attempt to form new foci. On the other hand, one whose resisting power is low or oscillating between high and low is offering the disease focus new opportunity to progress and affording a very uncertain barrier to the extension to new areas.

The application is obvious to all. The tuberculous patient's resisting power must be kept as high as possible during the entire course of treatment. His protective antibodies must be constantly stimulating the old foci to healing and must be ever on guard to destroy bacilli that may be thrown into the circulation and go to form new foci in other tissues. This can only be offered by putting him under conditions which are especially directed to this end.

That it is possible to largely prevent this spread of infection has been strongly impressed upon me by my experience in treating advanced cases of tuberculosis. While about half of those who enter the institution have an involvement on the part of the larynx, and while a large percentage have symptoms of tuberculosis of the bowels, yet it is rare for these patients to develop such complications after they are put upon the hygienic dietetic and tuberculin treatment, unless it be a part of a terminal general military infection.

Our so called civilized methods of living are unnatural and, from the standpoint of health, barbarous. It is almost impossible for an individual suffering from tuberculosis to live in homes and boarding houses, and live a true hygienic life. Well people will not put up with the so called deprivations which are necessary for a tuberculous patient who is trying to live a hygienic life; neither, as a rule, will they allow him to do it. Rather than encourage him as they should, friends, as a rule, say "once breaking the rule will not harm," and urge the doing of those things which carry more or less risk.

The only successful way to keep the resisting power of these patients at a high stage long enough for them to overcome the disease is to place them in the proper surroundings, remove them from temptation, and then keep them interested in the cure until it takes place.

It is needless to say that such a method offers not only greater chances of cure, but the opportunity of obtaining the result in a much shorter time. Sanatorium treatment offers about 50 per cent. better chances of cure than ambulatory treatment and produces the result in a shorter time.

Another bad feature about treating tuberculous patients outside of sanatoria is the danger of secondary infections. Acute colds, bronchitis, la grippe, and pneumonia, like the poor, we always have with us. These are dangerous, and often fatal, enemies of the tuberculous patients; especially when



they are living in homes and boarding houses and associating with people in general, there is always more or less exposure to them, while in sanatoria such exposure is largely eliminated.

But even aside from these advantages of the sanatorium treatment the greatest advantage is that this method brings the patient under the direct control and constant guidance of the physician, where he can correct all things which tend to tear down and apply remedial measures that are of value in the most advantageous manner. Complications are seen and treated in their incipency, accidents are prevented, troublesome symptoms are relieved, and the cooperation of the patient is secured as cannot be attained in any other manner.

For many years medical science has recognized the curability of tuberculosis of the bones and joints. To a certain extent the curability of glandular tuberculosis has been accepted. Gradually it has been recognized that the pulmonary form is amenable to treatment, and evidence is forthcoming to show that all forms are sometimes curable and that many of those which have been considered hopeless are fairly readily healed by appropriate measures.

The curability of forms of tuberculosis other than pulmonary (save those of the bones, joints, and glands) has been established by sanatorium treatment. Such complications as tuberculosis of the larynx, upper air passages, urogenital organs, and even that of the bowels, will yield to appropriate treatment when carried out as it is done in properly conducted sanatoria. The cure of these may justly be said to be the contribution of private sanatoria to the curability of this disease. Public and philanthropic sanatoria have for years refused to take patients who were suffering with these complications, but private institutions have taken them and through persistent effort succeeded in curing many of them. When I speak of their curability, I do not wish to minimize the difficulties attendant upon treating such cases, for they are great; but the fact that they can be cured at all is a triumph of modern medical science. I wish now to discuss several of the most common forms of tuberculosis as we find it situated in organs other than the lungs, and endeavor to show some of the more hopeful aspects of their treatment.

#### *Tuberculosis of the Upper Air Passages.*

The most common form of tuberculosis other than pulmonary that we are called upon to treat is tuberculosis of the larynx. The larynx is involved much more commonly than is generally supposed. Careful post mortem observations on patients who have died of tuberculosis, and careful routine clinical examination of the larynx in patients who are suffering from advanced tuberculosis, show that more than 50 per cent. of patients in the advanced stages have some involvement of the larynx.

Unfortunately the tuberculous larynx is not diagnosed early. If the patient presents himself to the physician complaining of hoarseness and cough, and, upon examination, the larynx is found to show thickening with congestion of some portion, either the cords, the interarytenoid space, the arytenoids, or the ventricular bands, he is too apt to be treated for simple laryngitis. A tuberculous nature is not

suspected until there is breaking down with ulceration.

When we recall our pathology, we remember that ulceration does not occur as a primary condition. Only after infiltration has existed for some time does necrosis occur; consequently we must not look for ulceration, but we must learn to diagnose tuberculous laryngeal involvement early, during the infiltration stage.

The stage of infiltration lasts during a variable time. It may be a few weeks, in very virulent infections, or it may be months in less virulent infections, or it may never occur. I have known it to last for several years without ulceration occurring.

There is one point that should be insisted on in all cases where such suspicious conditions are found upon physical examination, and that is the establishment or elimination of tuberculosis elsewhere in the body and especially in the lungs. A careful expert physical examination will nearly always settle this matter very easily, and if there should be any doubt remaining a tuberculin test will show the local reaction and clear up all doubt.

Tuberculosis of the larynx is perhaps always secondary to tuberculosis elsewhere and nearly always secondary to tuberculosis of the lungs; and, while I recognize that all pathological conditions such as I have mentioned occurring in individuals afflicted with tuberculosis are not necessarily tuberculous in their nature, yet facts warrant us in suspecting all such cases and demand that a diagnosis be made.

Remembering that more than 50 per cent. of advanced cases of pulmonary tuberculosis show some infiltration in the larynx, our attention is called to this as being a very common complication and one for which we should always be looking.

Routine examination of the larynx should always be made at frequent intervals in all patients who are suffering from tuberculosis of the pulmonary form, and careful examination of the chest should be made where infiltration presents itself in the larynx, and if doubt still remains the local tuberculin reaction should be looked for.

The administration of the tuberculin test in laryngeal cases requires a knowledge of the action of tuberculin and an ability to examine the larynx. The reaction here nearly always shows early. A fever reaction is rarely necessary. Following the injection of the remedy, an increased congestion in the larynx occurs if the involvement is of a tuberculous nature; if it is not, no change is seen. The dosage in tuberculous laryngitis should begin with 0.1 to 1.0 milligramme, the same as is used for the tuberculin test in general. It is rarely necessary, however, to give as large doses as are required for a general fever reaction. One tenth to 1, 2, or 3 milligrammes will nearly always decide the diagnosis.

When tuberculosis of the larynx has been discovered, what prognosis can we give the patient? This depends, like tuberculosis of the lungs, upon the earliness of the diagnosis and the nature of the treatment instituted. Another important factor to be considered is the condition of the lungs. If the pulmonary condition is not too serious and the diagnosis is made early, the chances of cure with proper treatment are very good.

No doubt many cases of slight laryngeal involve-



ment are healed without either patient or physician knowing of their presence, but it is not safe to rely on such good fortune. Tuberculosis of the larynx calls for skillful, intelligent treatment, and of all measures which offer chances of cure I believe there is none equal to the inoculation of the patient with products made from the tubercle bacillus. In fact, the cure of this malady has been established by the use of tuberculin and its allies.

Tuberculosis of the larynx must not be treated as an entity, but as a part of the tuberculous process which affects other organs, nearly always the lungs.

This is the ideal place for tuberculin treatment, because the reaction is visible. The dosage should be so measured that only a slight reaction is caused, and it should not be repeated until all local signs have disappeared, and the dose should not be increased in amount until the amount which caused the reaction fails to produce local signs.

Aside from these bacillary products, the patient should have the benefit of all advantages that the sanatorium affords, such as open air, good food, properly regulated rest and exercise, hydrotherapy, and other tonic measures.

Locally, palliative measures only should be used. The parts should be kept clean and may be slightly stimulated by protargol or some such application. If ulceration is present, these measures are sufficient unless pain be a symptom, when the application of orthoform, or if cough is also troublesome, orthoform with 1/12 to 1/6 gr. of heroine may be used. The heroine should not be used unless absolutely necessary.

A cold compress to the throat relieves much of the cough.

Such measures as curettage and lactic acid are of little value as curatives. In fact, local applications must not be expected to cure the disease, nor must the physician flatter himself with a hope that he may remove all the tuberculous tissue by excision, for such is almost an impossibility, as has been shown by the return of the trouble in nearly all cases where these measures have been employed.

The cure must come about by stimulating the body cells to the production of sufficient immunizing elements or antibodies to overcome the action of the bacilli and their toxins.

Aside from tuberculosis of the larynx, we find infections of the pharynx, tonsils, tongue, and nose. All of these are curable in a certain proportion of cases, but they require constant watching and persistent treatment for a long period of time in order to accomplish the results. Favorable reports on such lesions are rarely obtained except in sanatoria, because it is almost impossible to give the required attention and impossible to hold the interest and co-operation of the patient except by the constant intimate association of the patient and physician.

#### *Glandular Tuberculosis.*

Tuberculosis of the glands is a form that needs careful consideration. In tuberculosis, the glands perhaps always play a part. In many instances they are infected, although they do not break down. These enlarged glands, however, cannot be looked

upon with unconcern, for they are centres of infection, and we know not at what time bacilli will be thrown out into the general circulation and be carried and deposited in some other organ, where they may start an active tuberculosis.

For years excision has been the recognized treatment for such glands, but it has rarely been employed until the glands have shown some sign of breaking down. Such a procedure is irrational, because in the first place the danger from tuberculous glands begins before the glands show signs of softening, and in the second place, by removal, only those glands which are found at the site of the operation are removed, while, as a rule, others are left behind, which often go on to softening; or, if they do not, remain as foci of infection from which the disease may spread to other organs.

Of the many patients whom I have treated in the past few years, many have had enlarged cervical and axillary glands, but in not a single instance has suppuration occurred. These usually respond to treatment by becoming smaller and assuming their normal size, or, if they are the seat of new tissue formation, they become smaller and remain as fibroid nodules.

Recognizing the frequency of tuberculosis of the glands in children, and knowing that tuberculous infection commonly affects the glands before it spreads to new tissue, I believe the time will soon come when we will treat the tuberculosis of children while it is still confined to the glands and before other vital organs are infected. The glands are the ideal place for the treatment of the disease, because the lymph, with its antibodies, comes in direct play upon the bacilli and their toxins. It is better to remove a bomb from under a house before it is lighted than to patch up the house after the bomb has exploded.

#### *Tuberculosis of the Genitourinary Tract.*

Experience with tuberculosis of the genitourinary tract is encouraging. I have seen tuberculosis of the kidney heal. The application of tuberculin to infection of the bladder and testicle is also offering good results when properly administered. We have had a unique experience in the institution I am connected with, so far as I know, in the way of an apparent cure of a tuberculous ovary.

The history of the case is as follows:

Two years previously the patient had been operated upon by a Seattle surgeon, at which time one ovary was removed. This proved to be tuberculous. The surgeon gave the opinion at the time that the other ovary would require removal later because it also showed signs of infection. Owing to a promise to the patient that only one would be removed, the second ovary was left. Immediately before coming to us the same surgeon examined the patient and advised removal of the remaining ovary, but instead the patient preferred to make an attempt to save the organ. She came to us and insisted that we should treat her. We informed her that we had never treated such a case, and could not promise any success; but she urged a trial.

Examination showed the ovary to be much enlarged and very tender. There was also a slight lesion in the lungs.

The patient was admitted to the sanatorium and treatment was begun. She was put upon the ordinary régime and given tuberculin. After one year's treatment the pulmonary condition was apparently cured, the ovary had reduced in size, all tenderness had disappeared, and it gave the impression of being healed. Owing to the inflammatory

condition present, adhesions formed which at first gave her some trouble. About six months after leaving the institution she became anxious about the matter and visited a physician who gave it as his opinion that the trouble was active again and that the ovary should be removed. She again came to the institution for examination, which showed the result the same as it was upon leaving. She was given large doses of tuberculin without any reaction whatever. It is worthy of note that during the course of treatment large doses of tuberculin often caused congestion with decided pain in the ovary. Her condition remains good and it appears that a cure has been effected.

#### *Intestinal Tuberculosis.*

Perhaps tuberculosis of the intestines is the most serious form of the disease. This is almost always a complication of the pulmonary form. It is more common than is generally believed, being found as a complication in from 50 to 80 per cent. of all cases of tuberculosis which come to autopsy.

This condition is often present without being recognized. It is usually thought that tuberculosis of the intestines manifests itself by diarrhoea. This is not necessarily true, in fact, whether or not diarrhoea is present depends very much upon the location of the lesion. There are two principal locations for tuberculosis of the intestines, one in the ileum in the region of the caecum, the other in the lower bowel near the rectum. The former may not manifest itself at all by diarrhoea, but in the latter the diarrhoea is often intractable.

The diagnosis is not as difficult as is generally believed. The patient should be cautioned carefully about swallowing sputum, then after forty-eight hours a sample of feces should be collected and examined. Feces may be examined by making a smear from a small particle, or a small particle may be taken, mixed with twenty times its volume of water, and centrifugized so as to throw down the coarser particles. The upper fluid is then poured off, mixed with twice its quantity of alcohol and centrifugized again, when the sediment is examined.

When tuberculosis of the intestines has been diagnosed, the patient should be treated most carefully. A liberal diet should be allowed, but one which will nourish without throwing extra burden upon the intestinal tract. Overfeeding should not be carried out—in fact, it has very little place in the treatment of tuberculosis of any kind. The bowels should be kept open and free from irritation. Where constipation is present, I have found olive oil, one teaspoonful to one tablespoonful after meals, to be valuable, with an occasional dose of castor oil if necessary.

When diarrhoea is present I open up the bowels at once with castor oil, and put the patient on a restricted diet, consisting of milk and vichy or the whites of eggs. If after a day the patient's condition is better, I gradually add milk toast, boiled rice, scraped meat, and tropon. Applications of hot cloths to the abdomen, changed every twenty minutes and kept up for one or two hours at a time, gives great relief to the patient and helps to control the trouble.

If the diarrhoea is intractable, high enemas of hot normal saline solution or of starch water and bismuth, or starch water and opium, may be used to advantage. In these cases the internal administra-

tion of bismuth from x to xxx grs., either alone or combined with from v to x gts. of deodorized tincture of opium, should be tried if the other measures are unsuccessful. As a last resort, there is perhaps nothing better than lead and opium, but I should not recommend it unless the others have failed.

By handling the occasional symptoms which are produced by the less serious infections of the intestines in the manner mentioned and giving the patient the benefit of rational treatment, as suggested in the early part of the paper, the disease will sometimes heal. I have seen several cases heal where the symptoms were pronounced and where diarrhoea with pain in the abdomen followed tuberculin reactions, thus confirming the diagnosis. While I look upon this as a most serious complication, yet I think that we have reason to believe that ere long we will have evidence enough at hand to show us that this condition is also occasionally amenable to treatment.

In the preparation of this paper I have simply given my own experience. The class of patients that come to us are, as a rule, far advanced in the disease. They have tried fresh air, and all the usual remedies, they have given various climates a trial unsuccessfully, and then when they have arrived at an advanced condition, with very often complications on the part of the larynx and bowels, they are ready for sanatorium treatment. While this has made our work difficult and precluded the possibility of obtaining the best results, yet it has afforded us an opportunity to study these complications, which have resulted in the evidence which I have placed before you.

And why should these tuberculous complications not heal? Tuberculosis has the same cause and same pathology wherever found. It is cured by the same measures wherever found. If cured at all it will be cured by raising the power of the body cells to the place where they will produce sufficient antibodies to overcome the infection, as I have shown; so, we must either assume that these complications are more virulent than the infection in the lung or expect them to yield to rational treatment.

I would not counsel delay until these various complications result, but insist on an early diagnosis and prompt intelligent treatment; but the point that I wish to make is, that a man does not need to be condemned to death because of some other organ than the lungs being involved as a complication of pulmonary tuberculosis, and especially is this true when the diagnosis of the complication is made early.

One word about tuberculosis of the bones and joints before closing. If we may judge from the after history of these cases we must admit that the results obtained by the ordinary operative and mechanical measures are not quite as good as can be desired. Very often secondary infection of other organs follow these primary lesions. The leaders of thought along this line are now beginning to suggest that their patients be given the benefit of sanatorium and tuberculin treatment along with the other measures. It is certainly rational and will doubtless add much to the permanency and thoroughness of the result.



## ACUTE PULMONARY ŒDEMA AS A COMPLICATION OF EPILEPTIC SEIZURES.\*

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The complication of a grand mal seizure mentioned in this short paper is that of a pulmonary Œdema which is sudden in onset and produces a serious condition in all instances and in some cases a fatal termination. In some cases this Œdema is recurrent. This state is one to which little or no attention has been called in treatises on epilepsy, although seen fairly frequently.

Riesman, in an excellent article in the *American Journal of the Medical Sciences*, January, 1907, has given a résumé of the literature on the subject of pulmonary Œdema and reports six cases of an acute recurrent form.

He mentions this Œdema as being associated with arterio sclerosis, Bright's disease, heart disease, angina pectoris, asthma, acute infectious diseases, pregnancy, paracentesis of thorax and abdomen, angioneurotic Œdema, and finally with obscure conditions of questionable causal relationship, such as hysteria, etc.

In every grand mal and in many petit mal seizures there is a more or less marked increase in the secretion of mucus along the respiratory passages with the subsequent frothing at the mouth which is commonly seen in such patients. In some cases there may be no actual increase, but simply an accumulation in the mouth of the normal amount which is then forced from between the lips during the accentuated respiratory air currents which accompany the stertorous type of breathing.

In a few cases this great outpouring of mucus becomes so marked that the patient is in actual danger of being drowned in his own secretions, this acute process producing a marked pulmonary Œdema. The acute Œdema should not be confounded with the frequently occurring terminal Œdema seen in many epileptics, as well as those suffering from the many other diseased states which have already been mentioned. In a large proportion of the autopsies done on patients who had died at the colony, a terminal pulmonary Œdema has been found.

The patients observed have been in fairly good physical condition preceding the occurrences of one or more grand mal seizures. During the stertorous period of the isolated seizure, or perhaps the second or third in a series of seizures, there suddenly appears an outpouring of mucus, perhaps blood tinged, from the mouth and nose, with a marked cyanosis and dyspnoea occurring concomitantly.

*Ætiology.*—Some of these cases occurred in patients who had an affection, which in all probability acted as a predisposing cause, but would never have been sufficient to have brought about the Œdema unless the circulatory changes accompanying the epileptic seizure had been added to it. Of the eleven cases reported in this paper, seven patients recovered and four died. In three patients the condition recurred, and in one of them the second period observed was fatal.

Dr. William H. Welch's theory of the cause of pulmonary Œdema is as follows:

A disproportion between the working power of the left ventricle and of the right ventricle of such character that, the resistance remaining the same, the left heart is unable to expel in a unit of time the same quantity of blood as the right heart.

An enfeebled action of the left ventricle, rather than a spasmodic action, is likely to be the cause of this disproportion under the conditions in which pulmonary Œdema ordinarily occurs. As a consequence of this there is soon a large excess of blood in the pulmonary vessels. The Œdema is one usually associated with venous hyperæmia. An increase of the intracapillary pressure is brought about in the lungs, and perhaps a decrease of the extracapillary pressure, or both. The asphyxia accompanying the seizure is caused by the local stagnation of the blood stream and in turn causes an increase in the permeability of the endothelial wall of the capillaries of the lung.

*Treatment.*—The most important procedure has been found to be a change of posture so as to aid in draining the respiratory passages of the great excess of mucus. If necessary, turn the patient over the side of the bed, removing all mucus from the mouth, nares and pharynx. Open the mouth with a gag or with the fingers protected by a towel. In addition, much benefit has been obtained by dry cupping and the use of atropine and strychnine hypodermatically. Venesection is of value in full blooded patients. Adrenalin was used without apparent result.

CASE I.—M. B. T., female; admitted to the Craig Colony May 22, 1899; age, twenty-seven years. Onset of epilepsy at seven years. Had both petit mal and grand mal seizures. Well nourished woman. At time of admission physical examination revealed a mitral murmur.

July 13, 1903.—She had a grand mal seizure, following which a marked acute pulmonary Œdema occurred. A venesection was done and patient quickly improved. Recovery uneventful.

December 6, 1906.—Slight bronchitis had occurred at intervals during past year. General health had been good, so that she worked in laundry regularly. At 1:15 a. m. she had a severe seizure, which was following by a marked cyanosis of face, dyspnoea, and elevation of temperature, 103° F. Examination of chest showed numerous dry râles, with some moist râles. There was some bloody saliva and mucus expectorated from time to time. Great restlessness and fear of death. She was turned on her side with head hanging over edge of bed, so that fluid would drain from air passages. Given atropine gr. 1/60 hypodermatically and dry cupped over entire right chest. In half an hour patient was quieter and dyspnoea much less marked. Pulse was of good volume, but not of particularly high tension. Moist râles were present for three days, after which she returned to her usual state of health.

CASE II.—H. J. L., male; admitted April 9, 1898; age, thirty-six years. Evidence of beginning pulmonary tuberculosis, but no heart lesion was present. Had both grand mal and petit mal seizures.

October 4, 1906.—Following serial attacks this patient developed an acute pulmonary Œdema. Loud moist râles were heard over entire chest, and mouth filled with frothy mucus. Pulse was full and strong and respiration noisy. Examination of heart unsatisfactory, owing to noisy breathing, but there was apparently a murmur accompanying second sound at apex.

October 5, 1906.—Condition became worse; seizures recurred until death occurred at 1:45 p. m. Temperature was not above 100.8° F. No autopsy permitted.

CASE III.—Lillian S., age, twenty-six years. Onset of epilepsy at thirteen years. Both grand mal and petit mal. Patient well nourished. No heart lesion and kidneys normal.



June 9, 1906.—This evening patient had one grand mal seizure, following which she had a very marked pulmonary oedema. Profuse blood tinged frothy expectoration. Patient received atropine gr. 1/50, strychnine gr. 1/30 hypodermatically, and was dry cupped over chest. Temperature 100° F., pulse 120, respiration 68. Foot of bed was raised. Condition improved rapidly, and patient was in usual condition in thirty-six hours.

CASE IV.—Chas. W. J.; admitted to the Craig Colony on March 1, 1901; age, nine years. Seizures grand mal in type. No heart lesion when admitted.

September 10, 1906.—Following serial attacks he had marked pulmonary oedema. Entire chest was dull on percussion, and coarse, moist râles were present in large numbers. Given atropine and whiskey hypodermatically, and mustard paste applied to chest. Temperature 105° F., pulse 150, respiration 60. Temperature lowered to 103° F. by alcohol sponge. Three hours later temperature was 105.4° F., pulse 140, and barely perceptible at wrist. Oedema slightly cleared up. Frequent seizures continued. Patient rapidly became weaker, and death occurred six hours later. Autopsy, by Dr. J. F. Munson, showed brain very moist, and on section surface moist and somewhat foamy. Small amount of fluid in each pleural cavity. Heart weighed 165 grammes. Left ventricle firmly contracted. Muscle felt firm and good. Mitral valve admitted forefinger. Mixed clot under mitral valve flapped and extended up into auricle, making a cast of their cavities. Valve edges were thickened, but not hardened. Pulmonary artery admitted thumb with difficulty. Flaps were normal. Thymus persistent.

CASE V.—H. M. C., female; admitted July 1, 1902; type, grand mal and petit mal. Onset in early childhood. Note on admission read first sound of heart was not clear.

January 31, 1906.—This patient had some severe seizures early today, and soon developed a pulmonary oedema. Temperature (rectal) at 7 a. m. 101° F., pulse 100, respiration 20. At 10 a. m. she was dry cupped on back along both sides of vertebral column, and was given atropine gr. 1/100 every three hours. Large and small mucous râles could be heard over entire chest, but especially posteriorly over left lung. Palpation readily showed fluid in air passages. Because of large amount of adipose tissue, percussion was unsatisfactory. Heart sounds were rather indistinct, but appeared normal; pulse was of fair volume. Patient was partially conscious in interval between seizures and took some milk by mouth. Pupils were even and not dilated. No evidence of paralysis. Breathing stertorous. At 2 p. m. temperature 99° F., pulse, 120, respiration 40. At 2:45 p. m., grand mal seizure. At 4 p. m., râles seemed more numerous. She had another severe seizure at 5:35 p. m., and was much worse thereafter. Heart sounds were quite good at 7 p. m., as was also pulse; temperature (rectal), 101.5° F., pulse 132, respiration 40. Condition grew worse, and death occurred at 8 p. m. Considerable cyanosis and laryngeal râles were present for some time before death. Autopsy was not permitted.

CASE VI.—B. M. J., female; admitted December 18, 1902; age, eleven years; type of seizures, grand mal. Onset at three and one half years. Second sound accentuated. Urine normal.

January 18, 1906.—At 5:45 p. m. yesterday this patient began having severe seizures in rapid succession; she had just finished her supper and had appeared as usual. At 6 p. m. rectal temperature was 99.4° F., pulse 118, respiration 34. Patient was unconscious, and facial muscles were in clonic convulsions, with no interval free from convulsions. High cleansing enema ordered to be followed by enema of chloral hydrate, grs. xx, and potassium bromide, grs. xxx. Seizures were so severe that after the fourteenth the physician administered chloroform by inhalation until seizures stopped. There were marked stertor and increase of mucus in upper respiratory passages. After seizures stopped the mucus was so profuse that it poured through nose, patient became markedly cyanotic and respiration irregular and shallow. She was turned on her side and her head allowed to hang over the edge of the bed with her face down. Her mouth was pried open with a spoon and held so with the handle of a tablespoon; then the tongue was grasped with a towel and pulled out far enough to permit air to pass through larynx. Mucus was expelled from nose and mouth. Her condition began to improve, and she began to return to conscious ness. Pulse continued of good volume throughout.

At 7 p. m. rectal temperature was 98.6° F., pulse 120. At 10 p. m. she was restless, tossing about bed. With this exception she appeared to be in her usual condition. The following morning she was up to breakfast and about as usual.

April 1, 1906.—No prostration followed another series of seizures shortly after the one described. Physical condition was good.

July 31, 1907.—The patient had eleven grand mal seizures between 7 a. m. and 8:35 p. m. The last seven occurred in rapid succession between 8 p. m. and 8:35 p. m. Given chloral hydrate, grs. xx; potassium bromide, grs. xxx, by enema. Foot of bed elevated six inches. 9 a. m. atropine sulphate gr. 1/50 hypodermatically. Mustard paste applied to chest for twenty minutes. Following the last seizure patient developed a slight pulmonary oedema. Examination of chest showed slight impairment of resonance over entire pulmonary area. Rhonchal fremitus over same area. Scattered large moist râles over both lungs, but most numerous over upper and middle lobes of left lung anteriorly. Pupils were dilated. Patellar reflexes were very slight. The remaining reflexes were unobtainable. Patient was unconscious and slightly cyanotic. Pulse at 11 p. m. 100, regular and full; temperature 100°, respiration 24. Normal saline solution, 1 pint, given by rectum and repeated every three hours until patient returned to usual condition.

August 1, 1907.—Patient was bright and wished to get up. Examination of chest was negative, except a few scattered moist râles over left middle lobe anteriorly and in left axilla. 8 a. m. temperature 100°, pulse 86, respiration 20.

August 2, 1907.—Examination of lungs was negative and patient appeared in her usual condition.

CASE VII.—C. P., male; age on admission, April 4, 1903, was twenty-four years. Onset at eight years; grand mal and petit mal. Patient was well nourished, and heart and kidneys were normal.

November 14, 1905.—This patient had had quite frequent seizures for past few days, having had thirteen in three days, and this morning he had eleven. He was mentally disturbed since the day before, was constantly muttering to himself, and frequently cried out. His temperature was 102°. He was transferred to the hospital. Examination showed both lungs filled with loud moist râles, and some dullness was noted over left lung in front. Tongue was coated with heavy brownish fur. There was some congestion of face and neck, which increased during the evening. Respirations were labored and noisy, abdominal muscles being brought into use. Mouth was filled with a thick viscid mucus which had to be cleansed quite often.

November 15, 1905.—He was disturbed during early part of night, but after 10 p. m. was quiet. Temperature rose last evening to 102° F., but this morning was 100° F. Free perspiration last night, and patient could not be aroused. Saline infusion into both mammary regions this morning. Pulse was rapid and feeble, the respirations being less frequent and more shallow, and patient died at 10:50 a. m.

CASE VIII.—I. M. B., admitted June 21, 1905; age, sixteen years; onset at six years; heart and kidneys were normal.

October 1, 1905.—This patient had four mild seizures yesterday and complained of pain in her abdomen. At about 4:45 p. m. she passed into a condition of status epilepticus, seizures beginning by head being turned to right. When seen by physician she was having a general clonic convulsion, was markedly cyanosed, breathing, stertorous, with an unusual amount of mucus in the upper respiratory passages; bathed in a profuse perspiration, pupils small and no reaction to light, corneal reflex absent, reflexes absent in extremities, pulse 160; rectal temperature at that time was 102.0° F. This morning she was in her usual condition. After convulsion she had a slight lateral sweating. Right pupil was considerably larger than left, but both responded quickly to light.

March 12, 1906.—At about 10 a. m. yesterday, night nurse found this patient in a condition as if she had had a severe seizure. Patients in same room said she had convulsed for half an hour. She was lying in a comatose position, with considerable mucus in upper respiratory tract. Pupils were moderately dilated. Pulse 150 per minute, but of good volume; rectal temperature 101° F.

Patient semiconscious and very restless. Knee jerks, wrist jerks, and elbow jerks were active; no ankle clonus; Babinski reflex present on both sides. At 11 p. m. temperature had dropped over two degrees. At 7 a. m. temperature 100.4° F. Tongue lacerated. Patient was pale, but otherwise in about her usual condition. Later in the year she had a similar condition develop following seizures. Recovery.

CASE IX.—E. F., female; admitted March 24, 1904; age, seventeen years. Grand mal. Onset at one year. Accompanied by second pulmonic sound. Urine normal.

May 5, 1905.—This patient had a grand mal seizure last evening. After the attack she developed a moderate hemoptysis which gradually became less marked. Ice was applied over her chest and she was given fragments of ice to place in her mouth. Morphine, gr.  $\frac{1}{4}$ , and atropine, gr.  $\frac{1}{150}$ , were given hypodermatically. Pulse was 120. This morning she was quite comfortable. Temperature 98.8° F., pulse 112, respiration 35. She had very large tonsils and probably adenoid in nasopharynx. This morning an examination of the chest revealed many coarse râles over right lung, especially along border of ensiform appendix.

CASE X.—J. K., male; admitted March 28, 1905; age, eleven years. Lungs normal. Status with pulmonary oedema every six to eight weeks. Occasional isolated grand mal seizures.

August 3, 1906.—Temperature 103° F. Seizures stopped on administration of chloroform, morphine, and atropine. Oedema cleared up in twenty-four hours.

November 25, 1906.—Status controlled by chloroform. Pulmonary oedema and marked bronchorrhoea, with quantities of mucus from mouth and nose. Under treatment cleared up in twenty-four hours.

CASE XI.—C. H., female; admitted April 30, 1896; age, twenty-one years. Grand mal. Onset at fourteen years. No heart lesion.

March 7, 1905.—This patient had several severe seizures last night and some today. This morning she was comatose and remained so all day. In the afternoon she had a slight elevation of temperature; pulse became very rapid, as did also respiration. Breathing was noisy, and laryngeal râles were present. Auscultation showed many râles in both lungs as a beginning of oedema of lungs. She was given atropine sulphate, gr.  $\frac{1}{60}$ , and strychnine sulphate, gr.  $\frac{1}{20}$ , hypodermatically. Latter drug repeated at intervals of two hours for three doses, then gr.  $\frac{1}{40}$  given every two hours.

March 8, 1905.—Condition was improved. Very few râles heard over either lung. Patient coughed occasionally, but did not expectorate. She took nourishment by mouth, and was much brighter mentally. She did not answer when spoken to. When smiling, muscles of right side of face contracted more than did those of left side. She had a few mild seizures, which consisted of head being turned to left; slight lateral nystagmus and chewing movements; no automatism or stertor; duration about five seconds.

March 10, 1905.—Patient has much improved, but did not talk. She took nourishment easily. Lungs were free from râles. Still some elevation of temperature.

August 10, 1907.—Patient had serial attacks yesterday morning at 5:30. In spite of the administration of chloral and bromide in large doses, and thorough flushing of the bowels, the seizures continued, and pulmonary oedema supervened. In the past twenty-four hours the patient had had forty-one seizures, and was in the morning at 8:00 in a critical condition; temperature 100.6°, pulse 152, respiration 48. The oedema of the lungs was increased in severity and the seizures recurred about every half hour. Nitroglycerin, gr.  $\frac{1}{100}$ , administered at 8:45 a. m.; copious enemata of warm water, dry cups. Since last note her condition had become progressively worse. She had ten severe attacks between 5:30 a. m. and 12:55 p. m., and died at 1:05 p. m.

Autopsy: August 11, 1907.—Froth about nostrils. Hypostasis fairly well marked and patchy in character present on upper chest and neck. Brain, large and soft, very moist, and congestion marked. Microscopical examination was negative. Both lungs showed moderate congestion and oedema. Heart weighed 230 grammes; there was large chicken fat clot in pulmonary artery; right heart contained mixed clot. Examination of valve was negative; endocardium was pale.

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### CONCERNING THE FIRST WEEK OF INFANT LIFE.\*

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The period of life which I have selected to discuss is one of much more importance than is usually considered, and really presents a subject too broad to be covered in its many manifestations in one paper.

The object of the paper is to recall to the mind of the busy practitioner some of the often neglected precautions which can be taken in behalf of the infant and to impress the necessity of asepsis in their management. As a class of patients, I do not suppose there is another one which is handled with so much carelessness, almost neglect, as the newborn babe. If it cries after birth, and starts to functionate, the physician, as a rule, seems to think his duties toward the child are finished, and it is turned over to the nurse or attendant without definite instructions as to its care, or any warnings as to the dangers which beset it. In its early hours or days we have appreciated that disturbance of the equilibrium of its vitality is to be feared, and we are beginning to appreciate more and more the dangers of specific morbid processes to which it is very susceptible.

Only by reviewing the statistics of infant mortality during the first month of life, and studying the causes of the high death rate, can we fully appreciate the responsibility imposed upon us in their care. Eröss gives the statistics of sixteen large cities of Europe, which showed 1,439,000 births, with a mortality during the first four weeks of life of 9.5 per cent., which means 130,610 deaths. If the vitality is measured by the weight, it is considered that  $6\frac{1}{2}$  pounds shows a fair vitality,  $5\frac{1}{2}$  pounds low, and  $4\frac{1}{2}$  pounds very low. To safeguard those of low vitality there are a few subjects worthy of consideration, and one of the most important is that of the body temperature, for it gives definite information of the child's ability to endure its new surroundings. In the small or sickly infants, then, the temperature should be taken every six to eight hours, for their heat radiating surface being relatively more active, as well as greater, than the adult, they easily become markedly depressed from chilling. Refrigeration produces a shock which is momentous to the newly born.

During the first day or two of life is the only time the surface temperature may be considered an accurate indicator of the actual temperature of the infant. Then, and then only, is the surface temperature at all justifiable; but even then the rectal temperature is more reliable, and should be the only one considered by the careful observer.

A. H. Parks, of Chicago, asserts that the groin

\*Read at a meeting of the Buffalo Academy of Medicine, November 12, 1908.



temperature in the normal infant varies only  $\frac{1}{2}$  degree F. from that of the rectum, and for æsthetic and other purposes is to be preferred. I cannot elevate myself to this high plane of æstheticism even in the female infant, and know of no other poorer or yet better reason than æstheticism for taking an infant's surface temperature. If the skin is thoroughly dried, and the one half minute thermometer is left in situ for from three to eight minutes, this slight variation of  $\frac{1}{2}$  degree F. may be true in the normal infant, but in the pathological states one sees the surface temperature often about normal with a rectal temperature that is very high. I consequently urge that the surface temperature be always considered misleading. The temperature per rectum should be kept above 98° F. The birth temperature is about 99 $\frac{1}{2}$ ° F., and in one hour is apt to be 96° or 97° F., and not for a week can the child easily maintain 98° F. or over.

A second fruitful cause of physical depression which may prove fatal is the disregard of the amount of food ingested by the very young. It is put to the breast, draws as strongly as its weak muscles will allow, and from fatigue falls asleep apparently satisfied, but in reality only having gotten a teaspoonful or two of nourishment. Soon it awakens, cries, and is again put to the breast for another almost dry draw, and takes another cat nap. Bad habits are formed, castor oil is given for supposed colic, and the infant is correspondingly more depressed and weakened, and the case becomes more complex. As a remedy all that is needed is a pair of scales to learn the amount of food the babe is getting, and to supply this want, if it is not being sufficiently fed. The stomach of the newborn holds 25 c.c., almost an ounce, and, like most human beings, it enjoys having it filled occasionally, especially after a day or two of almost complete fasting.

A third physical cause of depression is pain arising from the fact that too little water is given to the newborn, and too often is there a neglect to add to this water a small amount of an alkali. It is commonly known, and almost as commonly forgotten, that uric acid infarction of the kidney of the newborn is not infrequent. Post mortem examinations show the orange or light red color near the pyramids, usually due to the ammonium urate, amorphous urates, or uric acid crystals. They are easily washed away by water, especially if it contains an alkali, and this simple remedy promptly produces relief of pain, too commonly treated by castor oil given in doses for the newborn heroic. As a routine practice I give all my infants a little weak sodium bicarbonate water during the first couple of days of life.

As a fourth cause of physical depression some criticism is justifiable of the rougher methods of performing artificial respiration. Because many an infant can survive low body temperature and lack of food, so can many stand the rough handling of some of the methods, such as the swinging ones. But for the weak these methods are very exhausting, and in any case should be omitted, if possible.

A simple, not heroic, and very successful method, called Byrd's method, is to allow the infant to lie with its back on the palm of one's hand, with two

fingers supporting its head. The thumb encircles one side of the chest, and the fourth and little finger the other. The other hand grasps the legs. As the thighs are bent onto the abdomen, compressing it, the chest can also be compressed. As the thighs are extended and the body arched backward, the chest can be released. It can be performed in a warm bath, if advisable, and accomplishes good results with a minimum of fatigue. It compresses the chest, and by its rhythmical pressure massages the heart.

In the severe cases the violent methods may be necessary. In these where the reflexes are wanting it seems to me there is little avail—in fact, time is wasted—in resorting to Laborde's tongue traction method, which is supposed to irritate the superior laryngeal, the glossopharyngeal and the lingual nerves.

Sheili, of Dublin, recommends injecting a small amount of adrenalin through a silver cannula, inserted into the umbilical stump, the ligature having been loosened, to relieve shock and to assist the various methods of artificial respiration. It is so much of an operation that it is rarely feasible. The simpler and gentler the procedure of artificial respiration necessary to produce the desired results the better. In many of the conditions, such as malformations, injuries during labor, etc., we may be powerless to accomplish more in saving life than we are now accomplishing, but in many of the conditions, nervous, pulmonary, gastrointestinal, and the like, which are of a possible infectious nature, we may, by strenuous efforts, produce better results than we are now securing.

Many conditions previously thought functional disturbances are now considered infectious. To just what pathogenic bacteria some of them are due is not now known, for, as the result of a great deal of research, there is no single germ or series of germs always present in a given set of symptoms.

If the mortality from septicæmia can be so greatly reduced by strict asepsis, as has been done, especially in maternity hospitals, so can we, in both institutions and in private practice, help decrease the infant mortality by similar properly directed care.

In considering the sources of infection of the newly born we may start with the placenta, which has been proved to be a fairly reliable filter to prevent infection of the fœtus in utero, although the protection may not be complete. We have the transmission through it of syphilis, and it may be of tuberculosis, and some other infections, as well as the toxines of various diseases. This is a source we cannot well control, but the vagina, which we know often teems with bacteria, does come within our scope, and I see no reason why more attention cannot be paid, opportunity and time permitting, to cleanse and disinfect it. With the vagina fairly sterile we come next to the hands of the attendants, the careless use of which are undoubtedly the cause of very many of the conditions, properly considered infectious, those gastrointestinal and pulmonary included. Could the responsibility be definitely placed, the relief would be promptly afforded. The accoucher with hands contaminated from careless cleansing or from the fecal matter expelled from the bulging anus, or the nurse who cleanses the anus



for him or handles other infected articles, either one may jeopardize the child's life by introducing some pathogenic germ on the finger inserted into the child's mouth to remove the mucus or liquor amnii. Consequently let the mouth alone, whenever possible, or see to it by previous instructions that the nurse with sterile hands and a finger incased in sterile soft gauze be the only one to attend to this part.

In institutions the opportunity for dissemination of disease germs is recognized and vigorously met, but in private practice too little attention is paid to strict asepsis in the care of the infant. How many trained nurses are there who are told, after cleaning the lying-in bed, to sterilize their hands before washing out the newborn infant's mouth in its first toilet? They appreciate the necessity for asepsis in the care of the nipples to prevent inflammation or abscess of the mammary glands of the mother, but will show the physician a soiled diaper and soon prepare the nursing bottle with food or drinking water.

During the first three of four days the infant needs water to drink more than most any other time in its life. If sterile water with soda is given for the first twenty-four or thirty-six hours, plain sterile water can later be used, which may, with comparative safety, be allowed to remain in the drinking bottle on the radiator for immediate use. But think of the bacteria growth we may be administering if the plain or even filtered Niagara River water be left comfortably warm for an indefinite number of hours for this same immediate use. Undoubtedly many an infant has been made seriously ill by this one procedure.

In considering the port of entrance of infection it is often difficult to determine it definitely, but the mouth, according to Hamill, is probably the commonest gateway, the cord, lungs, and other avenues and parts of the body following in about the order mentioned.

Let us consider briefly some of the symptoms of infection often supposed to be other conditions. The first are the gastrointestinal disturbances. When pathogenic germs are inserted by mouth the common set of symptoms are those of intestinal indigestion or colitis. The child is not anxious for food, cries from pain, has loose undigested stools, generally containing mucus, and has fever. These symptoms appear anywhere from the third or fourth day to the fourteenth or eighteenth, and should, in the large majority of cases, be considered an infection rather than an indigestion from improper percentages of food strength. The breast milk, which may contain the source of the trouble, or the artificial food should be stopped for a few hours or a day, and the gastrointestinal canal cleansed with sterile water, calomel, or small doses of oil. Soon other good breast milk or different artificial food should be used, and used sufficiently long till the mother's breasts or milk seem normal, or the return to modified milk seems perfectly safe. By treating these conditions as *infectious* rather than indigestions, our measures will be more prompt, more thorough, more supportive, and more definitely directed to the point, thereby checking the disease in its incipency.

Another class of conditions for which we do not seem to hold ourselves responsible are the pulmonary

infections. We fairly often hear of inspiration pneumonia of the newborn. The diagnosis may be made from the rapid irregular respiration, cyanosis, high fever, and prostration rather than from definite physical signs. In these cases the autopsy reveals absolutely no pulmonary lesion, showing only that the condition is an infection through the respiratory tract, or brought to it from some focal point.

We can in the same manner account for other involvements, such as the skin with its numerous eruptions of varied types, the erythema, the ecchymoses, erysipeloid eruptions, and the petechiæ; or of the nervous system, such as muscular twitchings, rolling of the eyes, retraction of the head or convulsions, symptoms which cannot be accounted for by trauma or hæmorrhage, or pressure inside or outside the skull cap.

These nervous symptoms may be laid at the door of the kidneys, but can we say that the kidney involvement is primary and not secondary to some systemic infection? The kidneys of the newborn are easily vulnerable and may contribute. According to J. Lovett Morse, the presence of a small amount of nuclealbumin in the urine during the first four days of infant life is constant, and lasts often for two weeks. This albumin he considers due to the changes in circulation, to hyperæmia resulting in excessive metabolism after birth, to renal disease in the mother, and to uric acid irritation. While there is evidence that uræmia may sometimes be the causal factor, there is just as much evidence that the kidney involvement is a complication of the general infection. The treatment then includes the removal of the focal point of infection, as well as overcoming the symptoms of the nervous condition.

Gallant, in a thorough article on the umbilicus in the newly born, quotes Cholmogoroff, who demonstrated that the cord at birth is free from microorganisms. He differs from Hamill, and considers that umbilical infections are more common than by mouth, and refers to 1,000 infants, studied by Eross, in whom but thirty-two per cent. ran an afebrile course. Eross concludes that the greatest danger of infection is through shrapnel of the cord. The commonest microorganisms causing infection are the *Staphylococcus aureus* and *Streptococcus pyogenes*, and they are probably the exciting cause of four fifths of the cases, the staphylococcus producing, as a rule, the milder symptoms. Infection of the navel from the clinical aspect depends first upon the extent of the involvement, whether limited to the cellular tissue, arteries, or the vein, or commencing in one and extending to the others, and, second, the virulence of the microorganism. When the base of the stump is infected, the sloughing tissue, moisture, and warmth give favorable soil for their multiplication. The toxins eliminated by them are absorbed, causing toxæmia, with fever and symptoms pointing to some particularly affected part. Through the short thrombosis of the arteries or vein, which is only an inch or so in length, the infection reaches the other parts of the body, early attacking the liver and producing jaundice, or carried to the lung producing pneumonia, or if to the brain purulent encephalitis or cerebral abscess.

The icterus neonatorum is probably more often hepatogenous than hæmatogenous, especially if asso-

ciated with a mild fever, and occurring on the third to the fifth day. The point of danger is the attacked base of the cord, and the period of danger ends not with the separation of the cord, but with the cicatrizing of the granulation surface beneath it. The best dressing then is a dry, sterile gauze or linen without drying powder, so applied, if possible, as to prevent air contamination, and taking pains in applying new dressings not to touch, wipe, or handle the base. Gallant recommends balsam of Peru 1 part to 16 parts of castor oil, both sterile, applied to the base with a thick occlusive dressing of sterile gauze for the cord, the whole held to the abdomen by adhesive straps. It is to be changed when soiled, or every third or fourth day, and by the physician, and only under aseptic precautions.

A recent fatal case of malena neonatorum has impressed me with the virulence of the cause, if it is an infection, and also brought prominently into my consideration the possible effect, as a causal factor, of maternal intoxication upon the fœtus. Let me briefly relate the case:

This young woman had borne previously two healthy girls, and was in perfect condition, except for rather unusual periodical headaches, occurring about the time of menstruation. A healthy eight or nine pound boy was born after a short labor of four hours, during which only one vaginal examination was made. Immediately after birth a large amount of liquor amnii ran from the child's nose, and it ejected from its mouth a large mass of mucus. Its mouth was gently wiped out with sterile gauze by the nurse, whose hands had been carefully cleaned numerous times. The cord, which was thick, was thoroughly tied after stripping, but in an hour commenced to bleed. During the first day it was tied eight times, all promptly successful, but later ineffectual. When nine hours old the baby vomited a little rather bright red blood, and as the case was suspected as possibly being one of malena neonatorum, treatment was commenced at once. Careful physical examination of the infant at this time revealed nothing abnormal. As time advanced the cord continued to ooze, more blood was vomited, there were bloody stools, and petechial hæmorrhages appeared on the left thigh, and later on other parts of the body. Frequently the child seemed in great distress, cried out, presenting a typical facies of pain. Its temperature was never above normal, rather an unusual condition for ordinary infections, and its pulse and respiration were not much altered. In spite of energetic treatment, the child died when forty-four hours old, literally having bled to death.

The treatment of the cord consisted, besides frequent ligation, of pressure, applications of adrenalin, Monsel's solution, and the actual cautery, all without avail. The internal bleeding was treated by means of a 4 per cent. gelatin solution given by mouth in teaspoonful doses, also calcium chloride in gr.  $\frac{1}{2}$  doses, soon followed by ergot hypodermatically and normal saline hypodermochysis. As a supportive measure I fed the child on diluted, later whole, breast milk. The blood from the cord, stomach, and bowels was taken in sterile tubes and cloths and examined by Dr. C. A. Bentz. He reports finding the *Streptococcus pyogenes*, *Staphylococcus aureus*, and the *Bacillus coli communis*. There were no other growths on his cultures. A post-mortem examination was refused and hence further samples of blood were not obtainable.

Hamill, in discussing this subject, mentions six different microorganisms isolated, viz., *Bacillus pyocyaneus*, *Bacillus lactis aerogenes*, *Edin. bacillus*, *Staphylococcus aureus*, *Bacillus coli immobilis*, and the *Streptococcus pyogenes*. These are the ones most commonly found. He also mentions, as found by others, the pneumococcus, Pfeiffer's bacillus, the bacillus of Babes, *Bacillus hæmorrhagicus* or Kolb, bacillus of Gaertner, and the encapsulated bacillus

of Dugern. Of all these the streptococcus, the *Bacillus coli communis*, and the staphylococcus are most commonly encountered.

Almost all writers on this subject consider the condition due to infection, but there are others who lay stress upon maternal intoxication. In my case the symptoms were more those of shock from hæmorrhage than from infection, and the structural or anatomical defects possible from maternal intoxication are worthy of consideration. During the last two weeks of her pregnancy the mother experienced two or three headaches, and some pain along the course of the spinal column. Albumin appeared in the urine, and the kidneys functionated a little less actively, though on the whole they behaved fairly well. These probable uræmic symptoms were not severe enough to be alarming, and were expected to be only of short duration, since the date of the accouchement was only a few days off.

The factors we have in this case are maternal intoxication, probably of kidney origin, an apparently healthy infant born in a room thoroughly house cleaned, attended by persons carefully cleaned. The infant died of numerous free hæmorrhages shortly after birth, and at no time had had a rectal temperature over 99.5° F. It is a history and set of symptoms which may point to an infection, but also is very suggestive of a lack of coagulability of the blood or impaired ability of the bloodvessel walls to retain the blood, one or both possible conditions following maternal intoxication.

Malena neonatorum is supposedly a self-limited disease, commencing in almost all cases within the first ten days, in many cases on the second day, and lasting for five to nine days. As a rule, the amount of blood is not excessive, but is none the less a dangerous condition because the bleeding is continuous. Townsend, of Boston, found reports of 709 cases having a mortality of seventy-nine per cent. The intestinal hæmorrhages generally begin early, within the first three days, the umbilical hæmorrhages more commonly coming later, from the fourth to the seventh day. If the bleeding is from the female vulva and occurs alone it is generally not dangerous. Hæmorrhage in the newborn does not appear to have much relation to hæmophilia. McClanahan, of Omaha, in looking up this subject, mentions Grandidier's statistics of 576 hæmophilics, and only twelve of them had any history of early bleeding.

Edward P. Davis made a valuable contribution in reference to prenatal infection in diseases of infancy by examining the blood of twenty-six mothers and infants, and reached the following conclusions, viz.:

The infant's blood is not dependent upon the mother's plethora or anaemia for its cells or hæmoglobin; except in acute infections the placenta is usually sterile; the fœces of the infant before it has nursed may contain micrococci; the mother's milk before the infant has nursed may contain micrococci. In conditions of maternal toxæmia the same poison which affects the mother is transmitted to the child, in some instances by substances other than bacteria. There exists in infants a toxæmia of intestinal origin, mild cases of which are susceptible to treatment, while severe cases end in multiple hæmorrhage and death. In the latter a germ, resembling that asso-



ated with yellow fever, is capable of transmission through pregnant animals to their young and has been isolated.

So far as treatment is concerned, thorough lavage of the intestines with sterile saline solutions gives best promise of success. Should the mother's milk be infected, sterile modified milk or other foods known to be sterile should be employed.

680 WEST FERRY STREET.

## ON THE ABORTIVE TREATMENT OF GONORRHOEA IN THE FEMALE.\*

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By the term "abortive," in relation to treatment, we mean that form of treatment which brings about a cure of the disease upon one or two applications. The term is used in contradistinction to the prophylactic, or preventive, methods, which do not come under the scope of this paper. While the latter methods seek to prevent the *development* of a gonorrhoea in a person who has been exposed to the possibility of an infection, the abortive method seeks to cure an already present gonorrhoea.

In order to be able to abort a gonorrhoea in a female, the disease must be recognized in its very earliest stages, and before any structure other than the urethra itself, or the urethra and vulva, or vagina, has become involved. In the early recognition of this disease we find our greatest difficulty to the successful accomplishment of an abortive treatment, for women very rarely present themselves to the physician for examination to determine the presence of a gonorrhoea.

This disease frequently runs so mild a course, the infection is of so mild a type, that the women usually ascribe the very slight symptoms which they notice to a possible urethral irritation or a slight "cold," rather than to the possibility of gonorrhoeal infection. When a woman, whose suspicion of gonorrhoeal infection has been aroused, presents herself to the physician for examination as to the presence or absence of gonorrhoea, the physician, in by far the large majority of cases, contents himself with a physical examination of the parts, and, should he not find distinct evidence of an acute inflammatory process, which he recognizes by a reddening of the vulva and meatus, and by the presence of a more or less purulent discharge, pronounces the woman to be free from infection.

Were physicians to rely *solely* upon the outcome of a microscopical examination of the scrapings from the urethral and cervical canal, they would find that a fair proportion of supposedly healthy women are, in reality, afflicted with gonorrhoea in a subacute or chronic form. Since I have based my diagnoses solely upon the microscopical findings in the cases of females, I have been surprised to find how many of them there will be found who, in the absence of any inflammatory reaction about the urethral orifice,

or in the absence of any visible discharge whatever, are still found to be infected with gonorrhoea, as shown by the presence of typical gonococci in the urethral and cervical scrapings. Were the initial stage of a gonorrhoea in a female accompanied by more severe symptoms—that is, more pronounced distress upon urination, as is the case in the male, so that the women were led to consult a physician early in the disease—and were physicians to rely for their diagnosis solely upon the findings under the microscope, I feel sure that a large percentage of the women examined would be found to be suffering with gonorrhoea, and an abortive treatment might be possible in a larger proportion of the cases found infected. Unfortunately, however, in almost all of the cases of gonorrhoea in females, the patient presents herself at a time when the process has already gotten a deeper foothold in the urethra, or when the urethral crypts, or the cervix uteri, have become infected. Then, of course, an abortive cure is impossible.

Frequently, too, it is difficult to decide whether the urethritis is in the early stage of an acute infection, or whether it is of a chronic character. In the decision of this point, I have found the following facts to be of great value to me. In acute urethritis the condition will be found such as Bumm has so beautifully described in his report upon gonorrhoea in the female, as a result of his inoculations with pure cultures of the gonococcus: "After the inoculations a serous, transparent, yellowish secretion appears, which contains but few pus cells, but myriads of epithelial cells. In these, and between them, the gonococci lie in large numbers, in colonies, and solitary examples." Similarly, in the female as in the male, Bumm's experiments have shown that these clinical signs occur about the third day after inoculation. Later on, during the first weeks, the proportion of pus corpuscles increases.

In chronic cases of urethritis in the female, I have found, in all instances, that we have to deal with more or less faint traces of mucopurulent secretion, which is found, upon examination, to consist of broken down pus corpuscles, epithelial cells, and mucus. The microscopic organisms are chiefly bacteria other than the gonococcus, and usually occur in the form of bacilli and diplobacilli. The gonococci are relatively few in numbers, but, upon careful examination of the specimen, points will be found where they have the typical form, and intracellular location. In the acute stage of the infection the gonococci are numerous, and many lie in the pus cells; the pus corpuscles will be found to be fresh in their appearance, and to retain their cell contours and their nuclear contours much more perfectly than in the chronic stage of the disease, where the cell bodies will be found to be broken and degenerated, and the nuclei very often riddled with vacuoles.

It will be seen from these observations that, in order to effect a cure by the abortive treatment, it is an *absolute necessity* to make the diagnosis early, and that, in order to do this, one must possess the requisite degree of bacteriological knowledge to determine the exact character of the condition to be treated. I have found that, in making the microscopical examination, the ordinary watery solution of methylen blue, or the alkaline methylen blue, is fully sufficient

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to enable us to make a clinical diagnosis, where the question is one of distinction between the gonococci and other diplococci; but in the chronic stages it may become necessary to resort to the Gram distinctive stain, and where the question becomes one of medicolegal importance, the culture experiment must be resorted to.

The condition, *sine qua non*, then, of the abortive treatment of gonorrhoea in the female is, just as in the male, the microscopical examination. If, now, the patient presents herself at an early stage of the disease, and if it be found upon examination that the gonorrhoeal infection has not extended to the Bartholinian glands, or to the cervix uteri, then the attempt to employ the abortive method is justified, for, if we do not achieve an abortive result, we do not injure the patient, nor do we do anything that would favor the spread of the infection. Where the Bartholinian glands or the cervix uteri are involved, an abortive treatment is impossible.

That the urethra is, in a large proportion of the cases, the seat of gonorrhoea in the female, has been determined by careful examinations of competent observers, and this is in direct contradiction of the views which were formerly held. Steinschneider found the urethra involved in forty-seven per cent. of the cases; Horand, however, in seventy-five per cent., and Baum, Luczny, and Wolff in ninety per cent. The findings of other observers agree, in the main, with these statements—that, in by far the large majority of all cases of gonorrhoea in the female, the urethra will be found to be involved. Where the conditions for the employment of the abortive treatment are favorable (and I frankly admit that this is, owing to the circumstances which I have named, in but a small percentage of the cases of gonorrhoea coming to our notice), the procedures which I have employed with success are as follows:

I. A microscopical examination of the urethral secretion, or scraping, and of the secretion showing at the vulvar orifice.

II. Cleansing of the meatus, and irrigations of the urethra and surroundings with a solution of one quarter to one half per cent. solution of protargol. Either the hand syringe or the irrigator may be employed, but no great degree of pressure should be employed. In all about 150 c.c. are used for the urethra and surroundings, after which about 150 c.c. of the fluid are injected, through the urethra, into the bladder, to be later expelled by the patient. In this latter irrigation, the patient is instructed to relax the muscles, as though about to urinate, when the urethra feels distended, whereupon the fluid will be found to flow easily into the bladder.

III. Cleansing of the vulva with 150 c.c. of the solution.

IV. A vaginal scraping is now made and examined, the sterilized platinum loop being passed well into the vagina for this purpose.

V. The nozzle of the syringe is gently inserted into the vagina, the stream of the solution, during this time, passing into the vagina, and the nozzle inserted up to the point where the body of the syringe blocks the outlet. The syringe blocking the outlet to prevent the escape of the injected fluid, the injection is continued until the vagina becomes distended with this solution, which is then allowed to flow out.

About 300 c.c. of the solution are used for this vaginal cleansing.

VI. A sterilized speculum is inserted into the vagina—preferably of the duckbill type—and the vagina, particularly the fornices and the cervical orifice, cleansed by gently wiping with little cotton pledgets.

VII. A specimen of the cervical secretion, or a scraping from the cervical canal, is now made with the sterilized loop, and a microscopical examination thereof made. Should this be found to be free of gonococci, and to contain few or no pus corpuscles whatever, then the vagina is lightly tamponed with several yards of narrow, absorbent gauze strips, saturated in one per cent. protargol solution, and the speculum withdrawn. I employ the tamponade whether the vagina be infected or not. If it be infected, I employ a five per cent. solution. There is then an exfoliation of the superficial epithelial layers, and usually, in from twenty-four to forty-eight hours, the vaginal secretion will be found to be sterile. If the vagina be not infected, its infection is prevented by this tamponade.

VIII. A soluble urethral bougie of five per cent. protargol in cacao butter, made of a length of an inch and a half, is inserted into the urethra and left therein.

IX. While the index finger of the left hand maintains the urethral bougie in place by pressure of the finger against the meatus, a pad of absorbent cotton, saturated with one per cent. protargol solution, is placed over the urethral and vulvar orifices and kept in place with a "T" binder. As the patient has urinated in emptying the bladder of the fluid injected into it, she is now instructed to resist the desire to urinate, if possible, for several hours, so that the drug in the melting bougie may be kept in contact with the urethral mucous membrane for as long a period as possible. The pad covering the vulva is also kept moist with the one per cent. protargol solution.

X. Rest in bed, if possible, is of advantage in the treatment. Bland diet should be ordered; all intoxicating or carbonated drinks avoided, and all highly spiced articles of food omitted from the dietary. A daily warm sitz bath, in the evening, completes the treatment. The tampon is left in place for twenty-four hours, whereupon it is removed by the physician, and the treatment, as outlined, repeated. Should the patient desire to urinate, the moist pad is simply removed, to be replaced at once thereafter. Under this treatment, within twenty-four to forty-eight hours, if the cure is to prove a success, the urethral secretion must be free of gonococci, as must also the vulvar and vaginal scrapings. After two such applications, if there be no more gonococci present, it is my custom to begin the tests by omitting entirely the urethral irrigation and bougie, and by substituting a vaginal irrigation of bichloride of mercury solution, 1 in 4,000, or a solution of one half per cent. zinc sulphocarbolate for the irrigation with protargol, and the vaginal tampon is entirely omitted. The warm sitz baths are, however, continued for a few days longer. Should the test of the interruption of treatment be followed by no return of gonococcus bearing secretion, then we proceed to the alcohol test. Further control examinations must be made at intervals, and only when the

urethral and cervical scrapings continue free of gonococci, even after the next following menstruation, may we discharge the patient as definitely cured. Should discharge with gonococci reappear during the tests, then we simply continue with the treatment until the patient is cured.

51-53 EAST FIFTY-EIGHTH STREET.

### CEREBRAL CONTUSION.\*

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An injury to the head sufficient to cause loss of consciousness for a brief period is the strict limitation of concussion, but the more prolonged coma or manifestation of cerebral incompetency without fracture should be defined as cerebral contusion. It is very probable that so called concussion is but a slight degree of contusion, but it simulates the latter condition in its aetiology, pathology, and symptomatology, and Kocher maintains that there is no place in a medical vocabulary for the word "concussion."

The causative agent is trauma, applied directly or indirectly. A blow upon the vault or striking of the head upon an unyielding substance are the more usual factors, but the force may be transmitted through the spine, as severe falls upon the buttocks may be followed by severe symptoms of cerebral contusion. If the object through which the force is applied is of a yielding nature, contusion of the brain is likely to be a sequence, but fracture is improbable, hence the use of sandbags and lead pipes as weapons of assault is founded upon a rational basis.

The pathological changes following cerebral contusion vary from those of microscopic proportions to tremendous hæmorrhages. In the milder types of the affection the changes are not evident to the eye perhaps, but section will show minute rents in the white and gray matter, with here and there a pinpoint hæmorrhage. This would correspond clinically to the degree of unconsciousness popularly called concussion. In the more severe cases, the variations in the pathology are of degree rather than character. The lacerations may be invisible, but punctate hæmorrhages may be seen throughout the brain, varying in size from a pinpoint to the size of the lead in a pencil. In those cases which result in death, the lacerations may be evident to the eye, and the hæmorrhage, either cerebral, subdural, or extradural, may be of great magnitude; therefore the term diffuse cerebral contusion has been appropriately applied to this condition. While in the majority of cases the lesion lies immediately beneath the point where the greatest force was focused, in many instances it is widespread and no part of the cerebrum escapes the violent oscillation. On the contrary, the lesion may be one of contrecoup, and especially is this true of hæmorrhage. In a personal communication the deputy coroner of the District of Columbia, Dr. L. W. Glazebrook, states that in 500 autopsies he found death the

result of cerebral concussion or contusion, without a gross lesion, in seven cases, and in twenty-four cases there was hæmorrhage without fracture.

With hæmorrhage of any intensity there is increase of the intracranial pressure, many instances severe enough to retard the venous outflow; in other words, a passive congestion. Following this is an exudate from the vessels, œdema of the brain, the pressure of which modifies, but does not paralyze, the medullary centres, but retards or prevents the normal cerebation, both psychic and physical. The centres in the medulla are vital and are the last to succumb to the increased tension. With the increased pressure an anæmia is the physiological result, inasmuch as the calibre of the cerebral vessels is reduced by compression. The higher centres in the medulla feel this loss of arterial blood, and from the reflex stimulation the heart attempts to force more blood into the brain; hence the full bounding pulse and increased blood pressure. The œdema may be temporary or more or less permanent. To quote Osler: "The symptoms of compression following concussion or contusion, as shown by Cannon, are frequently attributable to cerebral œdema due to changes in osmotic pressure. . . . The anatomical changes are not unlike those of anæmia. (When the anæmia follows progressive atrophy, the fluid is chiefly in and beneath the membranes.) The brain substance is anæmic and moist, and has a wet, glistening appearance which is very characteristic. In some instances the œdema is more intense and local, and the brain substance may look infiltrated with fluid."

The gray matter of the brain does not regenerate, once destroyed, and the lacerations which follow contusions of the brain are permanent gaps in the communication from cell to cell, bridged over by fibrous tissue derived from the lymphocytes or wandering cells of the blood stream. The co-ordination of ideas or acts may be seriously interrupted by the distribution of fibrous tissue. The reparative process may seriously interfere with the circulation and a permanent œdema of the brain be the consequence.

*Symptomatology.*—Following an agitation of the brain or violent movement from direct or indirect force, there is a period of unconsciousness immediately supervening which may last from a few moments to as many weeks. The face is pale, cold, and often moist; the pupils usually dilated, reacting to light; the pulse full, compressible, between 70 and 90; the respirations free; the temperature subnormal, and the blood pressure below 110. There is no involuntary evacuation of fæces or urine, and the patient lies quietly. A period of reaction soon occurs, the skin becomes warmer, the pulse firmer, the person may become restless; he can be aroused by a vigorous shaking and perhaps give monosyllabic answers to questions shouted in his ear. In a case in which the contusion is slight or mild, the mentality is impaired for a brief period, and in an hour or two he may give intelligent answers and in other respects appear responsible. Headache and nausea may be an accompaniment, with mild constitutional symptoms.

The severe contusions are worthy of the greatest consideration, and the period and degree of uncon-

\*Read at the Emergency Hospital, Washington, D. C., November 14, 1910.

sciousness is the most reliable index of cerebral mischief. In the severe contusions of the brain, the coma is profound, pupils dilated or contracted, usually retaining the light reflex, pulse full, without a great variation from normal, breathing deep and even stertorous, feces and urine retained, dorsal decubitus and a cool moist skin. Vomiting is present in the great majority of cases. Bleeding from the ear is not an uncommon symptom, and contrary to the general opinion is not sufficient evidence to adduce the presence of fracture of the base, but more frequently signifies a rupture of the tympanic membrane only. Bleeding into the conjunctiva and from the nose is more dependable as a basal fracture sign. The reaction will be slow, occupying days. The coma is succeeded by an active, even maniacal, delirium, lasting from one to seven days, then a stage of irritation and imperfect judgment; later by a quiescent, calm period, but marked by inability to concentrate, a defective memory, and a lack of original ideas. The conjoined periods may occupy several weeks, and the ultimate recovery is postponed several months. The blood pressure is low at first, followed by a rise. A period of unconsciousness, brief or prolonged, after a head injury, followed by coma, indicates plus cerebral pressure due either to hemorrhage or oedema, and often can be foretold by the sphygmometer. The conscious period may be a few moments or even twenty-four hours, and a number of cases have been reported in which individuals have received cephalic injuries and afterward completed a day's work seemingly well, and shortly after expired from the effects of hemorrhage. Traumatic cerebral hemorrhage without fracture is not uncommon. An excessive rise of blood pressure is a reliable indication of compression.

Gorin quotes Phelps as saying: "The loss of consciousness which immediately succeeds a cephalic injury is always the result of a diffuse cerebral contusion. If unconsciousness is preceded by a conscious interval, however brief, or if after restoration of consciousness to unconsciousness soon recurs, it is occasioned by some form of intracranial pressure. . . . It will be recalled that the recurrence of unconsciousness after an early interval of sensibility is indicative of an increased or supervention of hemorrhage, and that at a later period more or less conscious intervals in a general unconsciousness results from lessening from time to time of the hyperemia or oedema of a diffuse cerebral contusion."

Symptoms dependent on increased pressure in the brain are not so frank as those of apoplexy, but a close examination will probably reveal sufficient grounds upon which to base a sound diagnosis. Paralysis may be slight, monoplegic, hemiplegic, or limited to a group of muscles. Spasticity of a limb or few muscles is valuable and the comparison of the tendon reflexes is of much assistance; an increase is likely to be noted in the affected region. The Babinski sign may be present. Focal symptoms dependent of the cranial nerves will likely be absent, and anesthesia without paralysis is rare. The alteration of the stereognostic sense will likely be noted in some cases. The temperature will be

elevated after the initial fall, and a considerable rise is an unfavorable symptom. A very slow pulse becoming rapid or a rapid pulse becoming very slow are alarming symptoms and often precede dissolution.

*Diagnosis.*—The diagnosis rests on the degree of unconsciousness, alteration in the reflex arc, and motor nerves, consideration of temperature, pulse, and blood pressure. The differential diagnosis is not made easily, and it becomes necessary to exclude opium poisoning, alcoholism, apoplexy, uræmia, diabetic coma, epilepsy, and hysteria. It so often happens that an individual suffering from any one of these conditions may have the odor of alcohol. Likewise it may be impossible to determine if the onset of the coma resulted from a fall or vice versa. Only by a careful elimination, one by one, can a diagnosis be arrived at. The uranalysis is often misleading, as in old persons casts and albumin are frequently found, and in others after drinking bouts the amount of urea in a given specimen may be 0.2 per cent. instead of two per cent.

*Prognosis.*—The prognosis regarding life in the majority of cases is good. Moderate degrees of unconsciousness are compatible with a perfect recovery, and even a comatose state lasting from six to ten days often has a happy termination. Rise of temperature, great acceleration of the pulse, Cheyne-Stokes respiration, irresponsive pupils point to an unfavorable outcome.

The remote effects may be transient or permanent, and among the most serious is epilepsy, usually of the Jacksonian type. It is not necessary that the skull be fractured in order to produce this condition, as noted in a case reported by Starr. Such cases are not numerous enough to cause great apprehension, but the possibility must ever be borne in mind, as this deplorable sequela is not always amenable to surgical interference. The earning capacity of the individual who has suffered from a cerebral contusion may be materially lessened. About five per cent. of men who have had this lesion are unable to follow their occupations, while from ten to fifteen per cent. earn less than formerly. Seventy-five per cent. return to their trades, though not entirely free from subjective symptoms. It has been estimated that fifty to ninety per cent. of severe injuries to the head, including fractures, always bear a stigma as the result of such a trauma, in the form of headache, vertigo, changes in taste and disposition, alluded to by Bailey as *cerebrasthenia*, a term denoting a "diminished functional power, without impairment sufficiently to be called insanity. The prominent symptoms are headache, dizziness, irritability, insomnia, changes in temperament, lessened mental activity, and intolerance to alcohol.

Possible headache is one of the most sensitive and distressing symptoms. It may be frontal or occipital, likely to be dull, and throbbing. Dizziness upon standing or stooping, often due to men working upon buildings in close and hot ventilation. Irritability is especially prone to be present upon occasions when considerable stimulation is necessary. The individual is annoyed by trifles which previously would have been unnoticed. The condition becomes plain to the friend. Even the



disposition changes, and lifelong habits may be changed after cerebral contusion. A person of sunny temperament may become morose, and a spendthrift may develop miserly habits. The diminished capacity for intellectual work is noted and a sense of oppression, both physical and mental, is common. Fatigue seems not to be limited to the brain. The intolerance of alcohol sometimes becomes striking, and a small amount of whiskey may make such a person hysterical or even maniacal.

The question of insanity is an important one, but probably overrated. Much less than one per cent. of insane cases can be traced directly to cerebral contusion. We cannot accept each case of insanity, in which is given a history of a blow some time inflicted, as one of traumatic insanity, as there is scarcely any one who has reached adolescence, however sane, that cannot recollect having had a blow upon the head. All in all, the condition of cerebraesthesia is transient in about seventy-five per cent. of the cases, but in the remaining twenty-five per cent. a legacy of some description is seen. It is conceded that in those persons with a hereditary taint the occurrence of insanity after cerebral injuries is more frequent. The form of insanity is variable.

*Treatment.*—The treatment of cerebral contusions must consider the immediate and urgent symptoms first. Moderate stimulation, preferably with strychnine, rest, ice cap to the head, and hot bags to the body are indicated in the shock attendant upon this condition. Should active or maniacal delirium be present, it is best controlled by hyoscine and the bromides. In the milder cases rest in bed, purgatives, and sedatives are all that is necessary. In my hands morphine has not given good results, and is generally contraindicated, as there is a tendency to produce cerebral congestion. In the more profound cases, close observation is necessary and symptoms of pressure should be met by prompt trephining. Should the indications be those of arterial extravasation, trephination over the middle meningeal is the course to pursue. Should no injury be found, the use of the trephine on the opposite side is justifiable. The operation is not attended with much risk. In cases showing no focal symptoms, with nausea present from the beginning, rising pulse, and temperature, an opening should be made in the injured side, the dura opened and drained. If the appearance is normal, trephine on the opposite side, following the same technique. It is not well to postpone operative interference too long, as this simple procedure may be followed by the happiest results if practised early. Should the oedema have become general the outlook is bad. Corner reports the case of a compound fracture of the vault; a week had passed without symptoms, but at the end of this time the child became drowsy and finally unconscious. The diagnosis of extradural abscess or meningitis was made. With the horseshoe flap, the dura was exposed and found to have been wounded. It was incised, the brain was bulging, and the trocar did not locate pus. The brain was pale and oedematous and not inflamed. It was a condition which many did not believe in, and to which had been given the name

"spreading oedema." It is not necessarily of septic or infective origin, and has its analogy in cellulitis in other tissues. The prognosis is grave.

Bloodletting is of questionable value, as the compensatory high pressure in the general circulatory system is not present in the cranial cavity. Frazier states that venesection is of little avail, as determined upon animals to overcome cerebral anæmia.

Lumbar punctures may afford relief in this condition, but after considerable pressure has accumulated in the cranium the medulla is forced down into the foramen magnum sufficiently to act as a wedge and cut off free exchange of fluid in the spinal canal and brain ventricles. The efficiency of the ice bag can be questioned also. A large proportion of cases of cerebral contusions run a limited course and will recover without treatment, but in the severer ones surgical methods are the ones to be considered curative.

The treatment of cerebraesthesia is along lines to improve the general health—fresh air, sunlight, good food, and attention to the bowels. The bromides may be useful. Those cases showing a tendency toward hypochondriasis are often benefited by resuming work as soon as the physical condition permits.

The cases I wish to report are but two selected from a large number, and both of very recent date:

CASE I.—D. S., a child of seven years, was knocked down by a vehicle on October 22, 1907, his head striking the pavement. He regained his feet, seemed conscious that he was hurt, and told some one to send for the physician who generally treated him in his illnesses. He was brought to the Emergency Hospital in a restless, semiconscious state. A contusion was found over the right parietal bone, with no apparent depression. The child became quiet and could be aroused with difficulty; the pupils were regular, temperature normal, the dorsal decubitus assumed, and paralysis absent. In view of the approaching coma, trephining was deemed advisable and performed about two hours after admission. A flap was turned back to expose the skull under the contused scalp. A stellate fracture was found without depression, and a linear fracture extending from this point over the vault and involved the left parietal to what extent is unknown, but the line was followed almost to the level of the left ear. A button of bone was removed from the right parietal, the dura opened and drained. The amount of cerebrospinal fluid which escaped was small and not bloodstained. The boy reacted in about twelve hours and made an uneventful recovery. I am convinced trephining relieved an impending oedema.

CASE II.—M. W., male, white, seventy years, was struck by a car November 4, 1907, receiving a lacerated and contused wound of the scalp in the right frontal region. He seemed unconscious when first attended by the ambulance surgeon, but before the hospital was reached he was able to give a fair statement of his name, address, residence, etc. His general condition was very good. The following day there was some mental confusion, no paralysis, good pupillary reaction, pulse between 74 and 80, and temperature 99° F. or less. On November 6th he was worse; there was delirium, followed by a state of lethargy, from which he could be aroused. No focal symptoms were present. His pulse rose to 100, and temperature reached 100° F. in the afternoon. His blood pressure was 200 at 4 p. m. The coma deepened, and he died about 5 p. m.

The autopsy, made under the direction of the coroner, was typical of cerebral contusion with hæmorrhage by contracoup, as the notes made at the time indicate. Inspection revealed a small lacerated scalp wound three inches above the right supraorbital ridge, one inch external to the median line. Reflection of scalp showed slight hæmorrhage in the immediate vicinity of the wound, and a small amount of blood oozing from a foramen in the occipital bone near the vertex. No fracture of the vault was present. After removal of the upper portion of the

cranium, a considerable extravasation of blood under the pia covering the cerebellum and both lower occipital lobes, decidedly marked, however, over the lower left occipital region, at a point diametrically opposite the scalp wound. The cerebellum was covered with plastic lymph. On section the cerebellum was cut with little resistance and gave evidence of degeneration. It also exhibited extensive extravasation of blood into the lobes. At various levels the cerebrum was the site of numerous punctate hæmorrhages, very evenly distributed. The ventricles contained a sanguinous fluid. After removal of the brain, the presence of blood in the middle and posterior fossa was observed, but no basal fracture was present.

#### Conclusions.

My general conclusions are:

Cerebral contusions, when fatal, are due to laceration or hæmorrhage.

Prolonged coma is a reliable indication of increased pressure.

A conscious period followed by coma indicates hæmorrhage.

High blood pressure is an early and reliable symptom of pressure.

Trephining is indicated in plus intracranial pressure from hæmorrhage or œdema.

Venesection is of doubtful value.

FIFTEENTH STREET AND OHIO AVENUE.

#### HOSPITAL DIETETICS.

By DUDLEY ROBERTS, M. D.,

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As the standing committee on diet at the Brooklyn Hospital it has devolved on the writer to make somewhat of a study of the general question of hospital dietetics in its varied aspects. The systems in vogue in different institutions vary widely; there are those encumbered by a most complicated system of individual ordering; on the other hand, many institutions run their dietetic affairs with no discoverable system and about as little consideration of the scientific aspect of the problem as is given to the average boarding house table. It is true that the system must be suited to the equipment and service of each institution, but it has seemed to me many institutions conscious of these difficult problems may find in our experience a partial solution of some of their troubles.

Were economy unnecessary the ideal plan in the preparation of food for the sick would be the separate preparation of each individual dietary to appeal to the individual taste while meeting the requirements of the condition. Economy of the strictest kind is usually necessary, and it demands that kitchens be reduced to a minimal number, preferably one, and in this one there be a division of labor suiting the worker to the work with consequent saving. Waste of material and labor is very evidently proportionately less when food is prepared on a large scale.

From the standpoint of economy it is important that the work of food preparation be equally distributed throughout the day. If the principal meal of all inmates and workers be served at the same hour, a larger kitchen force is required at that hour than at any other time, and the equipment must also

be greater. A simple arrangement in accordance with this principle has been instituted by Miss Osborne, the valued executive head of the Brooklyn Hospital: Dinner for ward patients and help is served at 12 noon; luncheon for private patients and staff is served at 1 o'clock; supper for ward patients and help is served at 5 o'clock, and dinner for private patients and staff at 6:30 o'clock. Such an arrangement reduces the necessary force to a minimum and makes for better order in the kitchen at all times.

The arrangement of a comprehensive system of diet lists is advantageous in many ways. If through a system we are able to supply proper food to the majority of patients in need of no especial dietetic care, our efforts can be spared for those distinctly in need of the most painstaking attention. The *per diem* cost of food for an institution is a matter that is very largely under its direct control. The question resolves itself into just how much it is possible to expend for food materials, and how much equipment and labor it requires to prepare it. By the employment of more competent caterers and cooks an actual saving may be accomplished, the more economical foods can be agreeably prepared.

Any system of diet lists must be constructed with the idea of having one general house diet suitable for the large proportion of patients. This makes for economy and obviates the necessity of unnecessary individual dietetic ordering. Such a diet list, then, must be made up of preparations suitable for the average taste and needs. It must be sufficiently nourishing. It must have no undesirable action on the gastrointestinal tract or other parts of the body. It may be said that hospital dietaries are usually too constipating, and this is entirely unnecessary. There are natural cathartics cheaper than drugs. Any diet should be changed from day to day to avoid tiresome sameness. Finally, its components should be, in some part at least, suitable for those diet lists that may be spoken of as lighter; this applies, particularly to soups, desserts, and meats.

In arranging the diet lists of lighter grade it is essential that the importance of regularity in amount of food and times for its administration be borne in mind. Patients on light diet are not obtaining much nourishment, and if such matters are left to the discretion of the untrained, serious harm may be done. The diet lists of lighter grade must have, however, a certain flexibility. It should be possible to use any one absolutely, or if conditions demand it should be amenable to changes at the discretion of those in charge. The natural transition is from liquid nourishment gradually to more solid and nourishing preparations.

If any system of diet lists is to meet the purpose of its construction it is absolutely necessary that it be understood and adhered to by all responsible for its preparation, administration, and ordering. I have often found that those who should be entirely familiar with the established system are grossly ignorant of its provisions. A patient ordered on a certain diet in one ward receives a very different diet from that given in another. By the use of

printed lists on folding cards this difficulty is overcome; each nurse, each orderly, each executive head knows the diet of the institution.

For the more definite instruction of the staff it has been found convenient to have typewritten copies of the day's menu in the hands of each head nurse, while the staff is making house rounds in the morning. Certain food preparations, as the soups, the meats, the breads, and desserts, are changed from day to day, and those which on a particular day

preparations listed are usually well borne. The meals are all made small and frequent. To the fluids ordered between meals special articles may be added at the discretion of the staff and attending physician. By the restriction of certain articles and the addition of others it is possible to suit this list to a considerable proportion of patients needing careful attention. The diet list of private patients is necessarily more liberal and expensive.

The trouble lies often far less in the food than

No. 1. HOUSE DIET.		No. 2. CONVALESCENT DIET.	No. 3. FLUID DIET.	No. 4. MILK DIET.	No. 5. FAST DIET.	SPECIAL LIST.*
PRIVATE SIDE.	WARDS.					
Breakfast.	Breakfast.	7 a. m.	Each Portion, 8 oz.	Regular Schedule.	(1) Beef or Chicken broth; (2) Albumin water; the white of one egg to 8 oz. water. (3) Whey—with or without lemon juice. (4) Lemonade; sweetened with sugar or saccha- rine.	(On requisition of visiting physician or surgeon.) Lamb chop Beef steak Chopped beef Scraped beef " " sand- wich Chicken—toast *Chicken—broiled *Squab *Sweetbreads— broiled creamed Eggs—raw poached soft boiled Omelet Peptonized milk Kumyss Milk punch Junket Custards Milk toast Beef juice Jelly *Nuts *Fruits *Special change
Cereal with cream and sugar Eggs—poached or steak or chops Toast, hot bread, butter Milk, tea, or coffee	7 a. m. Cereal with milk, sugar, and butter Bread and butter Coffee or tea	Cereal with milk, sugar and cream or butter Toast or bread with butter Glass of milk Coffee on order	7 a. m. Milk 9 a. m. Gruel 11 a. m. Milk 1 p. m. Soup 3 p. m. Milk 5 p. m. Gruel 7 p. m. Milk	7 a. m. 9 a. m. 11 a. m. 1 p. m. 3 p. m. 5 p. m. 7 p. m.	56 oz. On order during night.	
Luncheon.	Dinner	12 m.	Two kinds of gruel made daily	Light Schedule. 6 a. m. 9 a. m. 12 m. 3 p. m. 6 p. m. 9 p. m.	One of these di- ets is ordered every 2 hours during the day and as desired at night.	
Fruit (fresh or cooked) Thick soup Fish or hash or eggs or oysters Either Potatoes baked, boiled, or hashed; cereal; or spaghetti Bread and butter Tea or milk	12 m. Thickened soup Meat stew Roast meat or fish Potatoes or Rice or spaghetti. Bread and butter Dessert Supper 5 p. m. Cereal, etc., or Fried Cereal, with syrup Baked beans on sauce or cereal Bread and butter Tea or milk Stewed fruit	12 m. Gruel 12 m. Clear soup (de- mitasse) Meat, hash, lamb, chicken or fish Well baked potato with butter Bread or toast with butter Light pudding Milk or cocoa 3 p. m. Gruel or milk 5 p. m. Cereal, etc. Eggs on order Bread and butter 9 p. m. Milk	MILK GRUELS Oat meal Barley Larina Corn meal THREE SORTS Corn Potato Split pea Brown cracker — One kind of soup daily	On order through- out the night the same 64 oz. Eight ounces served hot or cold as desired. (If hot, serve in cup.) Children, 6 ounces or less as di- rected.	8 a. m. 8 o'clock 12 m. 12 o'clock Broths should be served hot in a cup, other liq- uids should be served cold in a glass. *Nuts *Fruits *Special change	

#### BROOKLYN HOSPITAL DIETARY.\*

1. The original list this special list appears on the other side of the card for convenience in handling.  
2. Doctor will send sample cards on request.

are found to be unsuitable for a certain patient are ordered omitted and other preparations substituted from a list of alternatives. By such a system the diet of every patient is under the direct daily control of the proper authority.

Only certain brief comment on these tables is necessary. Diet No. 5 has been constructed to meet the demands of the surgical staff for suitable fluids to allay hunger and thirst. Nutritive and consequently fermentable content has designedly been omitted.

The fluid diet designated No. 3 has much to recommend it in place of plain milk. It offers some variety and appeals to some averse to taking milk. The cereal admixture increases digestibility and nutritive value. So well are these gruels borne that they may be given at every feeding. They are easily made by adding the well cooked cereal to hot or cold milk, salting later to taste.

The convalescent diet has been arranged with the idea of supplying a highly nutritious diet in concentrated form, free from articles of doubtful digestibility. Of course this term is merely relative. The

in the accessories. Attention must largely be devoted to the judicious betterment of things making an indirect appeal to the gustatory organs.

84 REMSEN STREET.

#### THE CAUSES OF APPENDICITIS.\*

BY ALFRED W. ARMSTRONG, A. B., M. D.,  
Canandaigua, N. Y.

It is probable that more has been written on the subject of appendicitis during the past ten years than has ever been written concerning inflammation in any other part of the body. The diagnostic signs have come to be well known and the treatment differs, with the best men of the profession, only in minor details, but there seems to be a wide variation in the opinion of those who see the most of these cases in regard to the etiology of this common disease.

As predisposing causes of appendicular inflam-

\*Read before the Society of Physicians of Canandaigua, November 1, 1907.



mation should be mentioned: 1. The degenerate condition of the organ itself. 2. The structure of the appendicular walls and their blood and nerve supply. 3. Its form and direction. 4. Normal drainage. 5. Diet and chronic constipation. 6. Mechanical obstruction and stricture of the lumen. 7. Constitutional diseases. 8. Disease of the pelvic organs.

The list of exciting causes is shorter, including as it should: 1. Traumatism. 2. Intestinal parasites. 3. Enteritis. 4. Direct infection.

The appendix persists as the remains of the larger cæcum of lower animals an anatomical protest against vegetarianism. From the standpoint of evolution it would appear to be becoming obliterated. It represents a portion of the intestinal canal which, at an early period of fetal life, was a continuation of and differed little from the colon. At a later period its development ceased, and it then became merely an appendage of the cæcum, with an inherent tendency to degenerate.

In structure the appendix resembles the other parts of the intestine in possessing four coats, but differs in its minute anatomy. Its mucous lining is crowded with solitary lymphoid follicles; thus inviting infection; the muscular coat is scanty, and between its scattered fibres direct communication is permitted between the submucous and the serous coats. Inflammation of the mucous membrane may therefore spread without hindrance to the peritoneum. The blood supply is derived from the ileocolic branch of the superior mesenteric artery. In the female there is an additional supply from the right ovarian artery, and this is thought by (1, 2) some to account for the fact that appendix disease is less common in women than in men (3). At best the blood supply is poorer than that of other parts of the intestine, thus making it less resistant. The nerve supply is derived from the superior mesenteric plexus. Any conditions which bring about a change in the blood or nerve supply, such as kinking or bending of the appendix or twisting of the mesentery, embolism, or thrombosis of the vessels, tend to weaken the resistance of the organ and invite inflammation. In early life the appendix possesses a canal which is continuous with that of the cæcum, but in later years this connection is sometimes cut off, and in many cases partial or complete occlusion takes place, this tendency increasing with the age of the patient.

The normal appendix, if such an organ exists, varies in length from 1 inch to  $9\frac{1}{2}$  inches, in diameter from  $\frac{1}{8}$  to  $\frac{1}{2}$  an inch. Many congenital variations of form occur. The club shaped, long, narrow or short, thick, kinked or twisted appendix, is the result of accident or of degeneration of this rudimentary organ. Hence a person may be destined from birth to have appendicular inflammation, if subjected to certain exciting causes. These irregularities are, like many other minute anatomical peculiarities, hereditary, and that may explain the apparent hereditary features of the disease. Personally, I have observed within a year two patients, sisters, who had similar attacks of appendicitis in which there was a striking resemblance between the two appendices, both anatomically and pathologically. A long appendix is more likely to

become twisted or kinked. As to direction, the appendix may lie in almost any axis. Authorities do not seem to agree upon the most common position, but the (4) four positions, "inward," "behind cæcum," "downward and inward," and "into true pelvis," will, without doubt, include 90 per cent. of the cases. The ætiological importance of this rests in the supposition that appendicular inflammation is more commonly met with when the appendix is so placed as to admit material which is with difficulty expelled—that is, when it is directed inward or downward.

The mucous membrane of the cæcum is continuous with that of the appendix, and the secretions from the latter are drained into the intestine through the narrow opening, which may or may not be guarded by a fold of mucous membrane, known as the valve of Gerlach. Holmes, in his monograph on appendicitis, places particular emphasis upon the construction of this valve. He states that the normal congenital construction of the valve is a constant menace to health, and believes that any increase in this narrowing of the lumen, as by external traumatism, unusual activity of the muscles of the cæcum, or injury of these muscles, or congestion by impaction of fecal material and its subsequent dislodgment may bring about a condition of appendicular inflammation. "An abnormal construction of the valve may admit foreign material and prevent its exit." This valve was described by Gerlach in 1847 as a "semilunar fold of mucous membrane guarding the appendicocæcal orifice." Some present day (5) anatomists declare that it is "inconstant and unimportant" (6), others deny that it ever exists (7). Treves does not mention it in his *Applied Anatomy*. That which concerns us most as clinicians is the fact that normal drainage is essential to the health of the appendix, and anything which lessens the calibre of the lumen may prepare the way for an acute attack.

Chronic constipation contributes its share to the causation of appendicular inflammation in a somewhat indirect way. Hesitation in the passage of fecal matter along the intestinal tract allows more time for decomposition and the multiplication of bacteria. The increased pressure in the colon may force material into the appendix, which, owing to the position of the organ, the weakened condition of its walls or resultant swelling from slight traumatism, cannot be returned. This condition, present within the appendix, is ready to furnish the fuel for a conflagration when acute conditions demand. However, statistics do not seem to show that appendicular inflammation is common among races who are subject to constipation. In an editorial in one of the current issues of the *Medical Record* (8), the editor quotes statistics to show that inflammation of the appendix is very rare among Orientals, in whom constipation is very common. One observer, Dr. Naby, reports that out of 6,800 natives of Mesopotamia, who suffered from various diseases, only two had inflammation of the appendix. This would seem to suggest that constipation in itself is inadequate to cause the disease. On the other hand there are those who believe that there is an unmistakable relationship between meat eating and appendicular inflammation. It is stated

that it is the excessive eating of meat that causes the white races to lead in the statistics of appendicular disease, and that the increased consumption of meat in Germany has been attended by a considerable increase of morbidity from appendicular inflammation. Nothing is said of the way in which this is brought about, and until the pathology is explained the mere fact that the increase in the consumption of meat and the number of cases of inflammation of the appendix has been constant, does not make the one the cause of the other.

The presence of foreign bodies within the appendix may often be looked upon as accidental and insignificant as regards the causation of inflammation, but the variety of substances found is interesting. The following are a few which have been recorded: Pills and capsules containing medicine, seeds of various kinds, gallstones, portions of peanut, pins and needles, pips and skins of fruit, cherry and date stones, hair, bristles from tooth brush, intestinal worms, fish bones, faecal concretions, and shingle nails. Personally, I have observed many of these substances within the appendix, and one case seen recently through the courtesy of Dr. Clapper and Dr. Beahan illustrates the variety of seeds which may be stored up in this little organ. There were six grape seeds, three tomato seeds, three raspberry seeds, several strawberry seeds, a tooth brush bristle, and several very hard masses resembling gallstones, all in a large amount of faecal matter. The appendix was  $5\frac{1}{2}$  inches long, of large diameter, and directed downward. A few hæmorrhagic areas were present along the mucous membrane, where the concretions were located, and the lumen was large and free from scars or constrictions.

The coexistence of an ovarian hæmatoma brought up the question of relationship between the two conditions. It is not improbable that the long, heavy appendix brought about the condition of the ovary. It seems more likely, however, that there was no cause common to the two conditions. Out of a series of 124 autopsies made by Bryant for other reasons than disease of the appendix, 67 per cent. contained abnormal material. One case is reported in which 150 bird shot were found in an appendix which was apparently free from disease.

The presence of concretions or of foreign material large enough to obstruct the lumen or injure the walls is without doubt most important. A scar once formed within the appendix never ceases to be more or less of a hindrance to the free passage of faecal matter in and out of the organ. Van Zwelenburg has reported some interesting experiments upon living dogs, which seem to establish some facts concerning this subject. He was able to produce typical inflammation of the appendix in the dog only when three conditions were met: constriction or obstruction, distention, and the presence of a pathogenic germ. The frequency of necrosis or gangrene indicates mechanical obstruction. Simple infection does not produce gangrene. The condition of distention is present in the early history of every case. If the obstruction is soft or small enough, the pressure within the appendix may become sufficient to force it back into the bowel, and the symptoms will gradually disappear. If the

course of least resistance is not in the direction of the cæcum, it is only a question of time when gangrene will destroy the wall and a perforation result. The concretion may form a sort of ball valve which will admit fluids and prohibit their escape. Once closed the appendix continues its attempts to empty itself and appendicular colic results.

It is such a common thing to find appendicular inflammation as a complication or sequel of various constitutional diseases that these primary conditions are often named as causes. They should be mentioned as predisposing causes only, for it is not likely that any one new germ is introduced into the body for this purpose or that any novel condition is brought about by any of these diseases, but if the proper conditions prevail within the appendix, any one of these conditions, by its weakening influence upon the entire body, might precipitate an attack. True it is moreover that (9) measles, la grippe, rheumatism, typhoid fever, fatigue, digestive disturbances, exposure, excessive physical exertion, and improper food, not infrequently precede an appendicular storm.

The frequency with which disease of the pelvic organs is associated with appendicular inflammation is interesting, and it is often impossible to say which is cause and which is result. It is not at all uncommon to find the appendix firmly adherent to the fallopian tube, the ovary, or the broad ligament. If it is evident that the inflammation has begun on the outside of the appendix, it would seem that the pelvic condition originated the trouble, but if the disturbance is within the appendix it is hard to understand why the pelvic condition should be blamed.

Traumatism, whether from a blow upon the abdomen over the appendix, or brought about by a strain upon the muscles, which may pinch the organ and interfere with its circulation, must be dealt with in this discussion. Pressure upon the intestine, as by the act of lifting when the body is in a certain position and conditions are right within the bowel, might easily force material into the appendix which could not be expelled. The frequent occurrence of appendix disease in nurses, waiters, and others who must do considerable lifting, especially among those who have given up a sedentary occupation for this work, is significant.

Intestinal parasites are, without doubt, present in the intestinal tract more frequently than many physicians believe, and some of our best men, including Dr. Stockton, of Buffalo, hold them to be a not infrequent cause of appendicular inflammation. One case reported in the *Hospital Record* for February, 1906, was operated, at the Canandaigua Hospital, where it was found that the appendix contained more than fifty pin worms, which had without doubt been the exciting cause of the inflammation.

Enteritis, especially when it occurs during the summer months, when indiscretions in diet, especially along the line of fruits and vegetables, and the eating of foods, which are, for want of proper care after coming into market, in an early stage of decomposition, would be agreed upon, perhaps, as the condition which is most often present at the beginning of acute inflammation in the appendix. It

has seemed to me that the very worst cases are those which develop while a condition of enteritis exists. The infection seems to be of a more virulent type, and many cases of general peritonitis are found, even though the case is operated early. The condition is more difficult to interpret, and operation is sometimes delayed beyond the point of safety, because bellyache has been considered to be a rather unimportant symptom, constant in enteritis. It is not uncommon, moreover, to find cases in which the history will reveal the fact that early in the attack, with the diagnosis of "acute indigestion" clearly made, an anodyne has been given to relieve the pain, and the symptoms have been masked, while the ravages of the infection have been going on in the appendix, and the patient's life endangered while he is enjoying the effects of the opiate which is killing him. Bellyache *does* mean a great deal at the present time, and in but few instances should it indicate the use of the hypodermic of morphine.

After all this discussion of conditions, real and imaginary, known and unknown, it remains to be said, that the presence of a pathogenic germ is the one thing constantly necessary to the production of this condition. Simple necrosis of an organ so functionally inactive and useless as the appendix would not be expected to give rise to serious symptoms, it must rather become infected. There is no special germ, however, that can be charged with the burden of having been introduced into the appendix for this special occasion—in fact, the germs involved in the process are normally present in the appendix in health, awaiting the time when some accident shall bring about a condition suitable for their work. The *Bacillus coli communis* and the ordinary pyogenic cocci are most commonly present, and whatever the assigned cause may be it must be remembered that appendicitis is an infective malady.

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## THE INSPECTION AND CHEMICAL EXAMINATION OF THE BALTIMORE MILK SUPPLY.

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During the past year there have been consumed in Baltimore, as nearly as can be estimated, about ten million gallons of milk. The supply comes almost entirely from the farms and dairies lying within a radius of thirty-five miles of the city, the majority coming from the near vicinity of Baltimore. Until recently there were cows kept even in the city, but since the introduction of a clause prohibiting this, there is no longer any such state of affairs. The physical condition of the cows and

the sanitary condition of the dairy farms outside of the city limits are under the control of the State Board of Health and the State Live Stock and Sanitary Board.

The working force for the examination and control of this milk supply is provided by the city through the Health Department, and consists of a chemist, his assistant, and two inspectors. Each inspector every morning visits one railroad station, and there, with a lactometer, examines as much as is possible of the milk while the cans are being removed from the incoming trains and reloaded onto the dealers' wagons. If, in the judgment of the inspector, the quality of any of the milk does not meet with the requirements of the law (which are 1.029 specific gravity at 60° F., three per cent. fat, twelve per cent. solids), he spills it, after having taken a sample for analysis in the laboratory. He then marks these empty cans with a conspicuous tag stating the reason for spilling, and returns them to the shipper. Also, if any cans are unclean or if the milk is in any way unfit for use, it is spilled. In addition to examination with the lactometer, each inspector collects at least six samples from the station at which he may have been and delivers them to the laboratory for analysis.

After having finished the work at the stations, the inspectors then cover certain districts of the city, examining the milk at dairies, in wagons, and at all places where it is sold, and carefully looking into the conditions under which the milk is kept. Samples are obtained from these places, when deemed necessary, and taken to the laboratory for further investigation. In cases where certain milk supplies are referred to the Health Department for investigation, an inspector is especially detailed to do this work and to make a report on the results.

In the samples which are brought into the laboratory by the inspectors, determination is made of the specific gravity, fat, and total solids, and of the presence or absence of preservative or artificial coloring matter.

Since the early summer of 1907, all those cases in which a preservative was used have been prosecuted, and the results have shown that as a rule its use was without any malign purpose and through ignorance of injurious effects. During the three summer months of 1906, fifty per cent. of the samples of milk analyzed were found to contain preservatives, while in the summer of 1907, after the publication of the first few prosecutions, less than three per cent. of the samples analyzed contained preservatives. Through the cooperation of the Maryland State Board of Health with the city Health Department, prosecutions for this offense have been rigidly carried out. As a result, the producer has been shown that it is better policy for him to be particular and to take proper precautions in the care of milk, than to rely on preservatives and thereby run the risk of a fine with the attending publicity.

In the past year, of the ten million gallons of milk consumed, about twenty per cent. was inspected, and five thousand samples were analyzed. Of course, a vast amount of work remains to be accomplished before Baltimore can have a pure milk supply, but toward that end a beginning has



been made. In previous years very little attention was paid to the condition of the railroad cars in which milk was shipped to the city, but during the past year this phase of the question has been taken up, and at the present time the sanitary condition of these cars is fair. In fact, no further improvement can be made in this direction until the railroad companies can be induced to provide refrigerator cars. Then, too, the sanitary condition of all the dairies and small stores, where milk is sold, is being investigated, and the owners are being instructed as to the proper way to remedy existing evils.

The system of inspection and control, in its present state of progress, is very imperfect. However, by a new set of laws and ordinances, which has been compiled from those of the principal cities of the United States, and which is soon to come up for consideration before the city council and State legislature, it is hoped to overcome in the near future the difficulties, and to improve vastly the quality of Baltimore's present milk supply.

15 SOUTH GAY STREET.

#### OBSERVATIONS MADE AT THE BIER CLINIC IN BERLIN.

BY MARY HESS BROWN, M. D.,  
New York.

As this treatment had been the subject of much discussion in America, at the suggestion of Professor Prausnitz, of London, and at Professor Bier's invitation, I went to Berlin the latter part of July to see the practical demonstrations of Professor Bier and his assistants, Dr. Klapp, Dr. Schmieden, and others. Dr. Schmieden speaks English fluently, so if your German vocabulary is limited, you still find it worth while to take time to visit the hospital daily and see the patients being treated in the wards and dispensary.

CASE I.—One of the first patients seen was an acute case, a patient with an infected scalp wound, fracture of superior maxilla, and destruction of right eye. In the very beginning a prophylactic dose of antitetanic serum had been given. The patient had a high temperature. Passive hyperemia of head was produced by applying a rubber tape about one inch wide about the neck, an ordinary hook and two eyes being first adjusted to either end of tape, so that it could be applied and held steadily in place, yet not with discomfort to the patient. Gauze pads were placed under the tape where it crossed the great vessels, so undue pressure would not be exerted over them. The red hyperemia gradually appeared and caused no pain or alteration in temporal pulse, and sleep ensued. This dressing remained in place for eighteen or more hours out of the twenty-four, the patient always being advised to inform the nurse as soon as it became uncomfortable. Each succeeding day the tape was applied for a shorter length of time, as patient slowly but definitely improved, and in one week the temperature was normal and the use of rubber tape was discontinued. Simple aseptic dressings were used for face, and no strong, antiseptic solutions.

CASE II.—The second case was that of a young laborer who had suffered from a lacerated wound of the forearm. When the accident occurred the skin was very dirty, and, of course, an infected wound was imminent. The wound, however, was thoroughly sutured and a rubber bandage applied above the elbow, which remained in place for eighteen hours out of the twenty-four. The red hyperemia, of course, followed the application of the bandage, together with swelling of the forearm, but as the pain diminished the elevated temperature decreased, and pulse was not altered; the bandage was continued, sometimes being re-

moved and reapplied in a slightly different location. The discharge from the wound was not drained by gauze or strips of rubber tissue, but a cup was applied, and by means of suction all the discharge was removed.

The cup may be applied for four or five minutes, then removed and reapplied, continuing this process for about forty-five minutes, this generally sufficing for twenty-four hours. While the rubber bandage and cups are applied, a simple, loose, sterile dressing covers the forearm, but no firm dressing.

Each day the condition of forearm improved, and the temperature decreased, thus avoiding the necessity of opening the wound, which would no doubt have occurred under the old method treatment. The patient was encouraged to move his fingers, and when I last saw the case, about two weeks after injury, the temperature was normal most of the day, and induration had almost entirely disappeared; the function of forearm and hand being perfect.

The cupping is the second hyperæmic method used by Professor Bier, and thus avoids drainage by gauze, etc., which no doubt has many times caused the tissue to become necrotic. The cupping glass in this way saves the long, free incisions, especially in cellulitis and mastitis cases, for the discharge can be drawn out through the small openings.

CASE III.—The next acute case, which seemed marvelous in the light of the old methods of treatment, was a gonorrheal wrist joint, together with involvement of metacarpal joints, with acute pain, edema, and redness. A hypodermic injection of morphine had previously been given to quiet the patient, who was a strong, robust young woman, but after the application of the rubber bandage above the elbow all pain ceased, and the patient was encouraged to use her fingers to some extent, which she did, without discomfort. The dressing remained on the arm for most of the twenty-four hours and patient was quiet and happy. Elevation of temperature gradually subsided, and duration of application of bandage lessened.

I must not neglect to speak of the acute mastitis cases, only a stab incision being made when pus was suspected, and a large cupping glass with the rubber bulb to exhaust the air and cause suction. The glass, of course, is boiled before application, so it is perfectly sterile, and sterile petrolatum is applied to the edge of glass. The suction is continued for forty-five minutes, the cup being reapplied every five minutes. The application is made generally only once a day, although it may be used twice. The breast is thus saved from numerous sweeping incisions, and often the infant can nurse without any danger whatever.

Large carbuncles, which formerly had always been incised with a sweeping cut, were stabbed and a cupping glass applied with most excellent results, with much less destruction of tissue and less pain.

The chronic conditions were no less interesting, but, of course, a longer observation would have been more satisfactory.

CASE IV.—A tuberculous knee joint with contractures was treated first by an extension apparatus to reduce the contraction, and the application of a rubber bandage above the knee for one hour, twice a day, which caused no pain or discomfort and no change in the pulse. The joint was not immobilized, but passive motion was undertaken to some degree; however, old adhesions were not broken up, for extravasations of blood into the joint would only cause new adhesions to form. The child was allowed to walk on crutches, and thus keep the foot from the floor. The joint was freely movable and the general condition of child much improved, although I only observed the case for two weeks.

Professor Bier's theory is not that tuberculosis

January 11, 1908.]

causes destruction of the joint, with ankylosis as a result, but treatment by immobilization produces it.

CASE V.—A tuberculous elbow with an open sinus was another case. The sinus was cupped each day for a period of forty-five minutes, reapplying the cup every few minutes, with the result that the elbow was improving. The patient knitted, thus using her elbow joint some, but not tiring it.

The third method of passive hyperæmic treatment was the use of a hot air chamber, which I saw used in an ankylosed joint after an old fracture and after an old dislocation.

One case of arthritis deformans was very much benefited by the hot air treatment.

541 WEST ONE HUNDRED AND TWENTY-THIRD STREET.

### Therapeutical Notes.

**Injections of Calomel for Syphilis.**—At a meeting of the Société de thérapeutique, held November 10, 1907, and reported in the *Bulletin* (cliv, No. 21), M. L. Lafay advocated the use of a 40 per cent. solution of calomel in a specially prepared oily excipient as a desirable substitute for the grey oil commonly used of late for the hypodermatic administration of mercury in the treatment of syphilitic conditions. The calomel employed must be of the purest quality in the finest state of subdivision and have been washed with pure sulphuric ether free from water. It is important to use a completely dehydrated ether; the ordinary sulphuric ether, or the alcohol (boiling) used in Italy will not answer the purpose, according to the author. In the operation of levigating and washing the calomel care should be taken to exclude light, which has a redreasing action on it. The excipient consists of a mixture of anhydrous wool fat and pure liquid petrolatum (albolene), containing 5 per cent. of camphor. The author does not add any anæsthetic, since it has been found that anæsthetics, such as guaiacol and others, are absorbed and dissipated a long time before the pain of the injection begins to be felt. The formula employed by Lafay is as follows:

R Calomel, finely levigated, and washed with ether, . . . . . 0.40 grammes.

Woolfat, anhydrous, containing 5 per cent. of camphor, . . . . . 3 parts.

Liquid petrolatum (or albolene), containing 5 per cent. of camphor, . . . . . 7 parts.

Mix and sterilize.

Each cubic centimetre of the oil thus prepared contains 0.40 grammes of calomel, which represents the equivalent of 0.34 grammes of metallic mercury. It has the appearance and consistency of thick cream, is fluid at ordinary temperatures, and will keep indefinitely if not exposed to light. The author advises the use of a specially graduated syringe, the stem of the piston being spaced into divisions corresponding to 0.01 grammes of the medicament. The part into which the needle fits is calculated to measure 5 centimetres. The needle should be long and fine and of just as wide a diameter as will permit the passage of the oil; when the calomel is properly levigated a diameter of six tenths of a millimetre will be found sufficient. The doses usually employed were 0.08 grammes, 0.08 grammes, and 0.10 grammes.

Apart from the good results obtained with the

calomel injections, they were found to be better tolerated and decidedly less painful than injections made with the old formula.

**Calx Chlorinata Confounded with Calcium Chlorate.**—A note in a recent number of *Therapies der Gegenwart* directs attention to a source of danger in the prescribing of calcium chlorate. For a case of bleeding hemorrhoids a physician prescribed as follows:

R Calc. chlor. crystallizat. pur., . . . . . 40.0 grammes.  
Aque destillatæ, . . . . . ad. 200.0 grammes.

M.

The pharmacist committed the error of using chlorinated lime instead of calcium chlorate, and the result of the injection of such a solution on the patient may be imagined. Great pain ensued, which led to an investigation, when the cause of the trouble was discovered. The prescriber advises physicians to be careful to write out the name of the salt desired in full, followed in parenthesis by the warning, "avoid chlorinated lime." [We may remark that calcium chlorate is not to be found in American pharmacies, but a similar danger to that noted exists with regard to the possible ignorant substitution of calx chlorinata (so called chloride of lime) for calcium chloridum.—Ed.]

**For Acute Coryza** Boular employs a solution of atropine sulphate of a definite strength applied to the nasal mucous membrane by means of a swab. According to *La Clinique*, for September 6, 1907, he has employed this method in the case of adults for years with excellent results. The solution is made according to the following formula:

R Atropine sulphatis, . . . . . 0.001 grammes.  
Aque laurocerasi, . . . . . 20.0 grammes.  
Aque destillatæ, . . . . . 20.0 grammes.

M.

Absorbent cotton tightly wrapped around the end of a match [or wooden toothpick] is soaked in the solution and swabbed on the nasal mucous membrane, repeating every half hour at first, and then every hour if necessary, but not oftener than eight or ten times in the day. It is not advised to use the treatment where there is obstruction of the nasal passages.

**Treatment of Dyspepsia in Tuberculous Cases.** Renon (*La Quinzaine thérapeutique*, December 10, 1907) advises cutting down the diet and aiding the digestive functions by the administration of peptic ferments combined with a mild laxative and bitter tonic as in the following combination:

Pancreatium, . . . . . 0.20 grammes.  
R Peppermint, . . . . . 0.25 grammes.  
Powdered calomel, . . . . . 0.25 grammes.  
Sodium phosphate, . . . . . 0.20 grammes.

M. fine emulsion.

Sig. One after every meal.

**Ointment for Ulcer of the Leg.** An ointment which has given Danlos better results than all other means he has tried for the treatment of ulcer of the leg has the following composition:

R Ung. terræ peroxid. hydrat.  
Ung. atrament.  
Ung. oliv.  
Ung. pallas. confectio.

M.

This is applied in a thin, or better still, as a protective

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## THE CLINICAL STUDY OF CANCER.

The *Fourth Report of the Caroline Brewer Croft Fund Cancer Commission of the Harvard Medical School* has recently been published, completing the first volume. The work which it represents was concerned entirely with the study of spontaneous and inoculated tumors in mice, and seems to have been wholly performed by Dr. Ernest E. Tyzzer. A hopeful view is taken of the possible beneficent results of the study of such growths. We have not space for an analysis of Dr. Tyzzer's papers; it is rather our present purpose to mention certain remarks that are to be found in the introductory section, written by Dr. J. Collins Warren.

Dr. Warren tells us that early in their investigation the commission recognized the importance of proceeding from an aetiological point of view, but do not wish to be regarded as underrating that of the study of the disease from the clinical standpoint. But, he says, "to carry on clinical investigations on a scale which would bring out new and valuable data would require resources far beyond what most commissions have at their disposal." Large endowments, he adds, would enable investigators to "place the clinical and the laboratory work in close juxtaposition in such a way as to produce results which it is not possible to obtain either at the hospitals or with the material of private practice which practitioners of the present day have at their disposal;" and he alludes to the large expenditure of money

which would be entailed by special wards for the study of cancer.

We have in New York two hospitals for the treatment of cancer, in one of which diseases of the skin also are treated. Something tangible has been accomplished in each of them in the way of adding to our knowledge of malignant disease, but, since they exist for the prime object of aiding sufferers from cancer—as many of them as possible and with the least practicable expenditure of time—it can readily be understood that for purposes of investigation they must fall short of the facilities which Dr. Warren has in mind. The disease should be studied, he says, "not only in its incurable stages, but at its very inception, when it is most susceptible to the action of remedial measures." But the incurable cases should not be neglected. There may be means of inducing persons with incipient cancer to seek for hospital relief in greater numbers than at present; certainly it would not be denied them. The hospitals must do the best they can for the greatest number of those who have any apparent prospect of cure or amelioration, and that duty necessarily restricts the number of advanced cases that can be kept under observation. The study of advanced cases may not be so useful as that of incipient examples, but doubtless it is of importance, and it could be pursued in an avowed research hospital more properly than in one designed solely for therapeutic purposes, and in conjunction with laboratory work.

Such an institution, of course, would involve great expense, and its funds would have to be supplied rather by persons looking for ultimate results than by those interested only in the present benefit of cancer victims. According to Dr. Warren, the Croft Commission feel that "the investigation of cancer has now reached a point where it is possible to take a new departure in this (the clinical) direction on a far more extended scale than has ever been attempted and on lines even broader than those which have been laid down for the study and control of tuberculosis." It is but human to entertain the idea that one's own efforts for the welfare of humanity are not meeting with their fair measure of support, and therefore we cannot wonder that Dr. Warren says "A moderate portion of the vast sums of money which are being used in the crusade against tuberculosis would be of the greatest value at the present moment in the attack upon perhaps the next most dreaded disease of modern times." Without entering upon a consideration of the comparative importance of tuberculosis and malignant disease as regards the need of investigation, we heartily express the hope that there may be forth-



coming all the funds required for an adequate clinical study of cancer.

## VIVISECTION IN THE STATE OF NEW YORK.

A number of our professional brethren seem to have misapprehended in some respects the article on this subject which we published in last week's issue. It will be remembered that we commended a certain bill entitled An Act to Prevent Cruelty by Regulating Experiments on Living Animals, soon to be introduced into the legislature of the State of New York. Those of our friends to whom we now have reference fear that the bill will be so changed before its actual introduction or so amended afterward that it will no longer merit whatever approval it may now meet with at the hands of the medical profession. Of course such changes are quite possible, and we had no idea of giving our support in advance to unknown alterations. What we said was with this understanding, not necessarily expressed.

Others of our friends, while under no misunderstanding as to our view, dissent from it, and we must acknowledge that their attitude is founded on reasons which are too cogent to be overlooked. They say that the bill is speciously drawn and really intended only as an entering wedge to open the way for more drastic and inquisitorial legislation. In particular, they object to Section 2, relating to reports required to be made of experiments, pointing out that such reports will furnish *ad captandum* material with which fanatics may in the future incite in the public mind a ruthless opposition to all forms of experiments on animals, as a consequence of which we shall be reduced to the comparative impotence which for several years now has hampered our colleagues in England. It may well be that they are right. On the supposition that they are, we must withdraw our support of the bill and simply advise our readers to await developments and the close discussion that the matter is likely to draw out.

When the bill was brought to our attention there was shown to us an endorsement of it bearing the signatures of a number of medical men of renown in the profession. On the strength of those signatures we felt that we could not but support a bill that could command them. It has come to our knowledge now (since our article was published) that these gentlemen have revised their opinion and withdrawn their commendation of the bill. Mindful of the old saying, *l'homme coupable, c'est celui qui ne change jamais*, they have not hesitated to renounce a stand of which they have recognized the untenability. We cannot, therefore, longer base

an opinion, even in part, on their first judgment; consequently we must withdraw our support of the bill. Indeed, we are now convinced that no legislation on the subject is called for, since the law as it stands is quite sufficient for the punishment of persons guilty of cruelty to animals.

## TWO GREAT SURGEONS OF EDINBURGH.

Within a little more than a fortnight past the people of Edinburgh have had to join with the medical profession of their town, renowned in medicine—and, we may truly add, with our profession throughout the world—in mourning the death of two of their great surgeons, Mr. Thomas Annandale and Sir Patrick Heron Watson, who, to their great credit, were commonly known respectively as "Tommy" Annandale and "Pat" Watson. We do not speak thus familiarly of men of exalted position save as in terms of endearment. Edinburgh, like Philadelphia and all our southern cities, knows its medical men and honors and loves them, while such seething and reckless communities as that of New York take little, if any, note of personalities that are not intimately associated with great commercial, political, or military doings.

Professor Annandale, English by birth, but genuinely Scotch by education and in the activities of his career, was an operator of exceptional skill and boldness and a diagnostician of almost intuitive perception. He was a man of lively sympathy, always in close touch with whatever movements made for the interests of the institutions that commanded his support, helpful to his students, and gracious and cheery with the sick, whether their condition was exalted or of the humblest. It is no wonder, then, that all Edinburgh mourns for him. His end was sudden; he was found dead in bed after a day of protracted work and an evening spent largely in making telephonic arrangements for the following day's duties. He died during the night of December 19th-20th, at the age of sixty-nine.

Sir Patrick, whose life lasted a few years longer—he was born in 1832—was of equal professional renown, though for a considerable period preceding his death he was unable, by reason of failing health, to take an active part in professional work. He died on December 21st, of angina pectoris. During much of his early professional career he was in military life. He served with distinction as a medical officer in the Crimean war. For many years past his name has been of frequent appearance in the periodical medical literature of Great Britain. He was knighted in 1903. He is described as of courtly manners and a military bearing, "an authority in the *science* [sic] of royal etiquette," says the *Scotsman*, but at the same time "a genial com-

panion and not without a touch of humor in his conversation."

Though not so much resorted to now by students from various parts of the world as she was a hundred years ago, "Auld Reekie" has by no means ceased to implant sound knowledge of medicine in those who still turn to her as a source of learning. And so she will continue. She has lost many a learned and brilliant exponent of our art in the past, but the ranks are always replenished.

#### ANAPHYLAXIS AND ANAPHYLAXINES.

One of the most striking and important developments of bacteriological science has been the keen stimulus felt in the search for fundamental facts concerning poisons in general and certain organic, poisonous substances in particular. Of recent years, C. Richet, of Paris, has found in actinians and mussels certain substances showing peculiar poisonous reactions, to a mixture of which he has given the name of mytilocongestine. In studying the properties of this substance he has been impressed with certain peculiar affinities which it seems to possess with some bacterial toxins, and he has been led to a review of the problem of immunity seen in the light of a new type of poisoning which he describes.

In a comparatively recent study (*Annales de l'Institut Pasteur*, July) he writes that poisons may be divided into two main groups—the members of the one killing immediately or very rapidly, as chloroform paralyzes circulatory structures, strychnine destroys nervous structures, curare acts on neuromuscular terminal organs, mercury destroys cellular metabolism, etc., while those of another group kill, as it were, at a long distance, perhaps after several weeks, and by a mechanism which seems different from any other which has heretofore been observed. These poisons are not immediately operative, but they provoke within the body the formation of toxic substances of a sort which, after injection of the poison, develop a true disease. Or, stated in another way, the disease—i. e., the ensemble of morbid phenomena which results from a microbe infection, is a slow intoxication. It is doubly slow; in the first place, because the poison produced by the microbe is slowly and progressively secreted, so far as, and in the same manner as, the microbe proliferates, and, further, because this poison itself acts slowly.

Richet calls attention to the fact that the substances extracted from actinians, from sponges, and from mussels have this character of being able to develop a special morbid state, with an evolution resembling that of a disease. If one injects this substance in large doses into the venous system of

an animal (a rabbit or a dog), it will die in from four to five days; the injection of doses one fifth as great, however, brings about a chronic action which persists from twenty to thirty days at least. The contrast between the action of this type of poison and that of the ordinary crystalloid poison is very striking, for, as is well known, in the latter class, strychnine being taken as an example, amounts of one fifth that of a lethal dose either cause only nominal symptoms or are innocuous. On the other hand, Richet's mytilocongestine in amounts of one fifth of the lethal dose causes a grave form of chronic intoxication, which frequently persists for thirty days.

During this period of chronic poisoning, which Richet has termed anaphylaxis, the body is more highly sensitive to the action of the poison than it was before the poisoning. With mytilocongestine, the sensibility of the body in the greater number of cases is rendered five times as great, in some instances the sensibility being enhanced at least twenty-five fold. Richet thinks that the presence of a toxogenic substance is the cause of this increase in the toxicity of mytilocongestine. *In vitro*, the mixture of mytilocongestine with the anaphylactic serum of dogs is more toxic than this same poison when in watery solution, and the serum of an anaphylactic dog, when injected into a normal dog, can produce anaphylaxis.

Anaphylaxis, then, he argues, is due to the presence of a sensitizing substance (toxogenine) which, by reaction with mytilocongestine, develops a poison which acts immediately. Anaphylaxis is established only after a certain length of time, and persists for about forty days in the animals used by the experimenters, for, after this length of time, the animals become relatively immune, so that injections of large doses of poison are not followed by symptoms of poisoning.

The general relations of anaphylaxis to immunity, as postulated by the author, are highly suggestive. He considers anaphylaxis as a preliminary stage to immunity, rendering the latter possible, for animals react to the injection of toxic substances of the nature of toxalbumins by producing sensibilizing substances, or toxogenines, which create an anaphylactic state, and at the same time that this state is engendered antitoxines are formed, but much more slowly. When, in five or six weeks, the toxogenines disappear, the antitoxines persist. Anaphylaxis is a sort of rapid defense for small doses, permitting the organism to rise vigorously to feeble doses of poison secreted by microorganisms, and thus to defend the organism so long as the attack is not an energetic one. It is a precursor of immunity and one of the factors which make it possible.

### Obituary.

NICHOLAS SENN, M. D.,  
of Chicago.

This great surgeon died on Thursday, January 2d, after an illness of several weeks' duration in its acute stage, from a cardiac affection supposed to have been aggravated by his recent mountain experiences in South America. He was sixty-three years old. Dr. Senn was born in Switzerland, but was brought to this country when he was a very young child. The family settled in Wisconsin, on a farm. With only the advantages of the local schools for



NICHOLAS SENN, M. D.

a preliminary education, and doing out his resources by teaching school, he went through the course in the Chicago Medical College, where he took his medical degree in 1868. He served a term on the house staff of the Cook County Hospital and then settled in practice in Fond du Lac. He subsequently practised for twenty years in Milwaukee, where he made a national reputation as a surgeon. Then he moved to Chicago and was made professor of surgery in the College of Physicians and Surgeons of that city, and subsequently in the Rush Medical College. Early in his career he evinced an aptitude for military service, and his services in the National Guard of Wisconsin, in that of Illinois, and in the army during the war with Spain won distinction for him.

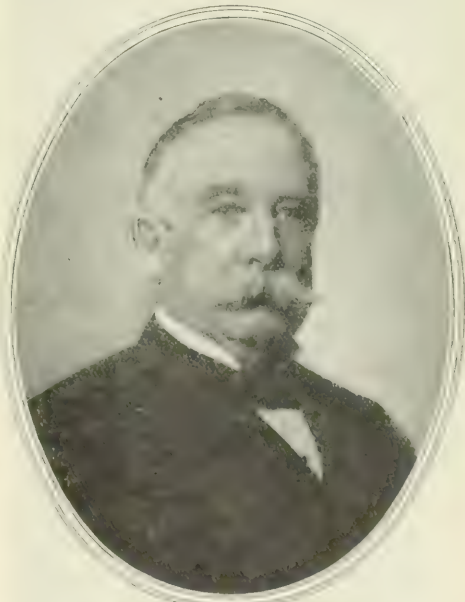
It was not only as an operating surgeon that Dr. Senn was distinguished; he was the author of many important additions to our literature. He was of a frank and martial mien, and his personality made him liked as well as esteemed in the profession. In

the later years of his life he was able to indulge his fondness for travel, but in his journeyings he always kept professional matters in mind and gave his impressions vividly in contributions to the journals.

ROBERT WILLIAM TAYLOR, M. D.,  
of New York.

Dr. Taylor died after a brief illness on Sunday, January 5th, at the age of sixty-five years. He was born in England and brought up in New Jersey, but came to New York when he was a young man. Like many other eminent physicians, he began life as a pharmacist. He studied medicine under the direction of the late Professor Willard Parker, and was graduated from the College of Physicians and Surgeons in the class of 1868. For a number of years he was professor of venereal diseases in that institution, and at the time of his death he was consulting genitourinary surgeon to Bellevue and the City hospitals and consulting surgeon to the French Hospital.

At the outset of his medical career he was in general practice for a few years, but even then his attention was chiefly devoted to skin and venereal diseases, in which he soon achieved distinction. So



ROBERT WILLIAM TAYLOR, M. D.

early as in 1871, only three years after his graduation, his classic essay on Dactylitis Syphilitica was published in the *American Journal of Syphilology and Dermatology*, and it at once established his reputation as an acute clinical observer and as a critic of the writings of others. His contributions to our literature thereafter were numerous and weighty, both in the form of journal articles and in that of books. His published representative work all



ways cogent, and his style of writing was exceptionally attractive. In verbal debate, too, he was remarkably forcible. As a diagnostician in skin and venereal diseases there was not his superior in the world, and as a therapist he was unusually successful.

Dr. Taylor had many close friends, and not a few will be grieved to learn of his death. No warmer heart than his ever beat in a human breast; he was the embodiment of loyalty, and no trouble was too great for him to take in furtherance of a worthy cause or in imparting hope to an afflicted friend. In his death the profession has met with a loss of the first magnitude.

ALBERT HOFFA, M. D.,

Of Berlin, Germany.

While only of middle age, Professor Hoffa has been cut off in his successful career. Born in Richmond, Cape of Good Hope, on March 31, 1859, he studied medicine at the universities of Marburg and Freiburg, and was graduated in 1883. In the same year he became assistant at the Julius Hospital in Würzburg, and three years later he was admitted to the medical faculty of the university at Würzburg as *Privatdozent* in surgery, and in 1897 was appointed assistant professor. In 1902 he was called to Berlin as professor of orthopaedic surgery and chief physician of that department at the university dispensary, which position he held at his death. From 1886 till 1902 he had a private hospital for orthopaedic patients in Würzburg.

Hoffa at the beginning of his career paid special attention to bacteriology, and his researches in anthrax should be mentioned (*Die Natur des Milzbrandgiftes*, Wiesbaden, 1886), but soon entered the field of surgery, where he became the founder of modern orthopaedics in Germany. It was Hoffa who explored the theory and treatment of scoliosis and congenital hip luxation and deformities, designing and very often making himself apparatus for his patients, following and adding to the theories of Hesselig. Later he directed his attention to the influence of nervous diseases upon orthopaedic pathology, and to the treatment of joint diseases, especially the pathology of the knee joint.

During his visit to the United States, in 1904, the Jefferson Medical College conferred an honorary degree upon Professor Hoffa.

### News Items.

**Changes of Address.**—Dr. William H. Mackinney, to 1831 Chestnut street, Philadelphia.

**College of Physicians and Surgeons, New York.**—Dr. George Thomas Jackson has been appointed professor of dermatology to succeed Dr. George Henry Fox, who has resigned.

**The Hospital Saturday and Sunday Association of St. Louis.**—The total collections of this association for the year 1904 were \$7,841.15, against \$7,850.11 less than the amount collected in 1903.

**The Society of Medical Jurisprudence, New York.**—The two hundred and tenth regular meeting of this society will be held at the New York Academy of Medicine on Monday evening, January 13th, at eight o'clock.

**Syracuse, N. Y., Academy of Medicine.**—A meeting of this academy was held on January 7th. The retiring president, Dr. A. B. Miller, delivered an address, and Dr. F. C. Curtis, of Albany, read a paper on Smallpox and Diseases Confounded with It.

**Food Inspection in New Jersey.**—During the month ending December 31, 1907, 171 specimens of foodstuffs were examined under the direction of the State Board of Health in the State Laboratory of Hygiene, 21 of which were found to be below standard.

**Richmond County, N. Y., Medical Society.**—The regular monthly meeting was held at the Staten Island Academy of Medicine on Wednesday evening, January 8th. The paper of the evening was read by Dr. W. T. Jenkins on Disinfection as a Preventive of Dissemination of Smallpox.

**The Jefferson County, Ky., Medical Society** held its annual meeting on December 23d in Louisville and elected the following officers: President, Dr. Benjamin F. Zimmerman; vice presidents, Dr. Charles W. Hibbitt and Dr. J. Rowan Morrison; secretary, Dr. Virgil E. Simpson; treasurer, Dr. John J. Moren.

**The Northwestern Medical Society, Philadelphia,** held a meeting on January 6th, when the following papers were read: Lobar Pneumonia Complicated by Pulmonary Hemorrhage; Cancer of the Uterus Treated by Electrothermic Hemostasis, by Dr. A. J. Downes; Dilatation of the Parturient Cervix, by Dr. John Cook Hirst.

**Two of Scotland's Leading Surgeons Dead.**—Professor Thomas Annandale, regius professor of surgery in the University of Edinburgh, died suddenly of heart disease on December 20th, aged sixty-nine years, and on December 21st Sir Patrick Heron Watson died, also from heart disease, at the age of seventy-five years.

**New York Academy of Medicine.**—A stated meeting of the academy will be held on Thursday, January 16th, at 8:30 p. m. Dr. Beverley Robinson will read a paper on Laryngeal Phthisis, and there will be additional contributions on the subject by Dr. Joseph Gleitsmann, Dr. A. Jacobi, Dr. Walter Chappel, Dr. S. A. Knopf, and Dr. R. C. Myles.

**Floyd County, Ga., Medical Society.**—At the annual meeting of this society, which was held recently, the following officers were elected for the ensuing year: President, Dr. J. C. Watts, of Rome; vice president, Dr. Isaac Sewell, of Cave Spring; secretary, Dr. W. L. Funkhouser, of Rome, and treasurer, Dr. William De Lay, of Rome.

**Buffalo, N. Y., Academy of Medicine.**—A meeting of the Section in Surgery was held on January 7th. Dr. Bransford Lewis, of St. Louis, Mo., read a paper on Practical Cystoscopy, with a presentation of cystoscopes, examining, catheterizing, and operative, and Dr. David E. Wheeler, of Buffalo, gave an exhibition of lantern slides of skin and genitourinary diseases.

**The Fourth Harvey Lecture.**—As has been previously announced, the fourth lecture in the Harvey Society course will be delivered at the New York Academy of Medicine on Saturday, January 11th, at 8:30 p. m., by Professor Ernest H. Starling, of the University of London. The subject will be The Chemical Control of the Body. All interested are cordially invited to be present.

**Deutsche Medizinische Gesellschaft der Stadt New York.**—A meeting of the German Medical Association of the City of New York was held at the Academy of Medicine on January 6th, when the following papers were read: The Operative Aims in Modern Obstetrics, by Dr. A. Stein; Inhalation Therapeutics, by Dr. F. Ruppert, and the Treatment of Migraine, by Dr. A. Herzfeld.

**Charitable Bequests and Donations.**—By the will of Eliza M. Wray the Philadelphia Home for Incurables receives \$200.

By the will of Mrs. Mary A. Brannon the Carney Hospital, Boston, will receive \$500.

The German Hospital, Brooklyn, has received a check for \$7,500 from the Aid Society of the hospital.

**American Philosophical Society.**—The annual meeting of this society was held on January 3d, and the following officers for the ensuing year were elected: President, Dr. William W. Keen; vice presidents, Mr. George

F. Barker, Mr. William B. Scott, and Mr. Simon Newcomb; secretaries, Dr. I. M. Hays, Mr. Arthur M. Goodspeed, Dr. James Holland, and Mr. Amos P. Brown.

**The Philadelphia Medical Examiners' Association.**—At a meeting of this association, held on January 7th, the evening was devoted to a symposium on the Heart and Life Expectancy. Dr. Robert N. Willson demonstrated the Physical Examination of the Heart; Dr. William E. Hughes spoke on Observations as to Intracardial Lesions, and Dr. Judson Daland described the Recognition of Extracardial Lesions.

**The Elmira, N. Y., Academy of Medicine** held its annual meeting on Wednesday, January 8th, and elected officers for the ensuing year. Dr. H. W. Fudge delivered the presidential address, and papers were read as follows: The Present Status of Opinion Concerning the Etiology of Tuberculosis, by Dr. C. W. M. Brown, and Some Considerations of Systemic Infections Through Diseased Tonsils, by Dr. G. M. Case.

**The Hospital Ship "Relief."**—Dr. Charles F. Stokes, a surgeon in the United States Navy, has received orders directing him to assume command of the hospital ship *Relief*, which is being fitted out at the Navy Yard, Mare Island, Cal., with a full hospital equipment for special duty with the battleship fleet. It was the issuance of this order which led to the controversy which resulted in the resignation of Admiral Brownson.

**Consolidation of Two Louisville Colleges.**—The combination of the Louisville College of Medicine and The Hospital College of Medicine went into effect on January 1st. Dr. L. S. McMurtry is president of the new college; Dr. C. W. Kelly is dean of the faculty, and Dr. W. F. Boggess, associate dean. The institution is known as the Louisville and Hospital Medical College, Medical Department of the Central University of Kentucky.

**The Philadelphia Academy of Surgery.**—At a meeting of this academy, held on January 6th, the following papers were read: Gunshot Wound of the Stomach with Posterior Drainage, by Dr. Edward B. Hodge, Jr.; Report of a Case of Stab Wound of the Diaphragm, by Dr. Francis T. Stewart; Report of a Case of Tuberculosis of the Cæcum, by Dr. John H. Jopson; Renal Diagnosis and Efficiency, by Dr. B. A. Thomas.

**The Medical Society of the County of Ontario, N. Y.**—The quarterly meeting of this society will be held in Canandaigua, on Tuesday, January 14th, when the following papers will be read: A Rare Case of Dermatitis Exfoliativa, by Dr. W. A. Howe; Legal Status of Physicians' Fees, by W. C. Ellis, Esq., of Shortsville, N. Y.; Prostatic Hypertrophy, by Dr. W. B. Jones, of Rochester, N. Y.; Treatment of Lobar Pneumonia, by Dr. C. W. Selover.

**The Pathological Society of Philadelphia.**—At a meeting of this society, held on January 9th, the following papers were read: The Coordination of Gastric and Intestinal Digestion by the Action of the Pyloric Sphincter, by Dr. Walter B. Cannon, of Harvard University; and Bacterial Vaccines of Staphylococcal Strains, by Dr. Harlan Shuemaker. Dr. Judson Daland gave a demonstration of the Strongyloides Intestinalis from a Philadelphian.

**Repairs at Ellis Island.**—A bill has been introduced into Congress providing for an appropriation of \$550,000 for urgent repairs and construction at the immigration station at Ellis Island. The bill suggests that the appropriation come out of the emigrant fund. It provides \$35,000 for refitting the plant, \$125,000 for a steam ferryboat, \$250,000 for completing the wing to the hospital, and \$150,000 for the completion of the contagious disease hospital.

**New York Pathological Society.**—The anniversary meeting of this society was held on January 8th, when the following papers were read: Tuberculosis of the Ductus Thoracicus, by Dr. Richard Weil; Ureteritis Cystica, by Dr. Otto H. Schultze; Diptheritic Laryngitis, Tracheitis, and Bronchitis, by Dr. Thomas Flournoy, and Enteritis Obliterans, by Dr. I. Levin. Officers were elected and committees were appointed for the ensuing year.

**The Western Surgical and Gynecological Association.**—The seventeenth annual meeting of this association was held in St. Louis, Mo., on December 30 and 31, 1907, and officers for the ensuing year were elected as follows: President, Dr. W. W. Keen, of St. Louis, Mo.

presidents, Dr. Willard Barlett, of St. Louis, and Dr. Harry A. Sifton, of Milwaukee; secretary and treasurer, Dr. Arthur T. Mann, of Minneapolis. The next meeting will be held in Minneapolis on December 30 and 31, 1908.

**A Tuberculosis Exhibit in New York.**—The exhibit of the Committee on the Prevention of Tuberculosis of the Charity Organization Society, which was at the Jamestown Exposition, was opened to the public on January 8th, in a building in East Twenty-third street. The exhibit consists of photographs and models of hospitals, sanitariums, day camps, tenement conditions, diet kitchens, sweat shops, etc. Informal talks will be given each noon on the subject of tuberculosis, and stereopticon views will be shown at night.

**College of Physicians of Philadelphia.**—At the regular meeting, held on Wednesday evening, January 1st, officers were elected for the ensuing year as follows: President, Dr. James Tyson; vice president, Dr. G. E. de Schweinitz; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. Frederick P. Henry. Colonel W. B. Bannerman, of Bombay, India, was elected an associate fellow. The honorary librarian reported an addition of fifty-six volumes to the library during December.

**The Health of Pittsburgh.**—During the week ending December 21, 1907, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chickenpox, 18 cases, 0 deaths; typhoid fever, 103 cases, 17 deaths; scarlet fever, 13 cases, 3 deaths; diphtheria, 20 cases, 5 deaths; measles, 65 cases, 3 deaths; whooping cough, 8 cases, 1 death; pulmonary tuberculosis, 7 cases, 6 deaths. The total deaths for the week numbered 155 in an estimated population of 403,330, corresponding to an annual death rate of 19.98 per 1,000 population.

**A Special Meeting of the Medical Association of the Greater City of New York** was held on Monday, January 6th, under the direction of the chairman for the Borough of the Bronx. Dr. Thomas E. Satterthwaite, president of the association, read a paper entitled Some Phases of Myocardial Disease; Dr. Louis Faugeres Bishop read a paper entitled Instruments of Precision in the Management of Diseases of the Heart; Dr. William H. Porter read a paper on the Diagnosis of Diseases of the Heart, and Dr. Reynold Webb Wilcox delivered an address on the Use of Drugs in Diseases of the Heart. A general discussion followed.

**The Mortality of Chicago.**—According to the report of the department of health for the week ending December 28, 1907, there were during the week 569 deaths, as compared with 575 for the corresponding week in 1906. The annual death rate in 1,000 of population was 14.08. The principal causes of death were: Apoplexy, 8; Bright's disease, 36; bronchitis, 23; consumption, 44; cancer, 30; convulsions, 6; diphtheria, 9; heart diseases, 47; influenza, 6; intestinal diseases, acute, 32; measles, 1; nervous diseases, 23; pneumonia, 103; suicide, 4; scarlet fever, 16; typhoid fever, 7; violence (other than suicide), 28; whooping cough, 3; all other causes, 141.

**Scientific Society Meetings in Philadelphia for the Week Ending January 18, 1908.**—Monday, January 13th, Section in General Medicine, College of Physicians; Wills Hospital Ophthalmic Society. Tuesday, January 14th, Philadelphia Paediatric Society; Botanical Section, Academy of Natural Sciences. Wednesday, January 15th, Philadelphia County Medical Society (Business Meeting open to members only); Section in Otology and Laryngology, College of Physicians; Association of Clinical Assistants of Wills Hospital; Franklin Institute. Thursday, January 16th, Section Meeting, Franklin Institute; Medical Society of the Woman's Hospital. Friday, January 17th, University of Pennsylvania Medical Society; American Philosophical Society.

**The Mortality of New Jersey.**—According to the report of the State Bureau of Vital Statistics for December, 1907, there were 2745 deaths reported in New Jersey during the month ending December 15, 1907, which was 291 less than the monthly average for the past year. There were 155 deaths among infants under one year of age, 100 deaths of children over one year of age and under five years of age, and 84 deaths of persons sixty years of age and over. Pneumonia caused 210 deaths, as compared

47 over the previous month, and there were 30 deaths from typhoid fever, a decrease of 7 from the previous month. Among other important causes of death were the following: Diseases of the nervous system, 352; tuberculosis of the lungs, 270; cancer, 112; diseases of the circulatory system, 318; Bright's disease, 203; infantile diarrhoea, 195. There were 36 deaths from suicide, which was 7 more than the average for the preceding twelve months.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Health Department for the following statement of new cases and deaths reported for the two weeks ending January 4, 1907:*

	-December 1831-		-January 1, 1907-	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	121	25	121	25
Scarlet fever	121	25	121	25
Measles	121	25	121	25
Whooping cough	121	25	121	25
Diphtheria	121	25	121	25
Tuberculosis (pulmonary)	121	25	121	25
Cerebrospinal meningitis	121	25	121	25
Total	121	25	121	25

**Southern Medical College Association.**—The annual meeting of this association was held in New Orleans recently. Three medical schools were added to the membership, viz.: the Atlanta College of Physicians and Surgeons, the Medical Department of the University of Kansas, and the College of Physicians and Surgeons of Little Rock, Ark. Officers for the ensuing year were elected as follows: President, Dr. Christopher Tompkins, dean of the Medical College of Virginia; vice president, Dr. W. S. Rogers, dean of the Memphis Hospital and Medical College; secretary and treasurer, Dr. L. C. Morris, of the Birmingham Medical College; chairman of the executive committee, Dr. J. S. Cain, of Sewanee, Tenn.

**A Proposed Hospital for Inebriates.**—At a meeting of the Philadelphia County Medical Society, held on Wednesday, January 8th, the first steps were taken in a movement to secure for the State of Pennsylvania a hospital for the treatment and care of inebriates and persons addicted to the use of drugs. The subject was introduced by Mr. Robert A. Woods, president of the board of trustees of the Foxboro, Mass., Inebriate Hospital, and Dr. John B. Carrell, of Haboro, Pa., read a paper on the Necessity for the Establishment of an Inebriate Hospital for the Care of Alcoholics and Drug Habitués. A number of State senators and representatives were present, and plans were discussed. It is proposed to prepare a bill to be presented to the next legislature, asking for an appropriation to cover the cost of erection and maintenance of such an institution. The object of the meeting was to arouse sentiment and interest the medical profession, as well as the public, in the undertaking.

**Personal.**—Dr. H. Brantley, of Spring Hope, N. C., is registered at the Philadelphia Polyclinic and College of Graduates in Medicine.

Miss Annie M. Rykert has been appointed superintendent of the New York City Graduate Hospital.

Dr. Gordon Wilson, of Baltimore, has been placed in charge of the medical department of the consumptive hospital at Bayview Asylum.

Dr. William Starr, of Washington, D. C., who recently celebrated his one hundredth birthday, has been elected a member of the Confederate Veterans' Association.

Major Charles F. Mason, of the Medical Department of the United States Army, will deliver a series of lectures on First Aid, at the Young Men's Christian Association, Washington, D. C. The first lecture was delivered on Friday, January 10th, and a lecture will be given each Friday, at 8 p. m., until the course is completed.

Dr. John P. Moore, head of the Queens Borough Health Department, has resigned, and will resume his private practice.

**Lectures on Nutrition.**—A course of twelve public lectures on nutrition will be given at the Teachers' College, 120th street and Amsterdam avenue, for the benefit of those who are interested in the problem of food in the home and in institutions. The first lecture will be given on Monday, January 13th, at 4 o'clock, and the other lectures will follow every Monday at the same time and place for twelve weeks. There will be five lectures on digestion and assimilation by Dr. William J. Gies, of the College of Physicians and Surgeons; four lectures on nutritive require-

ments and the selection of food, by Dr. Henry C. Sherman, of the School of Chemistry, and three lectures on the relation of foods in household practice, by Miss Anna Barrows, of the department of domestic science of the Teachers' College. The lectures will be illustrated.

**Newark, N. J., Medical League.**—At the regular meeting of this organization, held on December 9th, Dr. Willy Meyer, of New York, delivered a lecture on Bier's Hyperæmic Treatment. In a preliminary talk, Dr. Meyer dealt with the subject in a general way, and then read two papers, one on Acute Mastitis, representing the acute diseases in which Bier's treatment may be applied, and the second on Chronic Tuberculosis of the Knee, showing the use of Bier's method in chronic diseases. Dr. Meyer exhibited the suction glasses used in acute mastitis, and showed a mask made of celluloid, to be worn over the nose and mouth in tuberculosis of the lungs. After the lecture a dinner was served in honor of Dr. Meyer, after which he illustrated the application of the rubber band and cupping glasses on the arm of a member. At the annual meeting of the league, held on December 23d, the following officers were elected for the ensuing year: President, Dr. David A. Kraker; vice president, Dr. Herbert W. Long; treasurer, Dr. E. Steiner; secretary, Dr. Louis Weiss.

**The Health of Philadelphia.**—During the week ending December 21, 1907, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 78 cases, 7 deaths; scarlet fever, 47 cases, 3 deaths; chicken pox, 56 cases, 0 deaths; diphtheria, 106 cases, 10 deaths; cerebrospinal meningitis, 3 cases, 0 deaths; measles, 54 cases, 2 deaths; whooping cough, 13 cases, 2 deaths; pulmonary tuberculosis 75 cases, 50 deaths; pneumonia, 91 cases, 68 deaths; erysipelas, 12 cases, 0 deaths; puerperal fever, 5 cases, 3 deaths; septicaemia, 4 cases, 2 deaths; mumps, 6 cases, 0 deaths; German measles, 2 cases, 0 deaths; cancer, 20 cases, 11 deaths. The following deaths from other transmissible diseases were reported: Tuberculosis, other than tuberculosis of the lungs, 9; tetanus, 1; diarrhoea and enteritis, under two years of age, 14. The total deaths numbered 499 in an estimated population of 1,500,595, corresponding to an annual death rate of 17.21 in 1,000 population. The total infant mortality was 104; under one year of age, 86; between one and two years of age, 18. There were 36 still births—17 males, and 19 females. The total precipitation was 0.05 inch. The temperatures were rather high for the time of year, a maximum of 47° being recorded on the 21st.

#### Society Meetings for the Coming Week:

**MONDAY, January 13th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Society of Alumni of St. Mary's Hospital, Brooklyn; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, January 14th.**—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Newburgh Bay Medical Society; Medical Society of the County of Schenectady, N. Y. (annual); Practitioners' Club of Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine).

**WEDNESDAY, January 15th.**—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery; Woman's Medical Association of New York City (New York Academy of Medicine); Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); Northwestern Medical and Surgical Society of New York; New York Society of Internal Medicine; New Haven, Conn., Medical Association (annual); Buffalo Medical Club.

**THURSDAY, January 16th.**—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo, N. Y.

**FRIDAY, January 17th.**—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Post Graduate Medical School and Hospital; East Side Physicians' Association of the City of New York; New York Microscopical Society; Brooklyn Medical Society.



## Pith of Current Literature.

## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

January 2, 1908.

1. Renal Tuberculosis and Indications for Operation,  
By LINCOLN DAVIS.
2. The Value of Vaccine Therapy to the General Practitioner in the Treatment of Bacterial Diseases,  
By CLEVELAND FLOYD and ARTHUR M. WORTHINGTON.
3. Some Personal Experiences with Specific Vaccines in the Treatment of Bacterial Disease,  
By MARK W. RICHARDSON.
4. Certain Aspects of the Treatment of Infections with Bacterial Vaccines,  
By ROGER J. LEE.
5. Vaccine Therapy: A Report on Sir Almroth E. Wright's London Clinic,  
By HELEN C. PUTNAM.

1. **Renal Tuberculosis.**—Davis says that abundant clinical experience has shown, and particularly that of the last few years, that in properly selected cases nephrectomy gives splendid results in tuberculosis of the kidney. There would be little justification for nephrectomy if it was true that the renal disease was secondary to a primary focus in the bladder, which would remain after the operation to infect the other kidney. Our present knowledge, however, that the kidney is practically always the primary focus, and that the disease secondarily affects the ureter and bladder, not only puts the operation of nephrectomy on a rational basis, but strongly indicates an early operation before the secondary changes in the bladder have become irreparable. In fact, radical removal seems to be the only treatment for this condition, offering hope of permanent cure. Spontaneous healing of tuberculosis of the kidney, unlike tuberculosis in various other organs, appears to be extraordinarily rare, if not unknown. Conclusive cases are lacking in the literature. More light is greatly needed on the subject. It seems to be pretty generally agreed, however, that hygienic measures which are so valuable in treating tuberculosis situated elsewhere in the body, seem less effective in arresting the process when in the kidney. Why this should be so is hard to say. The author quotes Senator, of Berlin, who said: "When renal tuberculosis is not amenable to operative treatment, we know of no other termination than death; at least recovery must be rare." If this is true, remarks Davis, the question presents itself at once in every case, Is operative treatment indicated, and if so, what form of operation is best? Resection of the tuberculous focus is dangerous on account of hæmorrhage, and uncertain as to removal of the entire disease. Nephrotomy is merely a palliative measure, and should be followed by a nephrectomy to obtain a cure, the secondary nephrectomy being as a rule more difficult than a primary one would have been. Complete nephrectomy, with removal of ureter when diseased, is the operation of choice for unilateral tuberculosis of the kidney.

3. **Specific Vaccines in the Treatment of Bacterial Disease.**—Richardson adds fifty more cases to his report published October 3, 1907. He has now 163 routine cases, with thirty-five, or 21.4 per cent., of relapses, as compared with forty inoculated cases, with 2 or 5 per cent. relapse.

## THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 4, 1908.

1. Medicine and the University, By WILLIAM H. WELCH.
2. Dentistry as a True Specialty of Medicine. Chairman's Address in the Section on Stomatology,  
By MORRIS I. SCHAMBERG.
3. The Interrelationships of Medicine and Dentistry,  
By HENRY C. REGISTER.
4. Dental Education and the Public,  
By JAMES MC MANUS.
5. Headache as a Symptom of Local Disorders,  
By FREDERICK COGGESHALL and WILLIAM E. MACCOY.
6. Trichopathophobia,  
By A. D. MEWBOURN.
7. The Frequency, Mortality, and Treatment of Placenta Prævia,  
By I. L. HILL.
8. The Effects of Hydrastis and Its Alkaloids on Blood Pressure,  
By WILLIAM WHITTRIDGE WILLIAMS.
9. The United States Pharmacopœia,  
By ROBERT A. HATCHER.
10. Evacuation and Depletion of the Tympanic Cavity as Aids to Drainage in Acute Middle Ear Suppuration,  
By LEROY FRIDENBERG.

7. **The Frequency, Mortality, and Treatment of Placenta Prævia.**—Hill observes that among multiparæ placenta prævia can hardly be called a rare complication. In 1,800 cases, of which 87 per cent. were multiparæ and the average number of pregnancies 4 plus, he has found the ratio to be 1 to 225. The mortality has been understated recently because of too broad generalization on a few highly favorable case reports. There has been very little reduction in the foetal death rate, which is still from 40 to 50 per cent. In the presence of hæmorrhage in the last third of gestation the cervix should immediately be dilated sufficiently to allow of a diagnosis by the finger, and if placenta prævia is present the uterus should be emptied without delay. Tamponade of the cervix and vagina is useful as a preliminary step. The Braxton-Hicks version is effective in controlling hæmorrhage and is the safest procedure for the mother, but it does not give satisfactory results for the child. When the dilatability of the cervix makes us positive that delivery can be effected with little or no tearing of the cervix we may elect rapid delivery by version or forceps, packing the uterus and vagina if there is bleeding after the third stage. In cases presenting long, rigid cervixes, complete prævia and a viable child, if the surroundings are favorable, Cæsarean section should be chosen in the interests of the child. The advance in treatment for placenta prævia has been remarkable in reducing the maternal death rate even though the saving of the patients has not been brought so near to being an exact science as some authors would suggest. It would seem that progress must be directed to decreasing the foetal mortality.

8. **The Effects of Hydrastis and Its Alkaloids on Blood Pressure.**—Williams states that the most constant and conspicuous effect of the intravenous injection of hydrastis is a prompt fall of blood pressure. With small doses the pressure promptly returns to normal, and there may be a slight rise above normal. With larger doses (from 0.07 c.c. to 1 c.c. per kilogramme of body weight) there is only partial recovery from the fall of blood pressure or it may remain low. The pressure phenomena are attributable to depression of the cardiac muscle causing the fall and to stimulation of the vessels causing the rise. Very large doses depress

and paralyze the vagus and vasomotor system; otherwise there is no evidence deduced from the myocardiograms and oncometer that the vasomotor system plays any important rôle in the blood pressure changes. The two principal alkaloids of hydrastis, hydrastin and berberin, cause qualitatively the same blood pressure changes, although berberin is the more active and is responsible for about 85 per cent. of the effect of hydrastis, hydrastin causing the remaining 15 per cent. Hydrastis given by mouth or hypodermically causes no change in the blood pressure, heart rate, or respiration. Hydrastinin—an artificial alkaloid derived from hydrastin—causes a rise of blood pressure above normal, which is usually preceded by a slight fall when injected intravenously. The rise is well sustained and is principally caused by stimulation of the cardiac muscle.

10. **Evacuation and Depletion of the Tympanic Cavity as Aids to Drainage in Acute Middle Ear Suppuration.**—Fridenberg remarks that the conditions for free drainage afforded by the external auditory canal are ideal, and any attempts to improve them are not only illusory but defeat their own ends. Insufficient drainage is never due to conditions in the canal but invariably to the state of affairs in the tympanic cavity, the size, position, or permeability of the opening in the drum, and it stands to reason that these conditions can not be affected by measures which stop short of the middle ear, and in practice, at all events, do not even reach the drum. For there can not be much doubt of the mechanical difficulty, not to say impracticability, of inserting the end of a gauze drain into the paracentesis opening, and yet this is seriously laid down as a step in the drainage method. The drain can, however, be crowded up against the drum, and here it lies, stopping up the paracentesis opening and damming back secretions. Immediately after paracentesis there is a large admixture of blood with the fluid evacuated. This is apt to clot, and if a tampon is used retention is still more apt to occur. This also applies to the sticky secretion which is not only found in the otitis of influenza, but may be present in the more common types. The occlusive drain accomplishes two purposes, but they are not those of drainage and anti-phlogistics alleged for it by its adherents, but rather act as an occlusive bandage and as an infected poultice. Even if this drain is changed three or four times a day, which will require the services of a nurse, there is no guarantee that retention will be avoided. Secretion from the middle ear is often so profuse as to render such a reliance entirely visionary. Syringing is grateful to the patient, keeps the ear clean and free from discharge for some time, and can be entrusted to the patient or to some member of the family after one or two demonstrations. After the acute symptoms have subsided and the secretion has become less profuse and thick, the antiseptic solution may be changed for a slightly astringent one, such as zinc sulphate, 0.5 per cent., or a solution made by adding pulvis antisepticus (N. F.) one drachm to a pint of water. This will prevent swelling of the canal and check any tendency to the formation of granulation tissue

in subacute cases. Eczema of the auricle and external meatus may be caused by irritating secretions, and possibly by repeated syringing, especially with too highly concentrated or too hot solutions. This may be avoided by carefully drying the skin and applying a little zinc oxide ointment after each irrigation.

#### MEDICAL RECORD.

January 4, 1908.

1. Poliomyelitis Anterior as an Epidemic Disease, By HENRY W. BERG.
  2. Bacterial Vaccines and Curative Sera, By CHARLES BOLDUAN.
  3. The Early Diagnosis and Treatment of Pulmonary Tuberculosis, By JOHN H. PRYOR.
  4. Some Points in Medical Education Considered from the Standpoint of the Student, By BENJAMIN MICHAILOVSKY.
  5. The Term "Stauungs-Hyperæmie," By ALFRED REGINALD ALLEN.
1. **Poliomyelitis Anterior as an Epidemic Disease.**—See abstract on page 42.
2. **Bacterial Vaccines and Curative Sera.**—See abstract on page 41.

4. **Some Points in Medical Education Considered from the Standpoint of the Student.**—Michailovsky remarks that the present improved methods of medical teaching fall very far short of the possible achievements that might be obtained for two great reasons. In the first place, the student body is but indifferently prepared for the reception and use of new knowledge; the remedy, of course, lies in more purposeful teaching in the academic courses. In the second place, those who are to make use of the means and methods of instruction are not sufficiently conversant with the general fundamental principles of pedagogics; the remedy for this lies in individual recognition of the fact and attempts to correct it, or in the establishment of special educational courses in the universities, of which the medical college may be a part, and elsewhere. In addition, the general arrangement of the medical course ought to be so modified as to allow the greatest possible opportunities for correlating and harmonizing the various branches of instruction, thus assisting in the final end and aim of the work, the adequate preparation of young men in the art and science of medicine.

**The Term Stauungs-Hyperæmie.**—Allen remarks that since the advent of Bier's treatment, the English speaking scientific world has been casting about in search of a concise descriptive term in its own tongue, with but questionable success. We find a number of adjectives used to qualify this hyperæmia, such as obstructive, artificial, passive, congestive, and venous, as also the noun, stasis hyperæmia. These terms are all open to the same criticism in that they fail to give a mental picture of the mechanics of Stauungs-Hyperæmie; stasis hyperæmia, besides, conveys a scientifically wrong impression. To the philologist there is nothing more apparent than the fact that where one language possesses a single word descriptive of a condition or thing, another language, in order fully to convey the same idea, may have to use a phrase or a whole sentence. The Germans at times apparently avoid this by forming a colossal word by the agglu-



tinuation of several components. The condition present in the partial obstruction of venous outflow with a retained arterial ingress, the amount of blood thereby being increased in the part, but the circulation thereof never ceasing, is perfectly expressed by the German term *Stauungs-Hyperämie*, and but inadequately or falsely expressed by the use of any two word combination in the English language that he has observed so far in literature. He thinks for this reason it were well to take over bodily this term into our language rather than use any of the English terms which but ill portray what we desire to express.

BRITISH MEDICAL JOURNAL.

December 21, 1907.

1. On Tuberculosis in Childhood and its Relation to Milk, By J. McCaw.
2. Has a Purin Free Dietary Any Special Therapeutical Value? By C. Watson.
3. A Case of Cerebral Tumor Associated with Subjective Sensations of Smell, By H. C. Thomson.
4. Medical Practitioners and Public Health, By T. Fowler.
5. A Plea for the Study of Bacteriology by the General Practitioner, By J. A. Jones.
6. Cremation, By J. W. Riley.
7. Protection of India from Invasion by Plague, By J. A. Thompson.
8. Primary Sarcoma of the Vermiform Appendix, By T. Carwardine.
9. A Case of Septicæmia with Interesting Reactions to Treatment and Recovery, By C. F. Fothergill.
10. The Post Mortem Statistics of Middle Ear Disease in Young Children, By J. Miller.
11. Observations on Blood Films with Special Reference to the Presence of Hæmoglobin, By F. Porter.

1. **Tuberculosis in Childhood.**—McCaw formulates the following rules to protect children from the ravages of tuberculosis: 1. The notification of all births within twenty-four hours. This would enable health inspectors to examine into the state of the child's surroundings; to have the child removed, or precautions taken, should any case of tuberculosis exist in the house, and to give suitable directions for the care of the child and especially to encourage breast feeding. 2. Complete control of the milk supply by the State. This should include the application of the tuberculin test to dairy cattle, and the removal of all such as react to this test; cleanliness in the collection of all milk, and in the transmission of it from the dairy to the consumer; the removal of all dairies from the centre of large towns and cities. 3. Medical inspection of school children and school premises. First, to detect and remove children who are actually ill or unfit to attend school; and, secondly, to ensure proper ventilation and sanitary arrangements in the schools, and to prevent over crowding. The elementary principles of hygiene should be taught to even young children; to older children the principles of domestic hygiene and economy should be added. 4. Housing reform. Dwelling houses in the poorer districts should be made more sanitary, especially with regard to the free access to them of sunlight and fresh air. A leveling up of the social and domestic conditions of the poor is urgently required, for of the 1,200,000 children born each year in Great Britain, fully one fourth to one third of them are born to want and squalor. 5. Segregation of advanced cases. All advanced cases of phthisis

should be segregated as far as possible and treated in special institutions set apart for that purpose. Children who are allowed to live in the house with a consumptive are exposed to serious risk. 6. Notification of the disease should be compulsory. By this means health officers would know where the disease existed, and it would enable them to take suitable precautions against the spread of the disease, by disinfection and other means. The large proportion of tuberculosis in children comes within the purview of the surgeon to whom the treatment may be safely left. Our increased knowledge regarding the opsonic index has brought treatment with tuberculin within the realm of safe therapeutics, and the clinical success which has attended the employment of this treatment has firmly established its position as a remedial agent of the first importance.

2. **Purin Free Dietary.**—Watson has studied the question as to whether a diet, free of purins, has any special therapeutical value. Purins are substances constructed on the base  $C_5N_4$ . Those of chief clinical importance are uric acid, xanthin, hypoxanthin, adenin, and guanin. The pathology of purins centres largely around gout and gouty disorders, that disease being now generally regarded as a disorder of intermediary purin metabolism. Many authorities attach special value to the administration of a purin free diet, but the writer has come to the conclusion, from practical experience, that such a diet has no special therapeutical effect. The benefit that is derived from such a régime in certain cases would be equally attained by the use of a carefully planned system of feeding framed without special reference to purin contents. In some cases the restriction in amount of animal protein food is of special value, in others the diminution in the carbohydrate, and especially the sugars, is equally efficacious, and in others the restriction of various alcoholic liquors will suffice. Very often complete relief from gouty symptoms follows measures directed to increase the functional activity of the liver, kidneys, skin, or thyroid gland.

9. **Septicæmia.**—Fothergill reports a case of septicæmia showing the following interesting features: 1. The extreme virulence of the infection. 2. The general symptoms became progressively worse until the use of antistreptococcal serum, which almost at once acted beneficially. 3. Brandy was, without doubt, of great benefit in two syncopal attacks, but when the patient was given brandy every four hours it was found to raise both temperature and pulse, and made him more restless, and was, therefore, discontinued. 4. That although the temperature and pulse had been normal or subnormal for nineteen days after the abatement of the general symptoms, yet, when the amputated finger was examined, it was found that not only had all the cartilages of the interphalangeal joints been eroded, but the bone was also eroded into the cancellous tissue, thus proving that temperature and pulse in such a case are no guide to active disease, but that the presence of continuous pain is far more important. 5. The citric acid mixture proved wonderfully efficacious in lowering the abnormally high coagulability of the blood, and seemed directly re-



sponsible for improving the character of the pus and bringing about the rapid and thorough recovery of the wound.

**11. Hæmoconia.**—Porter has studied hæmoconia, those small micrococcal bodies seen in the blood, clear and highly refractile, and with the power of very rapid movement. They are never at rest and appear to have the power of endless motion—a swift tremulous movement, scintillating like heat rays. From his observations he has concluded: 1. Hæmoconia are present in all human blood. 2. Cremated corpuscles and shadow corpuscles are degenerated cells. 3. A certain proportion, if not all, of microcytes are degenerated cells. 4. Blood plates are debris of red and white corpuscles. 5. Leucocytes. Eosinophiles degenerate first; secondly, the polymorphs and lymphocytes are the longest lived (and youngest) of the white cells. 6. Hæmoconia. Some are escaped nuclei of leucocytes, some escaped granules of leucocytes, others are the result of disintegration or alteration of red corpuscles, and all are produced by some change in the blood constituents.

LANCET.

December 21, 1907.

1. Some Experiences of Intracranial Surgery,  
By C. A. BALLANCE.
2. A Note on Gastric Echymosis, Gastrostaxis, and Simple Gastric Ulcer; Their Possible Relations to Hæmorrhagins and Mucolysins,  
By E. C. HORT.
3. Three Cases of Intestinal Obstruction,  
By R. D. MOLHERSOLE.
4. A Case of Complete Gastrectomy,  
By B. G. A. MOYNIHAN and F. C. MOORE.
5. The Tuberculin Ophthalmoreaction of Calmette,  
By J. W. H. EYRE, B. H. WEDD, and A. F. HERTZ.
6. Notes on a Case of Bone Abscess Caused by an "Intermediate" Bacillus Allied to *Bacillus Paratyphosus*,  
By F. G. BUSHNELL.
7. The After Treatment of Cases of Suprapubic Cystotomy; a New and Economical Method,  
By H. IRVING.
8. A Case of Poisoning by Potassium Bichromate,  
By A. M. GOSSAGE and J. M. BERNSTEIN.

**1. Intracranial Surgery.**—Ballance states that the more common conditions calling for intracranial intervention are: 1. Diseased or displaced bone. These should be dealt with before intradural mischief has arisen. 2. Effused blood. The rapid effusion of blood into the brain from rupture of a diseased bloodvessel has not yet been arrested by an intracranial operation, nor does such an operation seem particularly feasible. But lumbar puncture would probably, by relieving intracranial pressure, be useful in some cases of apoplexy. The necessity for surgical intervention in extradural hæmorrhage following blows on the head has, however, long been recognized. 3. Meningeal inflammation. This takes three forms: (a) Meningitis serosa, an accumulation of fluid, acutely or subacutely, in the subdural space, the subarachnoid space, and in the ventricles. The intracranial serous membranes are excited to hypersecretion by toxins brought to them by the blood or from a neighboring infective focus. The symptoms are fever, a slow pulse, vomiting and drowsiness. Only two methods of treatment have been successful, intradural drainage and ligature of both carotids. (b) Local meningeal suppurations as a result of bone disease, and as a localization of posterior

basal meningitis. In the latter the best operation is one which provides a free bilateral opening and allows the escape of pus from the subarachnoid space. (c) Tuberculous meningitis. Exposure of the disease and drainage of the exudation probably would modify the evolution of the process, just as in tuberculous of the peritonæum, but how is not clear. 4. Abscess of the brain should be treated as abscess elsewhere. 5. Epileptiform neuralgia of the fifth nerve. Intracranial division of the second and third divisions of the fifth nerve is the operation of choice. The foramen rotundum and foramen ovale must be closed either with rubber or with gold leaf, and if the pain returns search must be made for undivided filaments of the nerve. 6. Tumor of the brain. The presence of an intracranial tumor is to be inferred from the following symptoms: (a) Evidences of disturbance of the normal harmonious and correlated functional activity of the various parts of the brain, such as change of disposition or impairment of mental power. (b) Symptoms of increased intracranial pressure—headache, vomiting, optic neuritis, slow pulse and torpor. (c) Symptoms due to irritation or paralysis of particular nerve centres, or groups of nerve centres, the so called focal symptoms, such as paralysis and disturbances of sensation. Diagnosis and localization are sometimes assisted by x ray photography.

**2. Gastric Hæmorrhage and Ulcer.**—Hort epitomizes as follows the various views as to the pathogeny and relations of gastric echymosis, gastrostaxis, and gastric ulcer: 1. Gastric echymosis and gastrostaxis are in no way related to each other or to gastric ulcer. 2. The causes of echymosis and gastrostaxis are most obscure. 3. Gastric ulcer is due to a breakdown of the normal immunity of the mucosa against autodigestion. The writer, on the other hand, tries to show (1) that some forms of gastric echymosis, gastrostaxis, and gastric ulcer are but local expressions of a general blood disease hitherto unrecognized; (2) that echymosis may be intimately associated with gastrostaxis, and both with ulcer; (3) that as a symptom of an unnamed general blood dyscrasia ulcer may also occur without preceding echymosis or gastrostaxis; (4) that (a) echymosis and gastrostaxis are due to the presence in the blood of endotheliolytic and mucolytic bodies, and (b) gastric ulcer itself is due to the presence in the blood of floating hæmorrhagins, mucolysins, and other cytolytics, affecting gastric mucosa through one of two channels—either from lymph stream constantly flooding epithelial cells with the specific toxins (mucolysins) or from escaped blood charged with the same bodies (hæmorrhagins, mucolysins). No other theory as yet put forward brings into line such apparently incongruous manifestations as ulcer without hæmorrhage, hæmorrhage without ulcer, perforation without hæmorrhage, etc. No conclusive evidence as to the cause and effect of ulcer and hæmorrhage can be found post mortem. The present day medical treatment of these conditions must be modified, and the use of surgery in combating a profound toxæmia must be carefully restricted. The evidence submitted by the writer in support of his views is of two kinds: 1. Direct evidence of

cytolysis in man in these forms of capillary hæmorrhage into and from gastric mucosa and of ulceration afforded by (a) blood examinations, and (b) the remarkable results of treatment by serum and by vaccines undertaken with the object of producing immunity in such cases against the specific toxins. 2. Collateral evidence of (a) cytolysis in man in other diseases characterized by gastrostaxis or other hæmorrhagic fluxes or other signs of cytolysis, such as hæmolysis afforded by (1) blood examinations, and (2) the encouraging results of serum and vaccine therapy; and (b) cytolysis in the animal kingdom afforded by (1) the artificial production of cytolytic phenomena in certain animals and (2) the establishment of immunity in such animals by the preparation of sera and vaccines.

## LA PRESSE MEDICALE.

December 7, 1907.

1. What Dangers to the Eye Are Present in the Ophthalmoreaction? By F. DE LAPPERSONNE.
2. Tubercules and Vaccines of Carl Spengler. Principles of His Method. By ANDRÉ BERGERON.
3. Medical Treatment of Ulcer of the Stomach. By P. D.
4. The Penial Bone and Partial Ossification of the Penis. By R. ROMME.

1. **Dangers to the Eye in the Ophthalmoreaction.**—De Lapersonne concludes that the ophthalmoreaction is not of itself a source of danger to the eye and that the rare cases in which accidents have occurred simply call for some counsels of prudence. He says that the test should never be made until after a thorough examination has been made of the eye of the patient. In ophthalmology he thinks its use will be very limited. It will not serve for the diagnosis of superficial or deep lesions of the eyeball, but it may for the diagnosis of diseases of the lids, lachrymal passages, and orbits. He does not think it should be used in old patients.

4. **Partial Ossification of the Penis.**—Romme reviews at length the case recently reported by Frangenheim.

December 11, 1907.

1. Examination of Some Stomachs with the Aid of the Röntgen Rays. By TH. TUFFIER and PAUL AUBOURG.
2. Dechloruration in the Treatment of Bright's Disease. By A. MARTINET.

1. **Examination of Stomachs with Röntgen Rays.**—Tuffier and Aubourg present plates showing the conditions found in the stomach of a cadaver, the normal stomach during digestion, stenosis of the pylorus, neoplastic infiltration of the stomach, gastroanastomosis for stenosis of the pylorus, at the beginning of digestion and at the end of the same, the stomach of a dog on which gastroanastomosis had been performed, and a bilocular stomach.

December 11, 1907.

1. The Treatment of Metritis by the Application of Cupping Glasses to the Neck of the Uterus, the Method of Bier. By F. JAYLE and ROBERT LOEY.
2. Acute Suppurative Peritonitis. By ARMAND BERNARD.
3. The Action of the Sphincter of the Pylorus. By R. ROMME.

1. **The Treatment of Metritis by the Method of Bier.**—Jayle and Loevy have devised an apparatus by means of which it is possible to apply suction to the neck of the uterus and they report seven cases of various forms of metritis satisfactorily treated in this manner. Their conclusions are:

The application of cups to the cervix uteri results in the evacuation of the contents, mucus or pus, of the cervical cavity and causes a hyperæmia of the neck. If ulcerations are present the hyperæmia produces a bloody exudation, usually not very abundant. In some cases in which there are little thin walled cysts the aspiration causes the rupture of the latter. 2. After several séances the congestion in the pelvis becomes lessened, while the symptoms of metritis, perimetritis, of inflammation of the annexæ and of pelvic peritonitis slowly become ameliorated. Ulcerations cicatrize and sometimes disappear entirely, while one may easily follow the progress of the epithelization. 3. The aspirations are almost always painful. 4. The application of cups to the neck of the uterus is a new means in gynæcological therapeutics which can be used easily and gives good satisfaction.

## LA SEMAINE MEDICALE.

December 11, 1907.

Intestinal Arteriosclerosis, By L. CHEINISSE.

## BERLINER KLINISCHE WOCHENSCHRIFT.

November 25, 1907.

1. Concerning a Case of Sepsis Due to Diphtheria Bacilli and Streptococci. By P. MAHLER.
  2. Feeding with Ferruginous Cows' Milk. By SCHNÜTGEN.
  3. Concerning the Electric Response to the Galvanic Current in Children with Tetany. By P. PHILIPPSON.
  4. Concerning the Ophthalmoreaction to Tuberculin. By S. COHN.
  5. The Forensic Value and the Knowledge of the Joining of the Complements. By C. BRUCK.
  6. Cold Abscess of the Larynx. By A. ROSENBERG.
  7. Operative Treatment of Traumatic Meningitis. By A. SCHLESINGER.
  8. Concerning the Anatomical Grounds of Weakness of the Heart. By BEITZKE.
2. **Feeding with Ferruginous Cows' Milk.**—Schnütgen uses milk from cows which are fed so as to make their milk ferruginous, not from the addition of an artificial chemical preparation of iron, but by a natural product produced through assimilation in the bodies of the animals. He reports nine cases of anæmia from different cases which were benefited by the use of such ferruginous milk. All of the patients were very sick and all improved remarkably under the treatment.

3. **Response to the Galvanic Current in Children with Tetany.**—Philippson says that in children with tetany there is a distinct local lowering of the electric excitability after from eight to ten minutes of constant galvanization. This lowered action of the current appears to precede a brief phase of increase of excitability with the associated degeneration form of cathode contraction.

4. **The Ophthalmoreaction to Tuberculin.**—Cohn thus sums up his conclusions: 1. The positive appearance of the ophthalmoreaction after use of a 1 per cent. solution of tuberculin indicates tuberculosis with very great probability. 2. A negative reaction does not prove the absence of tuberculosis, because 50 per cent. of the severe cases of phthisis fail to react. Slight and moderate cases of phthisis react only exceptionally. 3. Typhoid patients exhibit a positive ophthalmoreaction to tuberculin very frequently, especially during convalescence. 4. A subcutaneous injection of tuberculin made some time after the instillation is able

to call forth again the local reaction in the eye, or to produce it in case it failed to appear before. 5. The single instillation induces in nontuberculous adults, not children, after a sufficient length of time, a hypersensitiveness of the eye into which the instillation was made; in tuberculous patients this action is usually extended to the other eye also.

**5. Forensic Value and Knowledge of the Joining of the Complements.**—Bruck says that the præcipitin reaction retains its old importance in the distinction of albumin of animal or human origin in forensic practice. At the same time the method of complement joining is not only quite equal in value to the præcipitin reaction, but is superior in fineness and distinctness of its results, and should therefore be used in every forensic case as the supplement of the præcipitin reaction. The great delicacy of the reaction forbids the use of too strong immune sera and necessitates an investigation by one who is perfectly familiar with the sources of error of the reaction. The use of weak immune sera enables the method of complement joining not only to make the absolutely specific diagnosis of human albumin, but also renders it possible to distinguish which of the albuminous fluids of the body produced the spot in question—i. e., a distinction between blood, pus, semen, etc., and this should be determined in this manner in every forensic case.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 3, 1907.

1. Experiences with Artificial Pneumothorax in Tuberculosis, Bronchiectasis, and Aspiration Diseases, By SCHMIDT.
2. The Smallest Necessary Supply of Albumin, By FORSTER.
3. Concerning Passive Hyperæsthesia, By FRIEDEMANN.
4. Hæmorrhage into the Fatty Capsule of the Kidney, By DOLL.
5. Treatment of Epidemic Cerebrospinal Meningitis, By TÖBBEN.
6. Three Thousand Cases of Ethyl Chloride Narcosis, By HERRENKNECHT.
7. Puerperal Fever and the Duty of Reporting the Same, By VON HERFF.
8. A Contribution to the Cases in which at a Herniotomy the Vermiform Appendix Is Found to Be the Sole Contents of the Hernial Sac, By GÜNTHER.
9. Old Foreign Bodies in the Upper Jaw as the Cause of Acute Inflammation of the Conjunctiva Resembling Blennorrhoeal, By THOREY.
10. An Interesting Case of Foreign Body in the Nose, By MÜHLENKAMP.
11. A New Apparatus for Vibration Massage of the Prostate, By GUNSETT.
12. Cotton and Gauze Holders for Use in the Office, By GRÜNWALD.
13. Impressions of America (Concluded), By MÜLLER.

**1. Artificial Pneumothorax in Tuberculosis, Bronchiectasis, and Aspiration Diseases.**—Schmidt says that one should always try to make the first infusion of air so as to strike a pleural adhesion; that among the cases which are fitted apparently for the compression treatment there is a not small part, 22.7 per cent. of the cases reported in Germany, in which the production of complete pneumothorax is rendered impossible because of the presence of pleural adhesions; that one should not be discouraged by a failure on the first attempt, but should repeat the puncture in different places so as to produce several separated, sacculated pneumo-

thoraces. He has employed this form of treatment in thirteen cases of pulmonary tuberculosis, eight of bronchiectasis and three of aspiration disease, pneumonia, or fetid bronchitis. Involvement of the other lung he considers a distinct contraindication to the treatment. On the whole he believes that the number of cases which are truly benefited by compression treatment is limited.

**2. The Smallest Necessary Supply of Albumin.**—Forster concludes from his observations that a sufficient quantity of other substances, such as ash, than albumin, fat, and carbohydrates, are necessary to the upbuilding and maintenance of human organs; that these substances are met with in the food in combination with albuminous substances, or at least in relation with albumin, and it is therefore to be feared that with a more reduced supply of albumin nutrition will suffer from lack of these ash constituents. With the breaking up of albumin in the body certain necessary materials, digestive ferments, and other derivatives of albumin, are formed. For some it is proved, for others it is probable, that the production is in proportion to the decomposition of albumin in the body. It is, therefore, to be expected that with reduced assimilation of albumin slight disturbances of the general condition and diseases would occur through want of these materials. As long as the proportions, both qualitative and quantitative, are no better understood than they are at present it is advisable for the purpose of practical nutrition from the general physiological and hygienic standpoint to maintain a large assimilation of albumin and not to limit this to the physiological minimum by which the so called balance of nitrogen may be maintained in a given case.

**4. Hæmorrhage Into the Fatty Capsule of the Kidney.**—Doll gives the clinical picture of this condition. Vascular diseases which increase the blood tension, such as arteriosclerosis, chronic nephritis, syphilis, and alcoholism, form the ætiological basis. Very severe colicky pain recurring at short intervals in the region of the kidneys, which radiate backward and downward, but not to the scrotum or penis, soon followed by tenderness on pressure and on change of position in the region where the pain is located. Then in the region of the kidney, behind the colon, an elongated tumor with indistinct margins becomes recognizable with increasing clearness by percussion and palpation, tender, tensely elastic, not moving with respiration. Fever is moderate, remittent, toward the end appear higher ranges of temperature, with occasional attacks of collapse. Symptoms of moderate anemia, rapid loss of strength, and bad pulse follow. The diaphragm presses upward, and symptoms of consolidation of the lower lobes of the lungs and of exudates in the pleural cavities are to be seen. Meteorism when at its maximum renders the tumor indistinct. Doughy cutaneous swellings appear in the lumbar region with bluish black effusions of blood there and in the scrotum. Two cases are described, one of which has been reported before.

**5. Treatment of Epidemic Cerebrospinal Meningitis.**—Többen speaks strongly in favor of the results obtained in this disease by the combination



of lumbar puncture and injection of meningococcus serum.

9. **Foreign Bodies in Upper Jaw the Cause of Conjunctivitis.**—Thorey reports a case in which a man sought relief for a conjunctivitis associated with a very profuse discharge of pus, that was out of proportion to the changes in the conjunctiva and lids. Local treatment for three weeks was without effect and then close questioning elicited the history of an injury four years before and a knife blade was discovered in the nose. The location was perfected by means of the x rays and the removal of the foreign body was followed by an immediate cessation of the ocular symptoms.

10. **Interesting Case of Foreign Body in the Nose.**—Mühlenkamp reports a case in which he removed a knife blade from the nose of a man who stated, as soon as he saw it that he must have been wounded with it in a fight two years before.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

December, 1907.

1. The Medical versus the Surgical Treatment of Gastric Ulcer, By J. H. MUSSER.
2. The Indications for, the Methods of, and the Results to Be Expected from the Medical Treatment of Gastric Ulcer, By C. G. STOCKTON.
3. Studies on Arteriosclerosis, with Especial Reference to the Radial Artery, By W. S. THAYER and M. FABYAN.
4. The Significance of Tubercle Bacilli in the Fæces, By R. C. ROSENBERGER.
5. Acute Intussusception in the Adult, By G. G. ROSS and H. F. PAGE.
6. Primary Carcinoma of the Urinary Bladder, By B. H. BROWN.
7. Incomplete and Complete Hypothyroidæ or Myxedema, By R. L. PITFIELD.
8. A Method of Obtaining Cultures from Human Blood, By E. C. SCHRADIECK.
9. Observations upon Certain Blood Pressure Lowering Reflexes that Arise from Irritation of the Inflamed Pleura, By J. A. CLAFFS and D. D. LEWIS.

1. **The Medical versus the Surgical Treatment of Gastric Ulcer.**—Musser affirms that this is a medical disease, which, with its complications and sequels, may become surgical. With perforation it is surgical; with hæmorrhage it is medical, unless the hæmorrhage is frequently repeated. It is still medical when there is perversion of secretory function, unless motor disturbances become prominent. It is surgical with signs of retention from obstruction, dilatation, hour glass contraction, or adhesions. If, in spite of medical treatment, its symptoms threaten life, if there are repeated hæmorrhages and consequent anæmia, it is surgical. Surgical treatment often becomes a necessity on account of neglect of medical treatment during a long period of incipency. The physician for a case of gastric ulcer should early associate himself with a surgeon of ability and experience in order to meet with promptness any emergencies that may arise. After surgical procedures have been carried out the case should be treated medicinally for at least four months, and hygienically and dietetically for several years.

2. **Indications for, Methods of, and Results to Be Expected from Medical Treatment of Gastric Ulcer.**—Stockton summarizes the medical treatment as follows: The aim should be to secure

a calm mind, a quiet nervous system, and improvement of the general health. A positive diagnosis should be made, treatment should be begun early, and its details carefully carried out. Complete rest should be enforced. In some cases there should be moderate feeding, in others starvation for a time, with dependence upon enemata of salt solution. For hæmorrhage, in addition to rest, one should introduce ice water through a stomach tube, and, if necessary, adrenalin solution, followed by gelatine water. If there is irritating hyperacidity, local general sedatives and antacids are indicated. For hypertension and spasm of the stomach, in addition to proper drugs, use external applications after von Leube's method. Continue treatment long after apparent cure, studying the stools for occult blood.

3. **Studies on Arteriosclerosis, with Especial Reference to the Radial Artery.**—Thayer and Fabyan think the following inferences are justifiable in the presence of a thickened radial artery: If it occurs in an old person it represents conditions which are normal and to be expected, not only in central but in peripheral vessels. If it occurs in earlier life it may mean (1) that the vessel has been subjected to unusual and exceptional strain, or that (2) it is a vessel which, from inherent weakness or other individual circumstances, has been unable to cope with conditions which would ordinarily be regarded as normal. In either of these two latter conditions the artery has been obliged to fortify itself by progressive thickening of its walls, especially by a connective tissue sclerosis of its intima and media. When there is marked thickening of a radial artery there are usually similar changes in the intima of the mesenteric artery and the aorta. An unduly palpable, radial artery indicates possible regressive changes of a dangerous character in other parts of the body.

4. **The Significance of Tubercle Bacilli in the Fæces.**—Rosenberger gives the following results of his investigations in fifty-seven cases: 1. No acid fast bacillus except the tubercle bacillus was found in the fæces. 2. The presence of this organism in the fæces means that there is active tuberculosis in some portion of the body. 3. In acute military tuberculosis the bacillus is always present in the fæces. 4. In all cases of chronic diarrhœa and in cases of general glandular involvement the fæces should be examined for tubercle bacilli. 5. If tubercle bacilli are found in the fæces it does not necessarily signify that there is intestinal ulceration in all cases. 6. In arrested or healed pulmonary tuberculosis no tubercle bacilli will be found in the sputum or fæces. 7. The fæces should be studied for tubercle bacilli as a part of routine examination, especially in cases in which no sputum can be obtained.

5. **Acute Intussusception in the Adult.**—Ross and Page state that one third of the cases of intestinal obstruction are due to this cause. Its three varieties of the enteric, the colic and the ileocolic. The ileocolic form of the ileocolic is the one most frequently observed. The condition is due to irregular action of the intestinal muscular fibres. There may be spasmodic invagination and paralytic invagination, clinically the former alone being met with, and in most cases it is descending in its development.

The causes for this condition may be ptomaine poisoning, enteric fever, traumatism, and benign or malignant growths of the bowel. The onset is usually sudden, being influenced by the portion of bowel attacked. The first and most persistent symptom is pain, which is colicky and intermittent at first, then moderates, and may cease when gangrene occurs. When the invagination is fixed the pain is located in the area of involved bowel. Vomiting occurs at intervals with temporary relief. Muscular rigidity and abdominal distension are absent in the period. Diarrhœa and abdominal tenderness are of frequent occurrence. There is seldom any abdominal tumor or elevation of temperature. Tenesmus and bloody stools are of frequent occurrence. Early diagnosis and operation give the best hope for successful results.

#### 6. Primary Carcinoma of the Urinary Bladder.—Brown reaches the following conclusions:

1. Intelligent deductions and trustworthy statistics are to be derived only from the careful and thorough study of a large number of cases from both the clinical and the anatomical standpoints.
2. The most frequent seat of carcinoma in the bladder and the direction of its extension are still matters of uncertainty.
3. Metastasis occurs much more frequently than many clinicians are willing to admit.
4. A malignant growth in the bones may occur from a primary carcinoma of the urinary bladder.
5. The most frequent cause of death in vesical carcinoma is a secondary infection of the ascending urinary tract.
6. The diagnosis is always difficult, and it is especially so after complications have occurred.

#### AMERICAN JOURNAL OF OBSTETRICS

December, 1907.

1. The Best Method of Teaching Gynecology, By J. N. WEST.
2. How to Teach Diagnosis in Diseases of Women, By J. R. GOFFE.
3. Teaching Methods in Gynecology, By C. JEWETT.
4. Teaching by Charts and Models and Modeling, By R. L. DICKINSON.
5. On Two Cases of Abdominal Section for Trauma of the Uterus, By J. B. SUTTON.
6. Primary Squamous Celled Carcinoma of the Body of the Uterus, By C. C. NORRIS.
7. A Case of Deciduoma Malignum, By A. M. VANCE.
8. Intraabdominal Torsion of the Omentum without Hernia, By R. E. SKEEL.
9. Nymphomania as a Cause of Excessive Venery, By C. C. FREDERICK.
10. Myofibroma Complicating Pregnancy. Hysterectomy, By E. J. ILL.
11. The Conservative Medical Treatment of Salpingitis, By E. J. ILL.
12. Consistency in Aseptic Surgical Technique, By J. E. SADLER.
13. Deciduoma Malignum, By N. F. PORTER.
14. An Unusually Large Dermoid Tumor in the Ovary, By W. M. HUMISTON.
15. Nephrocolopexy, By H. W. LONGYEAR.
16. Large Echinococcus Cyst of the Liver. Operation and Recovery, By H. E. HAYD.
17. Cotarine Phthalate in Uterine Hæmorrhage, By O. MAIER.
18. Hydramnion Acrania with Spina Bifida, By J. M. RECTOR.
19. A Case of Puerperal Eclampsia, By W. E. LIPFOLD.
20. A Telephonic Curette, By A. C. JACOBSON.

5. On Two Cases of Abdominal Section for Trauma of the Uterus.—Bland Sutton narrates two important cases illustrating the possible dan-

gers of curettage. In the first case a physician curetted a non gravid uterus for painful menstruation. The uterus being sufficiently dilated, the operator introduced his finger into the uterus, felt a soft substance, seized it with forceps, and continued to pull until a large mass was in the vagina. The pulling was so vigorous that one end gave way and the other end was then cut off with scissors. The tissue was found to be small intestine. Eight hours later Sutton was called to see the patient, who was in collapse from hæmorrhage. The abdomen was opened and found full of blood. The perforation in the uterus was closed, and the mutilated ileum joined to the ileocæcal aperture from which it had been torn. The patient recovered. In the second case dilatation of the uterus was performed for painful menstruation, and the uterus ruptured extensively, letting coils of intestine pass into the vagina. There was little bleeding, but much shock. The abdomen was opened, a large rent found on the posterior wall of the cervix, and ten ounces of blood in the pelvis. Supravaginal hysterectomy was performed, the ovaries and tubes being retained. This patient also recovered.

#### 8. Intraabdominal Torsion of the Omentum without Hernia.—Skeel observes that this condition is not an infrequent one and that most of the cases are associated with hernia. He classifies omental torsion as follows:

1. Torsion with hernia in which the omentum is in the hernial sac and is there twisted, or twisted both in the sac and in the abdomen, or adherent to the sac and rotated above it.
2. Torsion of the omentum in the abdomen, hernia also being present or having previously existed, with no apparent connection between omentum and sac.
3. Pure intraabdominal torsion with no history of hernia. The following theories as to causation are propounded: 1. Causes acting externally only. 2. Internal force, as intestinal peristalsis, or external force, as pressure, causing rotation, the tip of the omentum being readily converted into a ball. 3. The same forces acting upon an omentum adherent at the tip. 4. Circulatory changes leading to twisting of the veins around the more resistant arteries.

#### 11. The Conservative Medical Treatment of Salpingitis.—Ill observes that perseverance, judgment, and patience are necessary to make such treatment effective. There are plenty of cases which are not suitable for such treatment which should be treated surgically. He divides the cases which are suitable into three classes, as follows:

1. Those in which the acute febrile condition results from the extension of a gonorrhœal vaginitis and endometritis into the tubes and to the pelvic peritonæum. Such cases include not only catarrhal salpingitis, but cases in which suppuration has resulted.
2. Those in which there is an acute febrile condition due to a variety of poisons following labor, abortion, and unclean intrauterine instrumentation.
3. Those which result from inflammatory conditions following tubal abortion and which have been neglected for a long time. The treatment consists essentially of rest in bed, vaginal douches, counter-irritation at the roof of the vagina, and local depleting measures.



## Proceedings of Societies.

### SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Twentieth Annual Session, Held in New Orleans,  
December 17, 18, and 19, 1907.*

The President, Dr. HOWARD A. KELLY, of Baltimore, in the Chair.

**Perinephritic Abscess Following Parturition.**—Dr. J. SHELTON HORSLEY, of Richmond, Va., reported three cases in which he had operated, and called attention to the necessity for early diagnosis in order to give the patient the benefit of a prompt operation, as all statistics showed that the mortality of this disease increased as the operation was delayed. He laid stress upon the occurrence of pain in either flank a few weeks after parturition, even in cases of comparatively aseptic delivery. The bending of the body to the affected side, stiffness of the spine, slight limp in walking, and pain on pressure over the affected flank were important early symptoms. Later there was muscular spasm, and a decided mass could be felt over the region of the kidney. Constipation was always marked, due partly to the patient's dread of muscular effort. The usual constitutional signs of sepsis appeared as the disease progressed. In all his cases the abscess had been on the right side. He attributed this to the fact that the right kidney and perinephritic tissue were lower than the left, and consequently were more likely to be injured by the bearing down pressure during parturition. This afforded a point of least resistance in the perinephritic tissues of the right side, and germs which were absorbed by the lymphatics of the uterus might readily gain a foothold here. Treatment should follow the diagnosis at once, and should consist in a lumbar incision, as in an operation for nephrotomy, and drainage with a tube of large calibre.

**Postoperative Complications in Abdominal Surgery.**—Dr. CHARLES M. ROSSER, of Dallas, Tex., said, among other things, that shock, whether due to basic inhibition or vasomotor paresis, could not be overcome by stimulants to an already exhausted nerve centre, but position for the purpose of relieving cerebral anæmia from hemorrhage, saline solutions to enlarge the volume of the blood current, adrenalin to restore the equilibrium of the blood pressure, and morphine to give balance to the flagging vital forces were the remedies. A rubber bandage or a suit, by limiting circulatory necessity, might be used either as a precaution or as a treatment. Postoperative peritonitis resulted from excessive trauma or infection. Drainage was the best safeguard after asepsis. If required, reopening for drainage was to be done with the least possible trauma, and the minimum amount of anæsthetic. Ileus or other obstruction might be treated by an enema of alum solution, which reversed peristalsis and gas distention, or by egg turpentine emulsion thrown high up. Inhalation pneumonia suggested mouth and pharynx antiseptics, and was treated in the usual way. Hypostatic pneumonia was not so common since physicians did not insist upon decubitus as a routine.

**Some Postoperative Complications of Peritonitis.** Dr. RANDOLPH WINSLOW, of Baltimore,

read a paper on this subject in which he reported the histories of two cases that had recently occurred in his practice. One of them was a case of appendicitis with peritonitis, followed by intestinal obstruction from adhesions. A cure was effected by operation. The patient was a girl, twenty years of age.

The second case was one of appendicitis and peritonitis followed by extensive adhesions, causing intestinal obstruction. Enterostomy was performed, followed by anastomosis and subsequently by resection and enterorrhaphy. This patient was a man, aged nineteen. The operations were successful.

**Acute Dilatation of the Stomach as a Postoperative Complication.**—Dr. C. JEFF MILLER, of New Orleans, said that among the unexpected complications that might arise after surgical operations no condition was more distressing than acute dilatation of the stomach. This complication was probably as serious as any that might arise. The latest statistics, gathered by Simpson, showed that, in 128 cases, in eighty-six the patients had died. Kayser's collection of sixty cases, quoted by Bloodgood, yielded 71 per cent. of deaths. Conner's exhaustive study of 102 cases showed seventy-four deaths, or 72.5 per cent., and twenty-eight recoveries.

The treatment was summed up as follows, namely, early recognition, prompt emptying and washing of the stomach, and such posture as might release a mesenteric compression. To these might be added any eliminative measure indicated, if the emunctory organs were inactive. Early diagnosis was essential to successful treatment. Judging from the cases reported in which an operation had been done with the idea of relieving obstruction, surgery was not encouraging. In spite of the high mortality, however, there was strong evidence to prove that many patients could be saved by prompt treatment. The author reported a case in which he had operated successfully.

Dr. HENRY T. BYFORD, of Chicago, said that his experience had been that the longer the anæsthesia the less nausea there was, and the slower the patient came out from under the influence of the anæsthetic the less nausea there was. He had found it advantageous to give from one to two ounces of brandy just before giving the anæsthetic, in order to diminish the amount of anæsthetic necessary, as by so doing there was much less lung irritation. He had also noticed the good effect of giving an enema after an operation, putting into the enema one half or one ounce of alcohol.

Dr. GEORGE BEN JOHNSTON, of Richmond, Va., could not agree with Dr. Byford that prolonged anæsthesia was prudent. The smallest quantity of any anæsthetic should be given, and the anæsthesia should occupy as little time as possible. These conducted to the welfare of the patient.

As to complications, the most important thing was the prompt recognition of them. Fatalities from them occurred because they were not promptly recognized, and therefore not promptly treated. A careful study of every postoperative case would enable the experienced clinician to recognize an approaching dilatation of the stomach, and if that condition was quickly recognized and energetically treated, fully 33 per cent. of the patients would recover. The stomach should not be washed out in these cases.



at stated intervals, but as soon as the condition was recognized prompt lavage should be practised and continued as long as there was any indication of vomiting.

Dr. RUFUS B. HALL, of Cincinnati, speaking of abdominal distention, referred to the value of the hypodermic use of eserine in 1/50 or 1/100 grain doses. Within forty minutes after its administration the patient would begin to pass gas. His rule had been to give patients the fiftieth of a grain under the skin, and within forty minutes, if the patient was not relieved by passing great quantities of gas, the dose was repeated. It was rare, however, that he had had to give a second dose. He had used this remedy for about two years in more than thirty cases, and in only one had it failed to bring on the prompt elimination of the gas.

Dr. W. P. CARR, of Washington, had had good results from eserine in a number of cases, and where he had had the stomachs of patients washed out directly after operation, and had given them a dose of eserine when they left the table, there had been very little trouble from distention by gas or in getting the bowels to move afterward. Washing out the stomach after an operation and giving the thirtieth of a grain of eserine on the table was very effective as a routine practice, except where the bowels were open and where one did not want to cause very much peristalsis. It was effective only when there was something in the bowel. If the bowel was empty, eserine did not seem to have any effect.

Dr. CHARLES H. MAYO, of Rochester, Minn., referring to acute dilatation of the stomach, said there was a great amount of discomfort following operations in these cases, many of the patients dying. They died because on the second, the third, or the fourth day they showed a marked condition of regurgitation. These patients would vomit a peculiar greenish material in large quantities. Two or three quarts might be vomited suddenly. The lower part of the abdomen was flat, while the upper part was distended. The condition would persist for four days, when there might be a profuse diarrhoea. The condition could be met successfully in many cases by lavage as long as the stomach showed a tendency to refill. Many of these patients, after three or four washings of the stomach, within the third day would be entirely relieved; intestinal peristalsis would begin, and gas would escape. In some of the more severe cases the patient could be saved by gastrojejunostomy done between the fifth and seventh days as a secondary operation.

Dr. HERMAN J. BOLDT, of New York, did not think the mortality from acute dilatation of the stomach was so high as had been stated. However, it was a comparatively frequent and undesirable complication after abdominal section. Whenever there was the slightest evidence of an inflammatory process in the peritonæum, salicylate of eserine did no good, so that one must be careful in the selection of his cases. Early mobilization of the patients would prevent some of these postoperative complications.

Dr. J. M. MASON, of Birmingham, Ala., mentioned a patient who had acute dilatation of the stomach on the day following an operation, but who was entirely relieved by getting rid of the Fowler position, elevating the foot of the bed, and resorting to lavage.

Dr. HUBERT A. ROYSTER, of Raleigh, N. C., reported a case of acute dilatation of the stomach following an operation for the fixation of both kidneys. The patient, however, died on the fourth day after efforts to relieve her.

Dr. JOHN YOUNG BROWN, of St. Louis, had had twenty-eight cases of diffuse peritonitis, and since he began the treatment recommended by Bond his mortality had been greatly reduced, whereas prior to that time, when he irrigated, his mortality was high. It was not so much the Fowler position as it was in getting these patients to move about in bed, thus preventing the complications that were formerly observed. Of ten cases treated without the Fowler position, the results were equally good as in those treated with it. He contended that by following a simple technique at the primary operation complications which would otherwise arise might be prevented.

Dr. I. S. STONE, of Washington, thought that after doing good surgical work the bowels of the patient should be allowed to rest. When a surgeon gave purgatives immediately after operations, he thought he defeated the very purpose he ought to attempt to accomplish. He had done quite a number of operations in the last five years, and had not had a single case of death from ileus.

Dr. EDWARD H. OCHSNER, of Chicago, said the sooner surgeons learned to recognize that rest favored repair, and that motion favored adhesions, the better it would be for them and for their patients.

**Transperitoneal Removal of Tumors of the Bladder.**—Dr. CHARLES H. MAYO, of Rochester, Minn., said that a large percentage of early recurrences following the removal of bladder tumors, both benign and malignant, indicated a delayed operation or imperfect removal. With the increasing interest in cystoscopy, early operating was becoming more common. The ineffective operation was due, in part at least, to imperfect exposure of the operative field. The transperitoneal operation was advised in cases of large tumors, benign or malignant, of the bladder. With the patient in the Trendelenburg posture, the bladder empty, a long median incision was made over the bladder, the peritonæum opened, and the intestines walled off into the upper abdomen by large gauze pads in the operative field. The bladder was drawn up into the wound and opened through the peritoneal covering on its posterior superior aspect. The cavity was now dried with gauze and the incision enlarged forward or back two or three inches, the tumor excised, and the area involved treated with the Paquelin cautery. In some cases large areas of the bladder, even two thirds of it, might be resected. The opening was closed by catgut suture protected on its peritoneal side by a linen suture of the Cushing type. The abdominal incision was closed usually without drainage. In the after care, repeated use of the catheter for a few days, if necessary, was to be preferred in uncomplicated cases.

**Treatment of the Bladder After Suprapubic Cystostomy for Stone.**—Dr. WILLIAM S. GOLDSMITH, of Atlanta, said the principles governing the treatment of the bladder after suprapubic cystostomy were: 1. The immediate and complete closure of the bladder and abdominal wound. 2. The institution of urethral retention catheter drainage. A series

of external urethrotomy cases, in which the retention catheter method had been used, and following the closure of the perineal incision, had convinced him of its efficiency and of the tolerance of the bladder for these unusual conditions. Perfect urethral drainage was such a necessity that failure in securing successful results was attributed to some imperfections of this important factor of treatment. Large stones could not be removed through small incisions without seriously lacerating the mucous membrane and other coats and leaving a ragged, lacerated suture line altogether unsurgical in character, and encouraging tissue necrosis with eventual bad results. Upon the removal of the foreign body the wound was protected with gauze, the patient turned upon his side, and the bladder thoroughly irrigated with the urethral catheter. The wound was closed tight with interrupted silk sutures, introduced down to but not through the mucous membrane. The abdominal incision was closed with small chromic catgut and cotton and collodion applied. Elaborate abdominal dressings were not used, for the reason that they served no purpose other than to interfere with the freedom of the patient in turning from side to side. In adults, and particularly men of middle age, posture was a most important detail. The ability to turn on either side and the insistence of frequent change of position stimulated urinary secretions, prevented puddling of urine, and insured a clean, collapsed cavity, which at once began a regeneration of exhausted anatomical and physiological vitality. The semierect, and finally the erect, position was rapidly assumed, and every effort was directed along the line of forced recuperation and rapid convalescence.

**The Treatment of Fibroid Tumors of the Uterus Complicated by Pregnancy.**—Dr. LEWIS S. McMURTRY, of Louisville, alluded to the indications for surgical intervention in cases of fibromyomata complicating pregnancy, with special reference to the time for such intervention, and the plan and scope of the operative procedure in the varying conditions presented. Uterine fibromyomata were very commonly associated with sterility. The association of pregnancy with uterine fibromyomata added very materially to the dangers of this condition; new dangers would arise from the combination of the two; and, while the clinical fact that a considerable proportion of the cases came through in safety was indisputable, the mortality of the entire number of cases left to nature was high.

To illustrate the advantage of prompt operative intervention in properly selected cases, the author reported four cases. These he had selected for the purpose of illustrating the multifarious aspects of uterine fibromyomata complicated by pregnancy as clinically presented. His entire experience consisted of two more cases, in which an operation was done in the early period of pregnancy, making six cases in all, and all the patients had recovered. While indiscriminate operation in uterine fibromyomata associated with pregnancy was not to be advised, the mortality of this condition when unaided was so great as to justify an extension of the field of operative treatment, both myomectomy and hysteromyomectomy; and every case should receive individual consideration, so that a judicious selection of cases for operation might be observed.

Dr. GEORGE H. NOBLE, of Atlanta, said that where the pelvis was impacted completely, as he had seen in a number of cases, where it was impossible to make a digital examination, and the upper part of the uterus was smooth, free from the tumor, the surgeon might do one of two things, Cesarean section or myomectomy. Since Cesarean section was a simple operation, it would be desirable in the interest of the mother and of the fetus. Myomectomy could be carried much further in well selected cases.

Dr. HERMAN J. BOLDT, of New York, said that a woman in about the third month of gestation had consulted him as to whether or not she was pregnant. She had missed the menstrual period twice, and the physician whom she first consulted informed her that she had a tumor which required immediate removal. Examination revealed a tumor in the lower anterior segment of the uterus, a fibromyoma of the interstitial variety; at the same time, she was pregnant. At the time she consulted him he advised noninterference, but added that if any serious symptoms were encountered it might be necessary later to do a Cesarean section in case she could not be delivered naturally. Myomectomy was decided on and done to prevent an abortion. The woman made a perfect recovery. She was now eight months pregnant.

Dr. HENRY D. FRY, of Washington, said that, in addition to the dangers mentioned by the essayist, we must recognize the increased danger in these cases from post partum hemorrhage. The retraction of the uterus was not sufficient at the site of the placental attachment, and post partum hemorrhage was likely to occur. Again, if the woman passed through labor satisfactorily and safely, there might be infection or necrosis of the fibroids. He had had that occur twice in his own work, where the women had been delivered safely, and their puerperium was complicated by septic fever. Supravaginal hysterectomy was done. The women got well, but in cutting down on the tumor it was found to be disintegrated and necrotic. As to the time of operation for these fibroid tumors, he thought surgeons ought to tide the cases along until the child reached the period of viability—got as near the full term of gestation as possible—and then do a Cesarean section and supravaginal amputation of the uterus.

Dr. ERNEST C. LEWIS, of New Orleans, mentioned the case of a woman, five months pregnant, who had a fibroid attached to the body of the uterus and filling about one half of the pelvis. It was not suspected until it caused pressure symptoms and pain. Her family physician sent for him, and a fibroid which could not be pushed above the brim of the pelvis was diagnosed. The cervix was pressed against the symphysis pubis. The abdomen was opened, the tumor enucleated from the back portion of the uterus, the abdomen closed, and the patient made an uneventful recovery, went to full term, and was delivered by her family physician with forceps. He referred to another case in which the woman was more advanced in pregnancy.

Dr. J. WISNEY BOWER, of Washington, thought there were a great many women who would go to full term and be delivered naturally with fibroid tumors of the uterus, so that he thought we could not lay down any fast rule that would apply to ex-



ery case. Each case was to be considered individually. If any operation was to be done, it was well to follow the plan Dr. Fry mentioned. The speaker was loath, however, to do a myomectomy where the growth was intimately connected with the body of the uterus, as he felt it would be apt to induce abortion. The case of Dr. Boldt impressed him as being unique from the fact that an operation was done to prevent abortion, and abortion did not occur, although it was threatened before the operation was done. As a rule, he would expect the opposite to be the case, and he doubted whether surgeons could follow Dr. Boldt's plan as a routine measure. In a number of cases he had done myomectomy without interference with pregnancy.

Dr. GEORGE BEN JOHNSTON, of Richmond, believed that when fibroids could be removed early in pregnancy, this should be done, but unfortunately many of the cases did not come to the surgeon until a stage of pregnancy had been reached when this could not be safely done. When a pregnancy was known to exist and was complicated by fibroids, such a patient should be closely watched, so that a prompt operation might be performed if necessary. In this way the rights of the unborn child could be respected, and it was not uncommon for such a pregnancy to go on to the period when the child was viable. He had had experience in fifteen cases in which he had operated for fibroids complicating pregnancy. But his experience had been doleful in the matter of saving the children. He had not had a fatality among the mothers, but had been able to save only one child out of these fifteen cases.

**The Treatment of Dislocation of the Shoulder Joint Complicated with Fracture of the Upper Extremity of the Humerus.**—Dr. J. M. MASON, of Birmingham, reported the case of a man who had sustained a subcoracoid dislocation of both shoulders with fracture of the surgical neck of the right humerus. The left shoulder was reduced by the Kocher method, and the right was treated by arthrotomy and reduction six hours after the receipt of the injury. The fracture was wired and primary union was secured. A perfect result was obtained, and the patient had neither atrophy, pain, nor weakness in the arm, and there was no restriction of motion in any direction. A comparison of the results in the shoulder subjected to operation with those where simple reduction of the uncomplicated dislocation was practised showed no difference.

The author's conclusions were: 1. Every dislocation of the shoulder associated with fracture of the upper extremity of the humerus was a grave injury and was likely to result in serious impairment of function if not promptly treated. 2. Every such injury should be subjected to x ray examination for accuracy in diagnosis. 3. Gentleness should characterize all manipulative efforts at reduction, and these should not be carried to the point of bruising or lacerating the tissues. 4. Excision should be practised only where open arthrotomy had failed, where there was extensive comminution of the upper extremity of the humerus, or where, in fracture at the anatomical neck, the condition of the upper fragment did not justify a reasonable expectancy of its uniting. 5. After reduction, the broken greater tuberosity should be nailed down if the case was recent, and should be removed if it caused impairment of function in an

old case. 6. In failure to reduce by manipulation, immediate arthrotomy with reduction of the dislocation, followed by appropriate treatment for the fracture, had given the best results and was the ideal method of treatment. 7. Rigid asepsis was essential in securing good results, and these operations should not be undertaken where this could not be carried out.

(To be continued.)

## Letters to the Editors.

### PRACTICAL AND SCIENTIFIC NEUROLOGY.

CHICAGO, December 12, 1907.

To the Editors:

Neurology as a branch of scientific biology and neurology as a department of medical practice are still widely apart. This is obvious enough to any one who follows the literature of both.

Take as a ready, though perhaps not the best, illustration the book reviews that appear in the high class journals. Note how sharply separated are the reviews of the clinical works from those of the works devoted to pure science. In practically all of the periodicals devoted to physiology, comparative anatomy, and psychology the newer works upon nervous diseases and psychiatry are wholly ignored; or, if they are reviewed therein at all, only those parts of the book are criticised that touch upon pure physiology, anatomy, and psychology. In a sense, this of course is as it should be; but I, for one, should like to read now and then a careful and honest review of a book upon nervous diseases by a capable critic whose training had been wholly, or almost wholly, in the pure biological sciences. I fancy such a one would have some amusing and not unprofitable things to say about some of the unphysiological, unscientific, and altogether unwarranted deductions occasionally indulged in by the teachers and writers trained only in clinical medicine. Some of the crude deductions of the pathologists also would be easily shattered, I am sure, by such a critic.

On the other hand, while the magazines devoted to clinical neurology are more frank to review the newer works upon neurophysiology and neurobiology generally than are the magazines devoted to pure science to review the newer works upon clinical neurology, such reviews, as a rule, are woefully flat and inadequate, and reveal often in a most glaring manner the critic's unfamiliarity with the latest authoritative teachings of experimental and comparative neurology. Did space and courtesy permit, one could easily quote from some recent reviews and authoritative scientific works matter sufficient to make a long series of parallel paragraphs showing the contradictions and misstatements upon the part of the reviewer indicative of a lamentable ignorance in one who pretends to so exalted and delicate a position as that of critic.

Often have I wondered what the net result would be if by some miracle the investigators and writers in the field of pure biology and biophysiology could be made to study clinical neurology for one year, and if all the clinicians, pathologists, and writers in the realm of neurological practice could be forced to study for the same length of time the pure bio-



logical sciences, including psychology. I have a notion that were such a miraculous event to be brought about, a large part of our present literature upon neuropathology, clinical neurology, and practical phychiatry would undergo immediate and extensive revision, if it was not wholly assigned to the limbo of oblivion.

As there is not the remotest hope of such a surprising event occurring, the confusion and resultant pessimism that are so prevalent in the rank and file of the profession in connection with the diseases of the nervous system, which, in my opinion, are largely due to the state of affairs intimated above, might be dissipated to a very considerable extent if the medical schools would teach more scientific biology and physiopathology along with practical neurology.

L. HARRISON METTLER.

#### RIDING ASTRIDE BY WOMEN.

MOUNT HOLLY, N. J., December 16, 1907.

To the Editors:

In answer to Dr. E. H. Bidwell's inquiry in the last week's issue, regarding fashion having more weight than the opinion of physicians, I would say that it is the general opinion among the physicians with whom I associate that the fashion of riding astride has not had its origin in fad so much as it has in the advice of physicians of our modern type.

That this method caused a greater frequency of uterine trouble than the side saddle method it would be hard to explain.

The fact that a person riding astride can have more freedom from jar and jolt than one riding on a side saddle should be a point in favor of the astride method, aside from the facts of it being safer and easier for the rider. The fact that it might be considered immodest by those who are not familiar with the astride method of riding is no reason why it should be condemned. The main reason why it is becoming more popular is because physicians in general see its good points over the old method and are thus advising it.

H. R. FARINGER.

#### NEUROLOGICAL HOSPITALS.

1009 CHESTNUT STREET,  
PHILADELPHIA, December 26, 1907.

To the Editors.

In the issue of your journal for December 21st there is an editorial on the establishment of a neurological hospital on Blackwell's Island. This article is written in the interest of what I believe should be regarded as one of the most important and most beneficent movements ever contemplated or consummated by the great city of New York. The writer of your editorial, however, while showing an admirable knowledge of what has been done abroad in the interests of sufferers from diseases of the nervous system and for the advancement of scientific neurology, exhibits at the same time an extraordinary lack of information of what has been done in his own country. He speaks of this neurological hospital on Blackwell's Island as "practically the first of its kind in this country," while calling attention to the Salpêtrière and Bicêtre hospitals of Paris.

Apparently the writer is entirely unacquainted with the fact that no less than thirty years ago a department for the study and treatment of nervous diseases was established in connection with the Philadelphia Hospital and Almshouse. It is the more remarkable that this lack of information should exist when it is remembered that the neurological department of the Philadelphia Hospital has been visited by most of our confrères in New York.

In the *Journal of Nervous and Mental Disease* for June, 1904, in a History of Neurology in Philadelphia from 1874 to 1904, is given a brief account of the origin and development of the neurological department of the Philadelphia Hospital, and in an article in the *Philadelphia Hospital Reports*, vol. v, 1902, a more extended history of this department will be found. To these articles I would refer your writer and any others who might chance to be interested in the matter. The number of patients in this neurological hospital is now about four hundred; it is expected that in a short time this number will reach five hundred and more. It may be worthy of note that many of the articles contributed to the neurological journal above referred to during the last two decades have been based upon the study of clinical and pathological material obtained from the wards of this hospital.

The wards of the neurological department of the Philadelphia Hospital have been visited by neurologists from all parts of our own country and from many foreign countries, including Great Britain, France, Germany, Italy, Switzerland, and Russia; these visitors in almost every instance have compared these wards favorably with those of the Salpêtrière and Bicêtre.

In Philadelphia there is another hospital for nervous diseases, which might perhaps have received at least passing notice from a writer interested in the foundation of a new American neurological institution. This is the Orthopedic Hospital and Infirmary for Nervous Diseases, which was founded in 1867, ten years before the nervous wards of the Philadelphia General Hospital, and has now grown into an institution of large proportions, where all forms of nervous disease, acute and chronic, are studied and treated. It may be said, however, that this great hospital and infirmary is not exactly like that which is contemplated in New York, which presumably will develop more or less upon the lines of the neurological department of the Philadelphia Hospital.

I trust that in your valuable journal, which represents in its title both New York and Philadelphia, you will give place for this brief statement of facts, that neither any of your contributors nor any of your readers may longer remain in ignorance of the fact that we have had for more than thirty years in Philadelphia at least two neurological hospitals worthy of the name, and that it may not appear that hospitals, like prophets, are not without honor save in their own country and among their own kin.

It gives me pleasure, in behalf of my colleagues of the neurological staff of the Philadelphia Hospital, to extend an invitation to any of those interested in the establishment of the new neurological hospital in New York to visit our institution and study its workings.

CHARLES K. MILES.

## Book Notices.

*Surgery: Its Principles and Practice.* By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M. D., LL. D., Professor of the Principles of Surgery, Jefferson Medical College, Philadelphia. Volume II. With 572 Text Illustrations and 9 Colored Plates. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 920. (Price, \$7.)

In this second volume Dr. E. H. Nichols is the author of the chapter on diseases of the bones; Dr. D. N. Eisendrath has written the chapters on fractures and dislocations; Dr. R. W. Lovett has prepared the chapters on the surgery of the joints and orthopaedic surgery; Dr. J. F. Binnie is the author of the chapter on the surgery of the muscles, tendons, and bursæ; Dr. F. H. Gerrish has furnished that on the surgery of the lymphatic system; Dr. J. A. Fordyce has contributed that on the surgery of the skin; Dr. W. G. Spiller has written that on the pathology of the chief surgical disorders of the nervous system; Dr. G. Woolsey has prepared those on the surgery of the nerves and the surgery of the spine; Dr. F. X. Dercum has contributed that on traumatic neurasthenia, traumatic hysteria, and traumatic insanity, and J. C. DaCosta has furnished that on surgery among the insane and the surgery of insanity.

Each of the subjects is treated admirably, the text is well illustrated, and the volume is a fit companion to its excellent predecessor.

*A Textbook of Mental and Sick Nursing.* Adapted for Medical Officers and Nurses in Private and Public Asylums. By ROBERT JONES, M. D., B. S. Lond., F. R. C. S. Eng., F. R. C. P. Lond., Resident Physician and Superintendent of the London County Council's Asylum, Claybury, etc. With an Introduction by Sir WILLIAM JOE COLLINS, M. D., M. S., B. Sc. Lond., F. R. C. S. Eng., M. P., D. L., J. P., Vice-Chancellor of the University of London, etc. London: The Scientific Press, Limited, 1907. Pp. 222. (Price, 3s. 6d.)

The author has had a wide experience in the treatment of mental disorders, and as superintendent of one of the largest of London's county asylums is daily brought in contact with the type of questions constantly arising in this branch of medicine. While mental disease is to be considered first, last, and always as bodily disease, in no wise different in principle from any other disease to which flesh is heir, yet certain features of the nursing of mental cases make it desirable to issue works of this kind.

This volume is formed of the substance of a series of lectures delivered by the author at Claybury, which have from time to time appeared in the columns of the *Hospital*. They show the author's point of view to be that held by leading men throughout the world, that to be a good nurse or attendant on the insane it is requisite to be a good general nurse and something more. He emphasizes, and wisely so, the fact that certain qualities of knowledge and character, certain qualities of mind and of heart, are not less but more essential than is the case with the general nurse.

To this end he assumes a certain knowledge and then discusses in some twenty-four chapters the special features which need emphasizing when one is called upon to treat the insane, the feeble minded, and the epileptic.

We can commend it as a convenient and compact

manual, well written and filled with practical suggestions.

*The Reduction of Cancer.* By the Hon. Rollo Russell. London and New York: Longmans, Green & Co., 1907. Pp. 62.

The author believes that the origin and increase of cancer are to be attributed to the habit of excessive meat eating, the abuse of alcohol, and the overindulgence in tea, coffee, and tobacco among civilized peoples. This view is apparently supported to some extent by a consideration of the geographical distribution of cancer and by an ingenious use of quotations and opinions of medical authorities which have been in some cases at least strained to bear the interpretation the writer gives them. We believe we are quite within the mark in saying that any competent scientific investigator would hesitate to draw from such meagre data the sweeping conclusions indicated in the little book.

*A Manual of Clinical Diagnosis by Means of Microscopical and Chemical Methods.* For Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, B. A., M. D., Professor of Clinical Pathology at the Baltimore Medical College, etc. Sixth Edition, Thoroughly Revised. Illustrated with 177 Engravings and 24 Plates in Colors. Philadelphia and New York: Lea Brothers & Co., 1907. Pp. xix-17 to 682.

Dr. Simon has introduced a great amount of new material into the sixth edition of his *Clinical Diagnosis*. It is about ten years ago that the first edition was published, and since that time many new discoveries in medicine have been made and many new theories advanced. The author has well adapted his book to the advances of our science. In this edition we find a new chapter on the opsonins, with a full description of the technique, in which Dr. Simon's experience as a pioneer worker will certainly prove of value. Two appendices have also been added, the first dealing with the preparation of culture media, the second representing an outline of a course in clinical laboratory methods.

The illustrations are well executed. It is usually a stumbling block for the artist to represent his objects in natural colors. The difference between the natural object and the object as depicted in the illustration is often so great as to make recognition impossible. Not so in our book. The *nuances* are well selected, giving a true gradation of the fine differences of shade in colors. The author mentions Mrs. Simon as the painter of most of the illustrations.

*Fiske Fund Prize Dissertation. No. L. Diet in Typhoid Fever.* By JOHN BENJAMIN NICHOLS, M. D. Providence: Snow & Farnham Company, Printers, 1907.

In his prize essay the author presents an excellent historical sketch of feeding in fevers from the earliest times, and there is a careful analysis of the entire subject of metabolism in typhoid based upon the original authorities, with a comparison of different food values, and in conclusion a plea is made for the adoption of a more liberal diet in typhoid fever, and to it we give our decided assent.

*Synonymik der Dermatologie.* Von DR. JOHANNES FICK, Wien. Wien und Leipzig: Alfred Holder, 1906. Pp. 68.

The little pamphlet is a practical reference book for dermatologists, especially those using the German language. It is arranged alphabetically, the explanations to be found under the Latin name, to

which cross references of English, French, and German nomenclature refer.

*Annales de la Société royale des sciences médicales et naturelles de Bruxelles.* Soixante-huitième année. Tome xvi, Fasc. i et 2. Bruxelles: Henri Lamertin, 1907. Pp. 345.

This volume of the *Annales* contains four interesting essays: 1. A contribution to the Study of Ruptures of the Gravid Uterus and to the Physiology of the Trophoblast, by Bouffart and Delporte. 2. The Influence of the Peptones on the Functions of the Kidneys, by George Hendrik. 3. Experiments with Salts upon the Pancreatic Juice, by Edgard Zunz. 4. The Action of Camphor and Oxycamphor upon the Heart of the Turtle after Extirpation, by Adrien Lippens.

#### BOOKS, PAMPHLETS, ETC., RECEIVED.

*Practical Anæsthetics.* By H. Edmund G. Boyle, M. R. C. S., L. R. C. P., Assistant Anæsthetist to St. Bartholomew's Hospital, etc. London: Henry Frowde and Hodder & Stoughton, 1907. Pp. viii-178.

Abel's Laboratory Handbook of Bacteriology. Translated from the Tenth German Edition, by M. H. Gordon, M. A., M. D. (Oxon.), B. Sc., with Additions by Dr. A. C. Houston, Dr. T. J. Horder, and the Translator. London: Henry Frowde and Hodder & Stoughton, 1907. Pp. x-224.

Die Praxis der Hautkrankheiten. Unna's Lehren für Studierende und Aerzte, zusammengefasst und dargestellt von Dr. Iwan Bloch, Berlin. Mit einem Vorwort von Dr. P. G. Unna in Hamburg. Mit 92 Abbildungen. Berlin und Wien: Urban & Schwarzenberg, 1908. Pp. 698.

Les Homosexuels de Berlin. Par le Dr. Magnus Hirschfeld. Paris: Jules Roussel, 1908. Pp. 103.

Schema des Rumpfes. Von Privatdozent Dr. W. Hildebrandt, Freiburg i. B. Taschenausgabe. München: J. F. Lehmann, 1908.

Les Ferments métalliques et leur emploi en thérapeutique. Par Professeur Albert Robin, membre de l'Académie de Médecine. Paris: J. Rueff, 1907. Pp. 252.

Traitement de la tuberculose par la paratoxine basé sur l'action antitoxique du foie. Par E. Gérard, professeur de pharmacie et de pharmacologie, and G. Lemoine, professeur de clinique médicale à l'Université de Lille.

Traité clinique des maladies de l'estomac. Par le Dr. Lucien Pron (d'Alger). Paris: Jules Roussel, 1908. Pp. 417.

Die tierischen Parasiten des Menschen. Ein Handbuch für Studierende und Aerzte. Von Dr. Max Braun, o. ö. Professor der Zoologie und vergl. Anatomie, etc. Mit 325 Abbildungen im Text. Vierte, vermehrte und verbesserte Auflage. Mit einem klinisch-therapeutischen Anhang. Bearbeitet von Prof. Dr. Otto Seifert in Würzburg. Würzburg: Curt Kabitzsch (A. Stuber), 1908. Pp. 623.

Traité pratique d'hypnotisme et de suggestion thérapeutiques. Procédés d'hypnotisation, simples, rapides, inoffensifs. A l'usage des médecins, pharmaciens, professeurs, instituteurs et des gens du monde. Par M. Géraud Bonnet, docteur en médecine de la Faculté de Paris, etc. Deuxième édition. Paris: Jules Roussel, 1907. Pp. 320.

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, United States Public Health and Marine Hospital Service, during the week ending January 3, 1908:

Cases.	Deaths.	Cases-Deaths.
California—Los Angeles.....	Dec. 15-21.....	0 3
California—San Francisco.....	Dec. 18-23.....	0 0
District of Columbia—Washington.....	Dec. 1-2.....	0 0
Florida—Tallahassee.....	Dec. 1-2.....	0 0
Illinois—Chicago.....	Dec. 2-8.....	0 0

Illinois—Springfield.....	Dec. 13-19.....	9
Indiana—Indianapolis.....	Dec. 10-22.....	1
Indiana—Lafayette.....	Dec. 17-23.....	2
Kansas—Wichita.....	Dec. 15-21.....	5
Kentucky—Covington.....	Dec. 15-21.....	1
Maryland—Baltimore.....	Dec. 22-28.....	1
Massachusetts—Boston.....	Dec. 15-21.....	1
Massachusetts—Fall River.....	Dec. 22-28.....	1
Michigan—Saginaw.....	Dec. 15-21.....	14
Minnesota—Winona.....	Dec. 15-21.....	1
Missouri—St. Louis.....	Dec. 15-21.....	1
Nebraska—Nebraska City.....	Dec. 8-21.....	2
New York—New York.....	Dec. 15-21.....	3
New York—Niagara Falls.....	Dec. 15-21.....	1
New York—Syracuse.....	Dec. 15-21.....	1
North Carolina—Greensboro.....	Dec. 15-21.....	1
Ohio—Cincinnati.....	Dec. 21-27.....	2
Pennsylvania—Erie.....	Dec. 20-26.....	2
Tennessee—Knoxville.....	Dec. 15-21.....	2
Tennessee—Nashville.....	Dec. 15-21.....	00
Texas—San Antonio.....	Dec. 15-21.....	1
Washington—Tacoma.....	Dec. 15-21.....	4
Wisconsin—La Crosse.....	Dec. 15-21.....	3
Wisconsin—Milwaukee.....	Dec. 15-21.....	4

#### Smallpox—Foreign.

Africa—Algiers.....	Nov. 1-30.....	2
Argentina—Rosario.....	Sept. 1-30.....	3
Brazil—Bahia.....	Nov. 2-30.....	147
Brazil—Para.....	Dec. 1-2.....	9
Brazil—Rio de Janeiro.....	Nov. 18-24.....	37
Canada—Nova Scotia—Halifax.....	Dec. 15-21.....	1
Canada—Ontario Province.....	Dec. 19. Outbreak reported in several places.	
Canada—Belleville.....	Dec. 17-23.....	4
China—Shanghai.....	Nov. 18-24.....	5
Ecuador—Guayaquil.....	Dec. 1-2.....	4
France—Paris.....	Dec. 1-2.....	8
Germany—General.....	Nov. 17-23.....	1
India—Calcutta.....	Dec. 1-2.....	2
Japan—Kobe.....	Nov. 21-27.....	23
Japan—Yokohama.....	Nov. 28-Dec.....	1
Japan—Mita.....	Dec. 1-2.....	1
Mexico—Aguas Calientes.....	Dec. 9-15.....	3
Panama—Colon.....	Dec. 8.....	1
Peru—Callao.....	Nov. 20-20.....	1
Russia—Moscow.....	Nov. 24-30.....	4
Russia—Odessa.....	Nov. 24-30.....	4
Spain—Adiz.....	Nov. 1-30.....	8
Spain—Madrid.....	Nov. 1-30.....	1
Spain—Valencia.....	Dec. 2-8.....	31
Turkey in Asia—Bagd.....	Nov. 3-10.....	80

#### Cholera—Foreign.

India—Calcutta.....	Nov. 17-23.....	108
India—Rangoon.....	Nov. 11-23.....	16
Japan—Osaka.....	Dec. 3.....	5
Japan—Bakur.....	Nov. 27.....	1
Japan—Kanagawa.....	Dec. 1-2.....	4
Japan—Kobe.....	Nov. 18-23.....	7
Japan—Nagasaki.....	Nov. 18-24.....	1
Japan—Tokushima.....	To Nov. 27.....	27
Japan—Yokohama.....	To Oct. 27 Nov. 2.....	5
Russia—General.....	Nov. 7-12.....	225
Russia—Kief.....	Nov. 19-23.....	14

#### Yellow Fever—Foreign.

Brazil—Para.....	Dec. 1-7.....	16
Brazil—Rio de Janeiro.....	Nov. 18-24.....	2
Cuba—Havana Province—Guantanamo.....	Dec. 23-27.....	1
Cuba—Santa Clara Province.....	From Hialeah.....	1
Cienfuegos.....	Dec. 23-31.....	2
Cuba—Palmaria.....	Dec. 31.....	1
Ecuador—Guayaquil.....	Dec. 1-2.....	1
West Indies—Bridgetown.....	Dec. 4-14.....	1

#### Plague—United States.

California—San Francisco.....	Dec. 26-27.....	2
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#### Plague—Foreign.

Brazil—Bahia.....	Nov. 2-30.....	18
Brazil—Rio de Janeiro.....	Nov. 18-24.....	1
India—General.....	Nov. 9-15.....	8,361
India—Calcutta.....	Nov. 17-23.....	29
Japan—Osaka.....	Nov. 17-23.....	54
Peru—Lima.....	Nov. 2-30.....	1
Peru—Paita.....	Nov. 2-30.....	1
Peru—Pisco.....	Nov. 2-30.....	1
Peru—Tucumán.....	Nov. 2-30.....	1

#### Army Intelligence:

Official list of changes in the status and duties of officers serving in the medical department of the United States Army for the week ending January 4, 1908:

BROWN, O. G., Assistant Surgeon. Relieved from further temporary duty at Jefferson Barracks, Mo., and ordered to return to his proper station, Fort Robinson, Neb.

CROSBY, W. D., Major and Surgeon. Appointed a member of a board of officers to meet at the Army Medical Museum Building in Washington, D. C., for the examination of such officers of the medical department



as may be ordered before it to determine their fitness for advancement or promotion.

DUNCAN, L. C., Captain and Assistant Surgeon. Granted four months' leave of absence with permission to go beyond the sea.

FLAGG, C. E. B., Captain and Assistant Surgeon. Relieved from duty at Fort Creek, Neb., and ordered to the Philippine Islands for duty on transport to sail from San Francisco, Cal., about February 5, 1908.

GREENLEAF, H. S., Captain and Surgeon. Relieved from duty in the Philippine Islands, and ordered to proceed on the transport to sail from Manila, on or about March 15, 1908, to San Francisco, Cal.; upon arrival will report by telegraph to the Adjutant General of the Army for further orders.

MCCAW, W. D., Major and Surgeon. Appointed a member of a board of officers to meet at the Army Medical Museum Building in Washington, D. C., for the examination of such officers of the medical department as may be ordered before it to determine their fitness for advancement or promotion. Appointed a member of a board to meet in Washington, D. C., for the purpose of conducting such experiments as may be necessary regarding the efficiency of the Darnall filter for the purification of water, and its adaptability to the use of troops in the field.

MORRIS, E. R., Major and Surgeon. Appointed a member of a board to meet at Jeffersonville, Ind., for the examination of such officers of the quartermaster's department as may be ordered before it to determine their fitness for promotion.

MUNSON, E. L., Major and Surgeon. Appointed a member of board to meet at Jeffersonville, Ind., for the examination of such officers of the quartermaster's department as may be ordered before it to determine their fitness for promotion.

OWEN, L. J., First Lieutenant and Assistant Surgeon. Upon expiration of his present leave of absence, will proceed to Columbus Barracks, Ohio, for duty.

POWELL, J. L., Major and Surgeon. Leave of absence extended ten days.

RICHARDS, R. L., First Lieutenant and Assistant Surgeon. Ordered to report in person on January 14, 1908, to Major W. D. Crosby, surgeon, president of the examining board, Washington, D. C., for examination to determine his fitness for advancement.

RUSSELL, F. F., Major and Assistant Surgeon. Appointed a member of a board to meet in Washington, D. C., for the purpose of conducting such experiments as may be necessary regarding the efficiency of the Darnall filter for the purification of water, and its adaptability to the use of troops in the field.

SHIMER, I. A., Captain and Surgeon. Ordered to report in person on Tuesday, January 7, 1908, to Major William D. Crosby, surgeon, president of the examining board, Army Medical Museum, Washington, D. C., for examination to determine his fitness for promotion. Relieved from duty as attending surgeon in New York City, and ordered to the Philippine Islands for duty, to sail from San Francisco, Cal., about February 5, 1908.

WILLIAMS, A. W., Captain and Assistant Surgeon. Relieved from duty in the Philippine Islands, and will proceed on the transport to sail from Manila on or about March 15, 1908, to San Francisco, Cal., and upon arrival report by telegraph to the Adjutant General of the Army for further orders.

WINTER, F. A., Major and Surgeon. Appointed a member of a board of officers to meet at the Army Medical Museum Building in Washington, D. C., for the examination of such officers of the medical department as may be ordered before it to determine their fitness for advancement or promotion.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending January 4, 1908:*

DESSEZ, P. T., Assistant Surgeon. Detached from the Naval Hospital, Boston, Mass., and ordered to the naval recruiting station, Kansas City, Mo.

MICHELIS, R. H., Passed Assistant Surgeon. Detached from the naval recruiting station, Kansas City, Mo.

SELLERS, F. E., Assistant Surgeon. Detached from the Wilmington and ordered to the Naval Hospital, Annapolis, Md.

## Births, Marriages, and Deaths.

### Married.

DAVENPORT—MILLS.—In Rochester, New York, on Wednesday, January 1st, Dr. Howard Irving Davenport, of Canandaigua, and Miss H. Helena Mills.

HEIMANN—DAVISON.—In New York, on Wednesday, January 1st, Dr. Walter James Heimann and Miss Heloise Davison, daughter of Dr. David H. Davison.

LANGE—RICK.—In Pittsburgh, Pennsylvania, on Monday, December 23d, Dr. J. C. Lange and Mrs. Edith Rick.

MALONE—FRANZONI.—In Washington, D. C., on Saturday, December 28th, Dr. Wilson P. Malone and Miss Edith Elizabeth Franzoni, daughter of Dr. Joseph D. Franzoni.

SCOTT—LAYCOCK.—In Bethel, Ohio, on Wednesday, December 25th, Dr. J. C. Scott and Miss Leona Laycock.

SELLERS—LOSEY.—In Louisville, Kentucky, on Wednesday, December 25th, Dr. Harry W. Sellers and Miss Ethel Losey.

WOODFORD—CROGHAN.—In Washington, D. C., on Thursday, December 26th, Dr. William G. Woodford and Miss Beatrice Anne Croghan.

### Died.

AUSTEN.—In New York, on Tuesday, December 31st, Peter Townsend Austen, Ph. D., aged fifty-five years.

BANKS.—In Oak Forest, Cumberland County, Virginia, on Monday, December 23d, Dr. J. L. Banks.

BLAKE.—In Tampa, Florida, on Thursday, November 28th, Dr. B. F. M. Blake, of Brooklyn, aged fifty-two years.

BOICE.—In Denver, Colorado, on Saturday, December 28th, Dr. John Boice, aged sixty-eight years.

BOWEN.—In Buffalo, New York, on Saturday, December 28th, Dr. Clara E. Bowen, aged forty-seven years.

BURGESS.—In Huntington, Long Island, on Friday, December 27th, Dr. Frederick Wells Burgess, aged eighty-six years.

COTTRELL.—In Boston, Massachusetts, on Saturday, December 28th, Dr. W. J. Cottrell, aged thirty-six years.

CROOK.—In Glenwood Springs, Colorado, on Tuesday, December 24th, Mrs. Olive W. Crook, wife of Dr. W. W. Crook.

EAGER.—In Louisville, Kentucky, on Saturday, December 28th, Dr. Benjamin F. Eager, aged fifty-nine years.

EGELHOFF.—In Chicago, on Friday, December 27th, Dr. William C. Egelhoff, aged thirty-five years.

HAMILTON.—In Peoria, Illinois, on Sunday, December 29th, Dr. William R. Hamilton, aged ninety-two years.

HARDENBERG.—In Jersey City, New Jersey, on Tuesday, December 31st, Dr. Daniel S. Hardenberg, aged sixty-seven years.

HAYES.—In Buffalo, on Thursday, December 26th, Dr. W. Carlos Hayes, aged fifty-six years.

HIGGINS.—In Glendale, Missouri, on Wednesday, December 25th, Dr. Richard M. Higgins, aged sixty-five years.

HUMES.—In Upper Marlboro, Maryland, on Tuesday, December 24th, Dr. Mareen D. Humes, aged fifty-seven years.

JEWETT.—In Cohat, Connecticut, on Friday, January 3d, Dr. Levi Jewett, aged seventy-three years.

MARSHALL.—In Chicago, on Monday, December 23d, Dr. David Marshall, of Florence, Kentucky, aged twenty-four years.

MARSHALL.—In Bedford City, Virginia, on Friday, December 27th, Dr. Thomas H. Marshall, aged seventy-two years.

PIERCE.—In Newburgh, New York, on Sunday, December 29th, Dr. Louis R. Pierce, aged forty-one years.

REULING.—In Baltimore, Maryland, on Saturday, December 28th, Dr. Robert C. Reuling, son of Dr. George Reuling, aged thirty-five years.

SCHUGENS.—In Buffalo, New York, on Wednesday, December 25th, Dr. M. Elizabeth Schugens.

SENN.—In Chicago, on Thursday, January 2d, Dr. Nicholas Senn, aged sixty-three years.

SMITH.—In Frankton, Virginia, on Monday, December 30th, Dr. Charles Smith, aged seventy-two years.

SMITH.—In Richmond, Virginia, on Friday, December 27th, Dr. Robert F. Smith, aged sixty-five years.

TAYLOR.—In New York, on Sunday, January 5th, Dr. Robert W. Taylor, aged sixty-five years.

WACHENDORF.—In Sioux Falls, South Dakota, on Saturday, December 28th, Dr. C. C. J. Wachendorf.

WILLIAMS.—In Peakes, Hanover County, Virginia, on Tuesday, December 31st, Dr. Thomas E. Williams.

## INCORPORATING THE

*A Weekly Review of Medicine, Established 1843.*

WHOLE No. 1520.

\*Revised list are the Model A and B. The model A is the model B with N = 1. October 20, 2000.

its most dependent portion. It is necessary to carry in mind which part of the loop is the upper and which the lower, as it must be attached in such manner that the peristaltic wave of the jejunum will travel in the same direction as that of the

very serious objection, it is true; the three bladed clamp, however, overcomes this objection and enables one to make the apposition precisely exact.

When the instrument is once in place it requires no further attention and hence eliminates to some extent the assistants' hands. The organs being in



FIG. 2.—Two clamps holding segments of stomach and intestine in place, ready for anastomosis. The clamps are covered with rubber tubes. The concavity of the clamps does not show in the drawing, as we stand directly in front of the concave side. The tying together of the clamps is not represented in the figure.

place, our territory is first well surrounded by gauze, and then we proceed to the suture, which consists of an outer, seromuscular suture and an inner row through all the coats. Some prefer a triple layer, dividing the inner row into two subdivisions, one suture taking mucosa only, the other, serosa and muscularis.

I shall describe the method of suture in two rows. Beginning at one end we insert a continuous silk

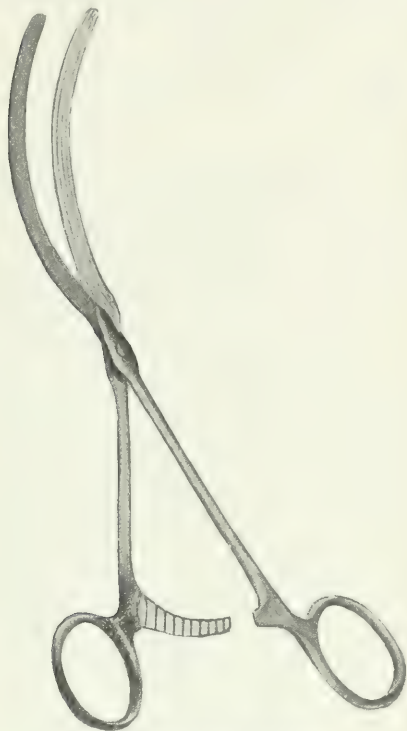


FIG. 1.—Krause's clamp for anastomosis.

stomach; in other words, the oral part of the loop should be on the left side. The anastomosis should be about three inches long, if possible. It is usually made nowadays with the aid of long curved clamps (Fig. 1). One of these is made to clasp the segment of the stomach which is to enter into the anastomosis, the other the corresponding equally large segment of the jejunum (Fig. 2). These clamps are closed tightly enough to hold the organs firmly, but not so tightly as to crush them. The blades of the instrument are usually covered with rubber tubes. The clamps are then properly approximated and tied together so that they may not change their relative position to each other. Instead of two clamps, a single three bladed clamp may be employed, which holds both organs in proper apposition. The Roosevelt clamp (Fig. 3) is constructed to serve this purpose. I have used it quite a number of times and find it very efficient. In fact, it has advantages over the two bladed clamps. For instance, in tying the two bladed clamps together it is necessary to place the handles of the one on top of those of the other. In consequence of this the segments of stomach and intestine will not be in exactly the same plane, not a

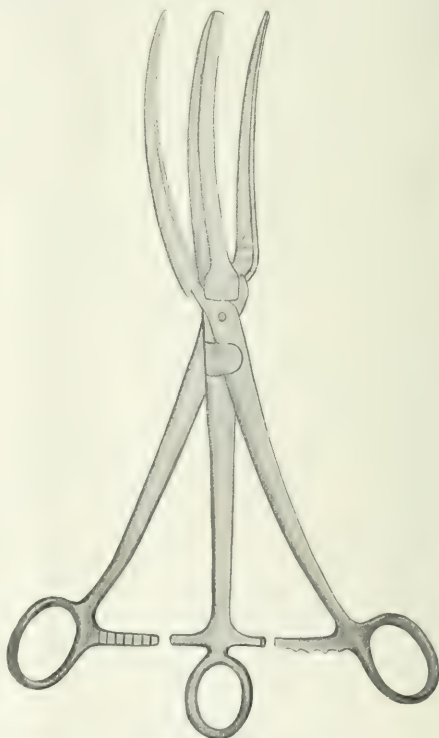


FIG. 3.—Roosevelt clamp.

suture, which is to be everywhere about one quarter inch distant from the proposed incisions into the two organs (Fig. 4). When the posterior half of the serous suture is completed, a clamp is applied to



the silk thread close to the viscus to prevent the meshes of the suture from loosening. Needle and thread are then covered so they will not be soiled during the next step, when the lumen of the stomach and of the intestine is opened. An incision is now made into the stomach and intestine; the cuts in

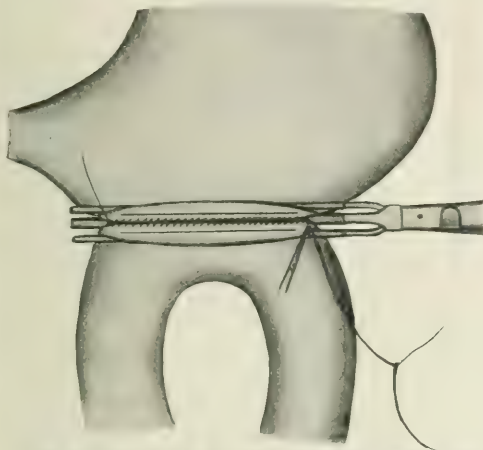


FIG. 4.—First half of the seromuscular suture inserted. The suture is represented as beginning on the left, its termination on the right being secured by a clamp to prevent it from loosening. The incisions into the stomach and intestine are indicated by lines above and below the suture. Notice that these incisions are shorter than the seromuscular suture. The two incisions are equal in length.

both organs being exactly equal in length are one quarter inch shorter at each end than the serous suture first applied. It is well to incise only the serous coat at first, because the clean cut into that layer will enable us to judge very easily whether the cuts are equal in length and in proper relative position. The incisions are now deepened down to the mucosa, which is then incised. In the case of the intestine the mucosa usually bulges somewhat, so that some prefer to excise the bulging portion. It is of the utmost importance for us to be conscious that at this stage of the operation our work ceases to be aseptic and that any instrument or

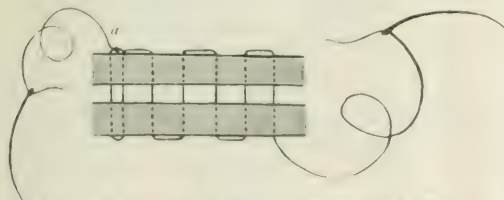


FIG. 5.—Application of the continuous mattress suture. The knot is at "a" both ends of the thread being armed with needles. In the diagram, in order to show how the stitches run, the sutures are represented as being separated; in reality, of course, they are brought into close apposition.

instrument that has come in contact with the mucosa of the opened organs is not to be used again for the aseptic part of the operation before being re-sterilized. The mucosa is wiped clean with a piece of gauze moistened with saline solution—some prefer a 2 per cent. lysol solution—and then we proceed to apply the second row of sutures, or, better,

a continuous suture, through all layers, employing for this purpose either an over and over suture or the mattress stitch (Fig. 5), the latter having my preference. In the diagram, in order to show how the stitches run, the surfaces are represented as being separated; in reality, of course, they are brought into close apposition. This suture is first applied to the posterior lips of the gastroenterostomy wound, which are already in perfect apposition, so that its performance is very simple. The suture is then continued along the anterior lips of the wound, where its application is not so easy. With a little ingenuity, however, and the knowledge that the serous coats must be brought into apposition, any one can readily figure out how the thread must run.

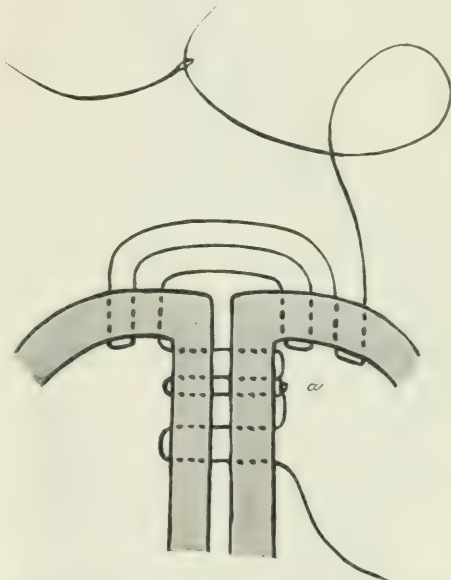


FIG. 6.—Continuous mattress stitch, showing how the corner is turned. To show the method the stitches are represented as being left loose; in the actual procedure each stitch is at once tightened. The knot is at "a"; observe that it is not placed at the angle and that, starting from it, the thread runs in both directions.

The accompanying diagram (Fig. 6) may help to illustrate the method with the use of the continuous mattress stitch, showing how the corner is turned. In the diagram, to show the method, the stitches are represented as being left loose; in the actual procedure each stitch is at once tightened. Only the last two or three stitches are not at once drawn close, as otherwise there would not be room enough to insert the needle at the mucous surface; hence, to continue the mattress stitch to the end, these last few stitches must be left loose till the sutures are all in place, when they are tightened and the suture is closed. Some to whom this is too troublesome finish up by one or two seromuscular sutures, inserted from the serous side; but a suture finished in this manner is not so perfect, as it is not so sure to control hemorrhage. Another point in the application of the suture is this: Most surgeons start the suture at one angle with, having

gone completely around, end up at that same angle. It seems to me that the adaptation at the angle is more perfect, if the knot at that place is eliminated. I therefore begin at some place other than the angle (compare Fig. 6, where the knot is not at the angle,



FIG. 7.—Diagram showing the condition at the anastomosis in case a vicious circle is produced. The distended oral loop presses upon the anal loop, almost occluding its lumen.

but near it), make my knot, leaving both ends long and arming each end with a needle, then going round part of the way with one needle and the other part with the other needle, the meshes of the first suture being meanwhile prevented from loosening by the application of a clamp. Thus I end up, not at one of the angles, but at the front surface of the united lips. The advantage of this is that the last stitches, the correct insertion of which is not quite simple, are placed at the most easily accessible part.

The anastomosis is now complete with the exception of the superficial portion of the seromuscular suture, the posterior half of which was inserted at the very beginning of the anastomosis and the loose end of which was held by a clamp to prevent the stitches from opening (Fig. 4). Before inserting the anterior half of this seromuscular suture, we must not forget that now the unclean part of the operation is completed. We therefore cleanse the last suture line with saline or lysol solution, remove the gauze compresses immediately surrounding the anastomosis, and replace them by clean ones. We change our gloves or cleanse them, we discard all soiled instruments, and then proceed with the consciousness that now again we are in position to do strictly aseptic work. Furthermore, the lumen of the gut being now closed, we no longer need the clamps. They are therefore removed, although, if desired, one blade may be left behind the anastomosis to prevent the organs from slipping back into the abdomen; if a strip of gauze has been first inserted between the two organs, as is usually done, this alone is sufficient to prevent slipping back. Then the anterior half of the seromuscular continuous suture is applied and knotted at the place where the first half began.

A complication that is occasionally encountered

after gastroenterostomy is the so called vicious circle. That is a condition in which the contents of the stomach, having passed through the pylorus, the duodenum, and the upper part of the jejunum to the gastroenterostomy opening, are stopped there, unable to get down into the intestine beyond the anastomosis. In consequence of this the intestine between the pylorus and the anastomosis becomes distended until its contents are regurgitated into the stomach and vomited. The obstruction at the anastomosis opening is usually brought on by the fact that the spur between the oral and anal loop is pressed toward the anal loop, closing its lumen (Fig. 7). This is more likely to occur when the anastomotic opening is small than when its dimensions are ample; for, where the attachment of intestine to stomach is extensive, the production of a sharp spur is avoided. Again, the vicious circle will be observed where the anastomosis is so placed that the stomach cannot easily empty itself through it, i. e., if the intestine is attached too high up on the stomach. In the third place, it is also more apt to occur when the pylorus is patent than when it is much constricted; in cases of excessive stenosis at the pylorus there is very little danger of a vicious circle being established, as all the chyme must leave the stomach through the gastroenterostomy opening.

These three causes for the production of a vicious circle suggest their own remedies. To avoid the first, the anastomotic opening should be made larger; to avoid the second, it should be placed at as low a part of the stomach as possible; two desiderata which were already mentioned in the description of the operation. To meet the third condition, that of a well open pylorus, it has been proposed to close the pylorus artificially by a ligature tied around it. A certain way, however, of pre-



FIG. 8.—Enteroenterostomy added to gastroenterostomy to prevent vicious circle.

venting this complication is to establish an anastomosis between the proximal and distal limbs of the loop used for gastroenterostomy (Fig. 8). Or else, as Roux prefers, we may divide the intestine completely at the place chosen for anastomosis, im-

planting the distal end into the stomach and the proximal end, by an end to side anastomosis, into the intestine below the gastroenterostomy opening (Fig. 9). The former of these two methods, being

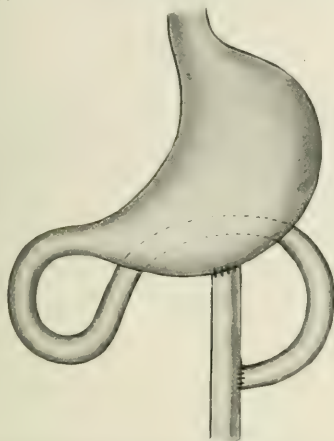


FIG. 9.—Roux's method to prevent a vicious circle. The intestine is divided completely; the distal end is implanted into the stomach, the proximal end into the distal portion of the intestine.

the easier to perform, is the one preferred by most surgeons.

To perform posterior gastroenterostomy the posterior wall of the stomach is exposed by turning upward the transverse colon and dividing the trans-

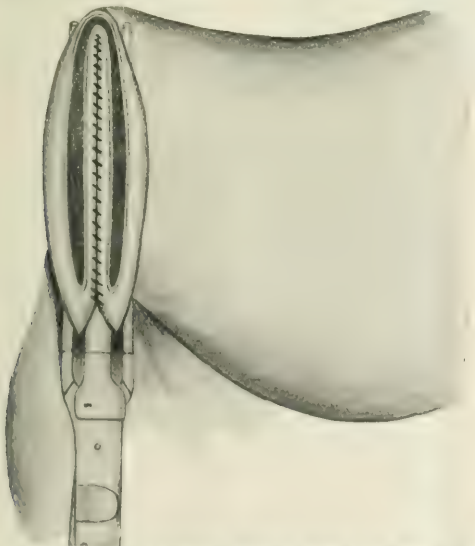


FIG. 10.—Operation, modified, showing the use of the three-bladed clamp. The first portion of the gastroenterostomy suture has been inserted, the organs are shown incised, ready for the deep-through and through suture.

verse mesocolon at a place where the vessels can be avoided. In this way the stomach is exposed. As for the jejunum, instead of selecting a place

about eighteen inches from the duodenojejunal fold, a place as high up as possible is chosen, so that practically the short piece of jejunum above the anastomosis does not form a loop at all, but lies close up against the stomach. If, in posterior gastroenterostomy, this method is adopted and a sufficiently large opening is established, the vicious circle is effectually avoided. The technique of the operation is the same as in anterior gastroenterostomy; but after the anastomosis is completed, the divided mesocolon should be attached by a few stitches to the intestine. This serves a double purpose; first, it affords an additional cover over the suture uniting stomach

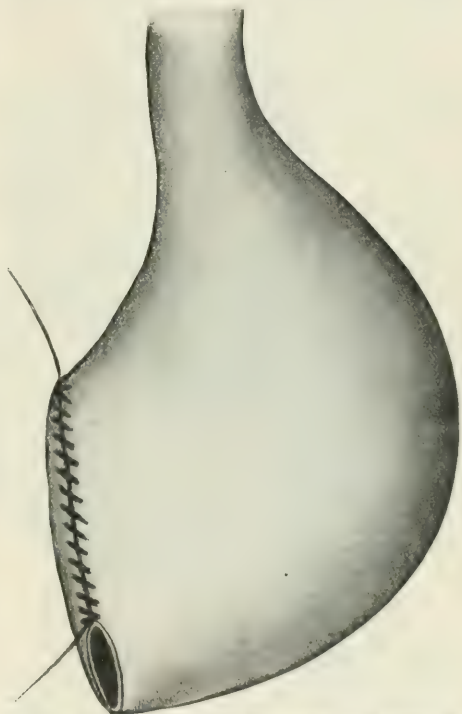


FIG. 11.—Stump of stomach after pyloroplasty. The stomach has been closed by suture except at its lowest part where the duodenum is to be joined to it.

and jejunum, and secondly, it prevents the possibility of an internal hernia through the mesocolon.

Although I have described the operation of anterior gastroenterostomy first and more extensively than posterior gastroenterostomy, I must state that the latter is my choice and that of most other surgeons, for it enables one better to reach a deep portion of the stomach than the anterior operation, and the possibility of pressure of the jejunum and the transverse colon on each other is avoided. It may, however, be impossible to perform posterior gastroenterostomy owing to extensive infiltration of the posterior wall of the stomach through carcinoma or otherwise. Again, posterior gastroenterostomy may be very difficult if the stomach is small and the posterior suture therefore cannot



be thoroughly brought forward. It is easy of performance if the stomach is dilated. The operation of posterior gastroenterostomy will therefore be found simpler if performed to relieve pyloric obstruction than if performed for gastric hæmorrhage without obstruction.

Kocher's gastroduodenostomy must also be mentioned as a method of anastomosis between stomach and intestine. It has the advantage of using the highest possible portion of the intestine for anastomosis. It should not be performed if there is infiltration or immobility of the pylorus or duodenum. It is also apt to be unsatisfactory in cases of extreme dilatation with atony, because in those cases

ready for insertion of the deep suture through all the layers.

Resection of the stomach is practised mainly for the removal of carcinoma and most frequently consists in an excision of the pyloric portion of the stomach, pylorotomy, much more rarely of an excision of other parts of the stomach. The condition which offers a chance of success is that the growth is circumscribed; the size of the tumor is less important. A case of successful removal of a carcinoma of the pylorus that was large enough to be distinctly seen through the abdominal wall, which I reported (*Medical Record*, June 6, 1906), is an instance to show that even a large tumor may be favorable for excision if only it is circumscribed. This latter point we will often be unable to determine before the abdomen is opened.

The operation is performed as follows: A short

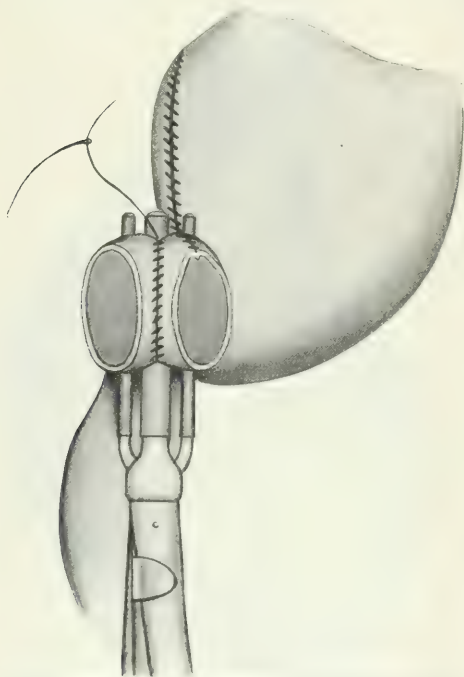


FIG. 12.—First and last turns of duodenum to stomach, after pylorotomy with the aid of the three bladed clamp. The deep portion of the seromuscular suture has been inserted.

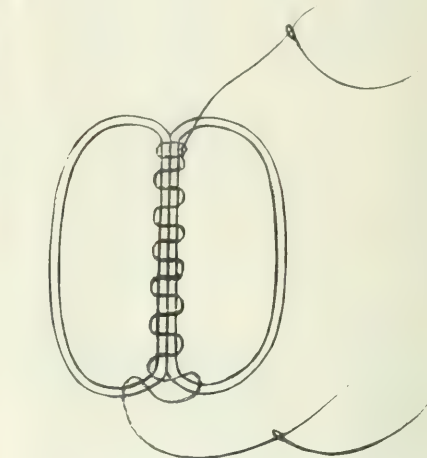


FIG. 13.—Next step after Fig. 12. Through and through mattress suture. The thread is armed with a needle at each end. At the lower portion the corner is being turned.

the anastomotic opening may be considerably higher than the greater curvature, and drainage would therefore be imperfect.

The operation for pyloroplasty is much less practised than formerly, as the functional results are not as satisfactory as those of gastroenterostomy. Pyloroplasty should not be performed if the pylorus is infiltrated or fixed. Of the various methods the best is Finney's operation, which affords a large opening, the incision extending so well into the stomach and the duodenum that the operation might well be classed as a gastroenterostomy. Fig. 10 represents a modification of Finney's operation showing the use of the three bladed clamp. The first portion of the seromuscular suture has been made, and the incision into the organs is shown,

median epigastric incision is first made for diagnostic purposes. It may appear after opening the peritoneal cavity that a resection is impossible. If we decide to do nothing, the incision is closed again. If a gastroenterostomy is decided upon, the incision is lengthened to four or five inches, and if we determine to perform a resection, it may be necessary to lengthen the incision to six or eight inches. In that case, the incision is prolonged downward into the mesogastrium by either going around one side of the umbilicus or by excising it. The pyloric portion of the stomach is drawn well forward, and the extent of the tumor, the extent to which the lymphatic glands are affected, and the intimacy of the adhesions are ascertained. At this time the question has to be decided whether it will be possible, after resecting amply in healthy tissues, to reunite the duodenum with the stomach without causing undue tension. If this is possible, then Billroth's first method or Kocher's method is performed. If it is not possible, the duodenum and the stomach are closed by suture, after the resection has been

done, and a gastroenterostomy is performed. A weak point in this latter method of operating is the suture closing the duodenum. It has not infrequently been found that the stomach contents, discharged through the anastomosis, have in part flowed into the ascending loop and caused so great a degree of tension that the suture at the duodenum was not able to withstand it. At any rate, notwithstanding the assertions of some that the suture is a safe one, peritonitis due to leakage at the duodenal suture has been found at autopsies. The accident could probably always be avoided if an enteroenterostomy between ascending and descending loops were made. According to Mikulicz, the safest closure of the duodenum is by a purse string suture.

Let us assume that the duodenum and stomach can be united after resection; and this is possible in most cases that are at all suitable for resection, especially if we follow Kocher's method of mobilizing the duodenum by incising the posterior parietal peritonæum over the right kidney in a line parallel

Accordingly, the duodenum should be resected at a distance of one inch from the tumor, the stomach about two to four inches from the tumor, depending upon the greater or less sharpness with which the border of the tumor is defined. To prevent the outflow of the contents of the stomach or intestine, appropriate clamps are applied at a distance of about an inch beyond the proposed site of the resection at the duodenum and stomach. The clamps are to compress the organs just sufficiently; they should not crush the tissues. The ends of the resected portion are also closed by clamps, before the division is made. The excision having been performed, the stomach is closed again by sutures, except at its lowest part, where the duodenum is to be united to it (Fig. 11).

This suture consists of two rows. The inner row, a continuous silk suture, is applied from within, beginning at the lesser curvature, going through all layers and inverting the cut borders, so that serous coat is in contact with serous coat. The outer

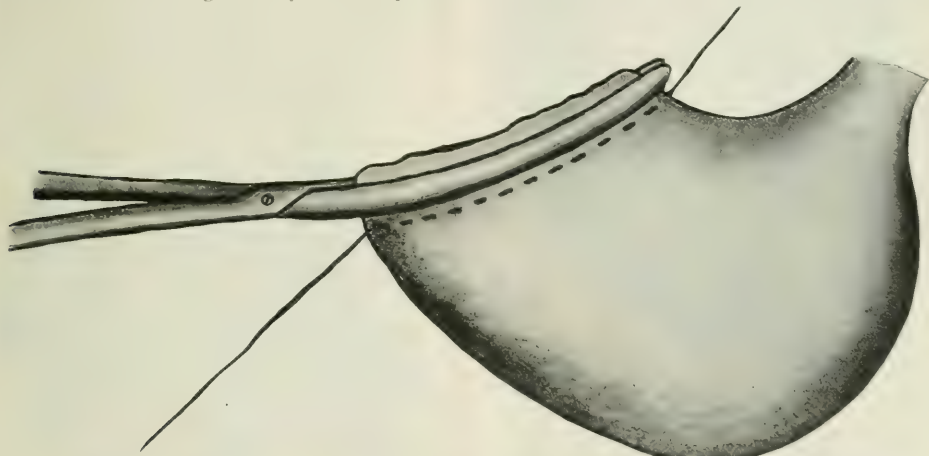


FIG. 11. Kocher's method of pyloroplasty. A continuous mattress suture is applied behind the closed clamps.

to the descending portion of the duodenum, about one inch to the right of it. Billroth's first method, modernized, is performed in the following way: The gastrocolic ligament at the greater curvature and the lesser omentum at the lesser curvature are tied off and divided to the desired extent, that extent being determined by the distribution of the tumor and the involvement of the lymphatic glands. At the lesser curvature the lymphatic glands are distributed far up, so that here the resection must be made quite near to the cardia. In the course of this step of the operation the main arteries are tied, *viz.*, the gastric and pyloric above, and the right and left gastroepiploic below. Instead of the right gastroepiploic, occasionally the gastroduodenal is tied. The greater and lesser curvatures have now been liberated, after which the tumor, with the adjacent parts of stomach and duodenum, *i. e.*, the part that is to be resected, is loosened completely around. The duodenum must be thoroughly liberated.

As a rule, the border of the tumor is quite sharply marked at the duodenum, less so at the stomach.

row is a seromuscular Lembert suture, likewise continuous, which still further inverts the stomach at its cut border and, like the first row, extends from the lesser curvature to the part which is left open. This open portion is then united to the duodenum in a similar manner by two rows of sutures, the inner one applied from within and going through all layers, the outer, a seromuscular suture. The suture is best applied in the same manner as that described for gastroenterostomy; in fact, if desired, the three bladed instrument may be employed (Fig. 12). First, the posterior surfaces of stomach and duodenum are united by a seromuscular suture; then a mattress suture through all layers unites the divided ends, the same as in gastroenterostomy (Fig. 13). Finally, the seromuscular suture which was first applied is continued on the anterior surfaces of the stomach and duodenum. The insertion of the seromuscular suture necessitates the invagination, to a slight extent, of the duodenum into the stomach. As the stump of the stomach is funnel shaped while the duodenum is

cylindrical, there will be a somewhat greater extent of serous surface on the stomach after invagination than on the duodenum, a condition which, on inserting the seromuscular suture, may occasionally require a plication of the stomach at some place. Instead of the suture a Murphy button may be used to unite duodenum and stomach.

Kocher's method of uniting the duodenum with

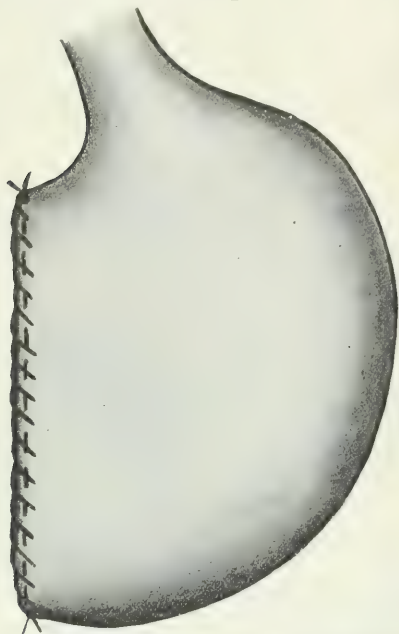


FIG. 15.—Next step after Fig. 14. An over and over suture is placed over the mattress suture.

the stomach is to close the stomach completely and make an end to side implantation of the duodenum into the posterior wall of the stomach. The stomach may be closed in a manner similar to that outlined in the foregoing description of Billroth's first method; Kocher, however, prefers to make the closure as follows: Both stomach and duodenum are divided between clamps applied so tightly that they crush the tissues, the division being made as close as possible to the clamp attached to that part of the organ which remains. The tight hold which the clamps have on the organs facilitates handling these. The stomach is then sewed up by a continuous mattress suture applied behind the closed clamp (Fig. 14). Then the clamp is removed, while the suture is held on a stretch by making traction at each end of it; the edges, especially the mucosa, are trimmed, if necessary, and an over and over suture is superimposed over the first one (Fig. 15). This closes the stomach securely. A third row, a continuous seromuscular suture, then completely buries the preceding ones. Now, the duodenum, still firmly closed by a tightly holding clamp, is brought into apposition with the posterior wall of the stomach and united with it by sutures in-

serted in a manner similar to that described for gastroenterostomy. Before opening the stomach and duodenum to apply the through and through suture, the outflow of intestinal and stomach contents must be guarded against. This is done, according to Kocher, for the duodenum by a gently compressing clamp or a ligature; for the stomach by the use of a clamp or the assistant's hands. Another way is with the use of the three bladed instrument as described for gastroenterostomy, which grasps in one of its clamps the duodenum in its entire circumference, in the other clamp that segment of the stomach which is to enter into the anastomosis (Fig. 16). The clamp that closes the end of the duodenum is removed by closely cutting off the duodenum behind its grasp. The through and through suture is then inserted from the mucous membrane side, and over this comes a seromuscular suture, the continuation of the first one inserted. In this operation, the same as in gastroenterostomy,

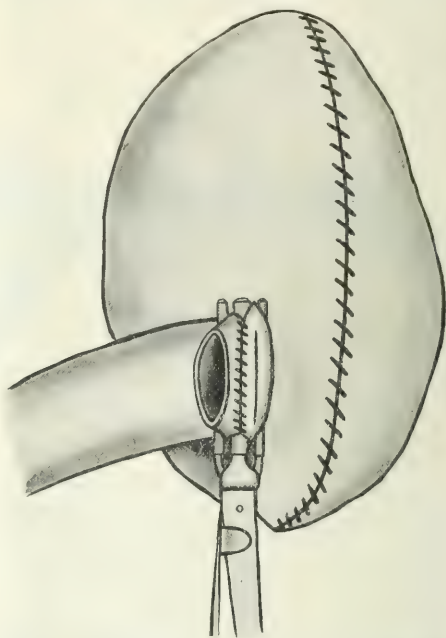


FIG. 16.—Anastomosis of end of duodenum with posterior surface of stomach after pylorectomy. The three bladed clamp is employed. The posterior seromuscular suture has been inserted. The clamp that closed the end of the duodenum has been removed by cutting off the duodenum behind its grasp. The incision into the stomach has been made.

it is of the utmost importance to be conscious at what stage the operation ceases to be strictly aseptic. Accordingly we protect the peritoneal cavity carefully by gauze before the gastroenteric tract is opened. We must also understand that hands and instruments used at this part of the operation are not sterile, and that, when the alimentary tract is closed again, they must not be used at the subsequent clean part of the operation without being re-sterilized. When the intraperitoneal work is com-



pleted, the abdominal wall is closed without drainage.

Excision of the entire stomach has been performed. It is rare to find a case suitable for this operation, for in cases where the stomach is so extensively involved as to require its entire removal that operation would, as a rule, do no good owing to the involvement of other organs.

Excisions of parts of the stomach other than the pyloric portion is indicated in cases of localized carcinoma and in some cases of ulcer. The excision in those cases is also performed with the aid of clamps, and is shaped, if possible, so that the closure may be made by a linear suture, as any combination of sutures meeting at an angle is less reliable.

Of the remaining operations upon the stomach, the most important is gastrostomy, the construction of an abdominal gastric fistula. This operation is performed for obstruction in the œsophagus, either benign or malignant, and the gastric fistula

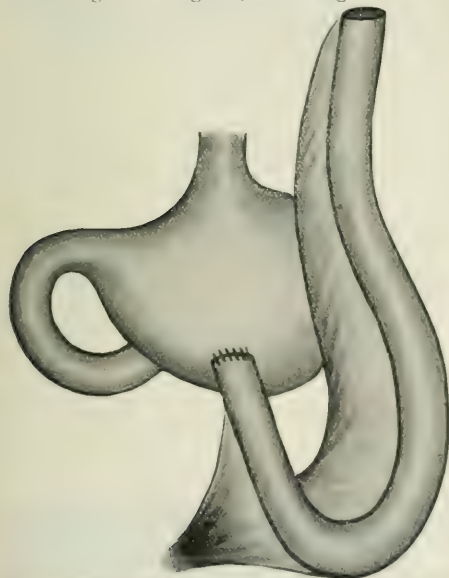


FIG. 17.—Diagram of Roux's method of separating a loop of jejunum to replace the œsophagus.

which is established will be either temporary or permanent, according as the cause of the obstruction is removable or not. The formation of an oblique fistula according to Witzel, and of a direct one according to Kader, are the two methods used most frequently. They consist essentially in a plication or an inversion of the wall of the stomach upon itself in such manner that a canal lined by the serous coat of the stomach is formed. Whereas formerly, after this canal had become firmly united with the abdominal wall, it was the custom to remove the tube and introduce it only for purposes of feeding, it is now left *in situ*, as the gastric fistula proved to have a tendency to close, and some difficulty was frequently experienced in reintroducing the tube.

One of the most interesting operations for establishing a new access to the stomach for introducing food is one which Roux performed upon animals, viz., to excise a portion of jejunum having a long mesentery to which it remains attached. The anal end of the excised portion is implanted into the stomach while the oral end is carried underneath the skin of the thorax up to the neck, where it is brought out, the intention being to unite it with the œsophagus by a subsequent operation (Fig. 17). The ends from which the jejunal loop has been resected are, of course, united with each other. Roux ligated a few of the vessels in the mesojejunum to secure greater mobility, preserving, however, the peripheral arches, and found that the jejunum remained sufficiently nourished. A stomach tube is introduced through the transplanted intestine into the stomach. It is evident that the method is applicable only under very favorable conditions as to the vascular supply of the jejunal segment.

When we look over the progress that has been made in the surgery of the stomach during the last few years, we find that it consists mainly in an elaboration of certain details in the technique, including improvement in the construction of certain instruments. Improved technique helps us to guard our asepsis still more strictly and also enables us to employ the suture much more frequently, where formerly we preferred mechanical appliances like the button. It is, therefore, in this branch of surgery the same as in all other branches, the attention to minute details which is responsible for a great part of the progress made in the art and the improvement in the results achieved.

59 EAST SIXTIETH STREET.

#### VARICOSE VEINS.

*Their Treatment by Multiple Short Incision.\**

By C. F. KIVLIN, M. D.,  
Troy, N. Y.

Dilated and tortuous veins are spoken of as varices, or varicose veins. This abnormal condition is dependent in some way upon an interference with the flow of blood in the veins. Thus gravity plays its part, since the trouble is most common in the veins of the legs and since it is most often seen in tall people than in short ones. Age and disease of the heart, producing imperfect valvular action, are also potent factors. The change is not due to the atrophy of old age, as it is usually noticed before the fortieth year, and in a great many instances before the twenty-fifth year. It is equally difficult to explain why the veins of one leg should be much dilated and tortuous while those of the other are scarcely affected, or why in certain persons the large veins are chiefly affected, and in others the smaller radicles in the skin. As muscular contraction and muscular relaxation constitute the chief aids to venous flow, it is not surprising that persons who are obliged to stand for hours at a time (washerwomen, car motormen, etc.) suffer more from this trouble than those who are constantly changing their positions. While any of the veins of the lower extremity may be affected, the trouble is most often found in some

\*Read before the Rochester County Medical Society at session held on May 14, 1901.

of the radicles of the internal saphenous vein. The tortuous and dilated vessels are easily recognized on inspection, and if they lie near the surface their bluish color is visible through the skin. If they are not or have not been inflamed, they collapse under moderate pressure and disappear almost entirely when the foot is elevated. In some places their channels through the skin feel like a break in its continuity;

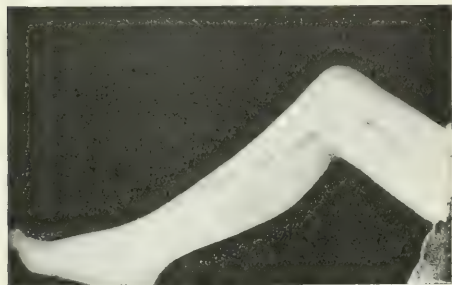


FIG. 1.—Multiple incisions over internal saphenous, and one lateral.

while here and there they lie so near the surface that they seem to be covered with little more than epithelium. The deep veins of the leg may be affected as well as the superficial ones. If the dilation goes on to a still greater degree a distinct, thin walled sac filled with fluid blood is formed.

As a result of the dilation many of the valves become insufficient. This can be tested in the following manner: After the veins of the lower extremities have been emptied by elevation of the foot and stroking the limb toward the body, the thumb is placed upon the main saphenous trunk, and the patient is directed to stand. The varicose veins will fill slowly and only to a moderate degree. The moment the thumb is removed the column of venous blood falling into them from above instantly distends them to their fullest capacity if the valves are incompetent. Such are the conditions of simple varicosity. Sooner or later one or more complications are likely to arise, such as thrombosis, rupture, phlebitis, oedema, eczema, and ulcer.

**Complications.**—Thrombosis may occur in dilated veins of the leg, exactly as it may occur in the dilated vein of an external hæmorrhoid. It is accompanied by a good deal of pain and tenderness, by slight redness, and by oedema plainly limited to the immediate vicinity of the vein involved. Thus if a not very tortuous vein is affected for a distance of five or six inches, its course can be accurately mapped out as an indurated strip about three fourths of an inch wide. If the vein is tortuous, the indurated area will have an irregular outline. The nutrition of the parts drained by varicose veins is often seriously affected, so that a wound may become infected. The result may be erysipelas, cellulitis, abscess, or suppurative thrombophlebitis, although the last mentioned condition is by no means common. When the vein lies near the surface it is easily ruptured by a blow from a sharp object, and, as there is little elastic tissue about the opening, the hæmorrhage is profuse and may be serious if it is not stopped by pressure or ligation. A fourth compli-

cation, more often seen in older individuals, is an extensive oedema. At first this is of the usual type, revealing itself by pitting on pressure; but after it has existed for many months the production of fibrous tissue may be sufficient to prevent much indentation on pressure. This condition may be due to other causes than varicosity of the veins; it greatly interferes with nutrition of the parts and especially with the repair of a chronic ulcer, whether varicose or not. Eczema is another complication due to an imperfect nutrition, which is apt to lead to ulcers starting in the small scratches made by the patient in the vain attempt to relieve himself from the intolerable itching.

Not every ulcer occurring in a patient whose veins are varicose is to be attributed to such varicosity. A long standing ulcer of the leg of a nonmalignant, nonsyphilitic, nontuberculous character is better spoken of as a chronic ulcer. It may be the direct or indirect result of varicose veins, but it may also be due to traumatism or eczema or oedema or anaemia. It is misleading to call all such ulcers varicose ulcers. They are all due to poor local nutrition, of which varicosity of the veins is simply one cause. When varicose veins have existed for a considerable length of time there will often be noted a brown pigmentation of the skin, occurring more or less in patches, and due either to small subcutaneous ruptures of the venous radicles or to transudation of red blood cells through the dilated venous walls. In either case the blood pigment becomes permanently fixed in the fibrous tissue of the skin, giving it a characteristic yellow brown color.

**Symptoms.**—Varicose veins often give rise to no symptoms whatever. Such is apt to be the case in young and healthy persons, and also when the veins are dilated throughout a small area. The symptoms in uncomplicated cases are: A sense of weight and more or less dull aching relieved by elevation of the affected extremity. The symptoms of thrombosis are: Marked tenderness on pressure, acute local pain, which is considerably, but not wholly, relieved by a recumbent position, and a rise of temperature of one, two, or three degrees. The symptoms of



FIG. 2.—Same patient, left leg.

the inflammatory complications mentioned are such as accompany these processes wherever they occur in the body.

**Diagnosis.**—The diagnosis of varicose veins and of the different complications which I have enumerated is easy for any one who is able to recognize

the different forms of inflammation and ulceration. The inflamed strip of a varicose vein is broader than that of infection in a lymph vessel, and the overlying skin is not so red. A sharply localized varix can hardly be mistaken for any sort of a cystic growth, as it is so collapsible on pressure, refills slowly, and has less tension than most cysts. It does not pulsate like an aneurism.

*Treatment.*—Palliative treatment of uncomplicated

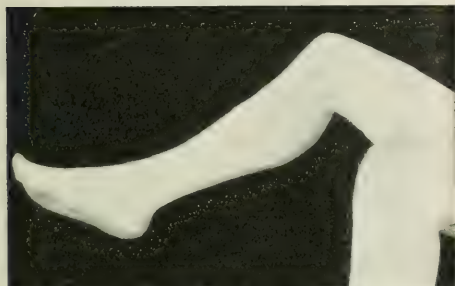


FIG. 3.—Showing incisions over internal saphenous and incision for collateral, on posterior portion of the leg.

varicose veins consists in attention to the general health; in the avoidance of such occupations and such clothing as tend to interfere with the venous flow; in the elevation of the feet as much as possible when the patient is sitting down, and in the wearing, during the day time, of an elastic bandage or stocking extending from the toes to the knee. Even though the varicose veins extend well into the thigh, firm compression of the leg will usually relieve the symptoms, and it is difficult to apply a stocking or bandage with comfort above the knee joint.

A woven elastic, cotton or silk web stocking costs from \$2.50 to \$8.00. Its advantages are the ease with which it may be applied and the firm pressure which it exerts when new. A thin white lisle thread stocking should be worn next to the skin to protect the elastic stocking from perspiration. With the best of care an elastic stocking loses its tone in a few months, so that the expense is no inconsiderable item for a poor person. Various kinds of elastic stockings have been devised, such as pure rubber, rubber webbing, cloth webbing, stockinette, etc., but nothing is more satisfactory than pure, coarse, white flannel cut on the bias in strips about three inches wide, a sufficient number of which are sewed together to make a bandage six or eight yards long. Such bandages can be washed and ironed as often as they become soiled, and they will last a long time. They should be applied before the patient gets up in the morning. In the beginning this is considerable trouble, as it is by no means easy to bandage one's own leg. But most patients soon learn to apply them in five or ten minutes, and many put them on as neatly as a professional could hope to do. No one who has once become accustomed to apply such bandages would willingly exchange them for an elastic stocking, since he can always regulate the pressure according to his own comfort, aside from the fact that they are cleaner and cheaper.

The radical treatment of varicose veins may be

(1) their multiple ligation, either subcutaneously or through short incisions; (2) the excision of portions or of the whole of the dilated veins; or (3) the double ligation of the saphenous vein at its entrance into the femoral. The injection of substances to produce clots in the veins

The method of treatment which the accompanying photographs show is an original operation so far as I have been able to ascertain, and my only object in reporting the procedure at this early date is to have the good or poor qualities thrashed out by the profession, because it is only with an abundance of clinical proof or postoperative results, good or bad, that any definite conclusions may be established. The operation consists of several short incisions starting about two and a half inches below the knee joint, or more definitely at a point directly over the internal saphenous vein, where two large laterals are generally to be found. Cutting down an inch or two in length, the lateral ligated and liberated, the main vein pulled up and pulled upon, and where the lateral is given off above or below I usually proceed upward, the skin will tighten, and with close observation will show a slight wrinkling. Having thus determined the lateral, another small incision is made. The lateral is liberated and the vein picked up; this step is proceeded with as far up as it seems expedient to go. The vein is tied both proximally and distally, and cut between the two ligatures; then going to the next opening lower down, pulling on the main trunk gradually till it gives way and comes out free in the opening, thus pulling through subsequent openings until the original opening is arrived at. Then the step of pulling, locating, and ligating the laterals below the original opening is done as described for locating and ligating the original opening. When you have proceeded as low as you wish you simply keep on pulling the vein through till the lowest opening is reached. When you have, by sev-



FIG. 4.—Showing incision above and below the knee joint. The large incision of the scar tissue from scar tissue.

eral small incisions, delivered the entire length of the vein intact, if any large collaterals need to be removed, and there are usually some. The same principle can be and is applied, as shown in photographs of those incisions away from the main vessel.

*Conclusions.*—What is alleged for the operation is this: It does not take so long to do the operation as it does with other operations where the vein is removed, that it is not so apt to become infected, and if one incision becomes infected it can be dealt with



more readily and without infecting the others. There is no scar tissue at the knee joint, thereby causing no pain nor limping while walking. There is practically no blood lost, especially none from the main vein; what little blood is lost is from the skin. Convalescence is much shorter, a week to ten days' time being sufficient for the patients to stay in bed; they should be up to work by the end of two weeks. But if it is a case where it was urgent for them to be back to business, three to five days would be sufficient for to stay in the hospital before returning to light work. The convalescence is painless and uneventful. The style of closure is either interrupted or continuous. I believe, however, that the continuous silk suture is the best closure.

1826 FIFTH AVENUE.

### A CASE OF SARCOMA OF THE KIDNEY.

By L. F. LA PIERRE,  
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Sarcoma of the kidney is not a common disease. Many general practitioners of wide experience have seen only a few or no cases.

The case reported in this paper was diagnosed at autopsy, no symptoms relating to the kidney being noted during life.

About 80 per cent. of sarcoma of the kidney occur during the first four years of life.

The aetiology is unknown. There are often no symptoms until the tumor is considerably advanced. This early period is spoken of as the latent stage of the disease.

Tumor, hæmaturia, pain, and cachexia are the usual prominent symptoms. Later occur emaciation, irritability of the bladder, œdema, jaundice, indigestion, constipation, and dyspnoea. All writers agree that tumor is usually first noted and is the most constant symptom. Palpable tumor is found at some time during the disease in 96 per cent. of cases. It is usually discovered in the loin, but grows forward toward the median line.

Sometimes it is necessary to give an anæsthetic to palpate the growth, and it can be felt best by the bimanual method. These tumors give rise to a fullness, resistance, and roundness in the ilio-costal space. The surface depends upon the nature of the tumor. It may be lobulated, irregular, or smooth and firm. In the more malignant round celled forms it is so soft as to give the sense of fluctuation. It is movable, but attached posteriorly. The progress of the growth is often very rapid, so that it may fill the abdomen in a few months. When this stage is reached the abdomen may be greatly enlarged, and presents a peculiar appearance. The veins in the abdominal wall are distended, the bowels are pushed to one side toward the median line, except the colon, which remains in front of the tumor. The colon is sometimes so tensely distended with gas as to be dull on percussion. In this extreme condition the child stands like a pregnant woman.

One author states that tumor was present in 129 out of 133 cases; another in 61 out of 64 cases.

Hæmaturia is another important symptom, and occurs in about half of the cases. It occurs when the tumor has entered the pelvis of the kidney, is more profuse than in stone or tuberculosis, and is

observed, as a rule, at the beginning of the disease. It may be steady for months or remittent, and finally disappear altogether. The amount of blood passed may be large and profuse enough to cause death. Sometimes the blood is voided as clots, which show as moulds of the ureter or even the pelvis of the kidney.

It is stated that the hæmaturia is not diminished by rest in bed, as is the case with calculus. In some cases the amount of blood passed is small and is discovered only with the aid of a microscope. Seibert states that in nineteen out of fifty cases it was observed before the tumor. Certainly hæmaturia occurring in children under seven years of age should arouse strong suspicions of renal tumor.

Pain is often absent, is not characteristic, and is not influenced by movements or pressure. Renal colic is sometimes caused by coagula or pieces of tumor obstructing the ureter. In general the harder the growth the more severe the pain. In children the growths are usually soft, hence they are usually free from pain. The pain when present extends to the lower dorsal or lumbar region and down the thighs. This is due to the growth extending toward the spinal column.

Constitutional symptoms are rare until the tumor has attained a large size. Sometimes, however, as in the case which I report to-day, generalization may occur early, when a marked anæmia appears with rapid emaciation.

Pressure effects are dyspnoea, œdema of the lower extremities, vomiting, and indigestion.

The growth may soften and break down, rupturing into the colon, duodenum, or ureter through the peritonæum or abdominal wall.

Some cases present an irregular temperature after the growth is well advanced. They waste steadily, death finally taking place from exhaustion. Varicocele is a symptom in some cases, and is of little importance when on the left side, as it may be normal, but becomes suggestive when on the right side.

If the tumor is not removed early the patient is sure to die. He grows progressively weaker as the tumor increases in size. The duration is variously stated from three months to two years. Death has occurred within six weeks. The softer the tumor the more malignant its character, quicker the growth, and earlier the end.

As already stated, the presence of hæmaturia in a child under seven years of age is suggestive of tumor of the kidney. In early diagnosis lies the only hope of saving the child's life. In cases without hæmaturia the tumor is the first indication. Relatively small tumors can be palpated in children, because the subdiaphragmatic space is flat and small and the kidney less firmly fixed. The conditions to be considered in the diagnosis are tumors of the liver, ovary, spleen, retroperitoneal tumors, hydro-nephrosis, hæmophilia, tuberculosis, and stone.

The only treatment is surgical, and in an early diagnosis lies the only hope of saving the patient's life by operation.

The primary object of this paper was to report the following case:

The patient was a female child, fourteen months of age. Both parents were living in good health, and were descendants of old Connecticut families. The maternal grandmother died of tuberculosis, and the maternal great grand-

father committed suicide. Otherwise the family history was negative, there being no further history of tumor, insanity, or neurosis.

This child was one of three children, and was third in order of birth. Previous to the present illness she had always been in good health, being stronger and healthier than the other children.

February 11, 1907.—During the night the child had had



FIG. 1.—Secondary tumors.

a convulsion. A physician was called, and the usual treatment was administered.

February 12, 1907.—Two more convulsions to-day.

February 13, 1907.—Child appeared perfectly well.

February 14, 1907.—Child continued to be well, was strong and well physically; no convulsions since the 12th.

April 5, 1907.—The child was brought to physician's office to-day. It had continued to be well since previous note. To-day a slight swelling was noted about the outer canthus of the left eye, extending horizontally backward into the temporal region. Skin was discolored, and the swelling had the appearance of a bruise. There was no tenderness or pain. Temperature was normal. Left eyeball appeared slightly more prominent than the right. Child was contented, very well nourished, but somewhat anemic.

April 12, 1907.—The swelling as described increased steadily and fairly rapidly. Left eyeball had become more prominent. There was a marked swelling of the tissues covering the right alveolar process of the superior maxillary bone. These tissues were spongy and bled easily.

April 14, 1907.—Teeth in the last named mass became loose and were removed easily to-day. Temperature continued normal.

April 17, 1907.—All masses were rapidly increasing in size.

May 1, 1907.—Patient had been seen frequently during past two weeks, and both local and general condition had grown progressively worse. It was as follows: There was a marked exophthalmus of the left eyeball. The palpebral fissure was much increased. The conjunctiva was subject to an inflammatory process, and bled in a mucopurulent discharge. The cornea was steamy and opaque. The anterior chamber was partly filled with pus. The pupil was dilated and immobile. There was a saucer shaped mass, which extended from the outer canthus of the left eye posteriorly and horizontally. Upon palpation the mass was smooth, elastic, gave a distinct sense of fluctuation. Heat, redness, pain, and tenderness were not present. Both

cheeks were abnormally prominent, this being more marked upon the right side. This made the bridge of the nose appear depressed. The tissues covering the alveolar processes of the superior maxillary bone were greatly increased, especially upon the right side, the surface upon this side having already commenced to slough. The jaws cannot be closed, and saliva drools from the mouth. (See Figs. 1 and 2.)

Nourishment was taken greedily, but with difficulty. There were no enlarged glands, and nothing abnormal was noted in the chest or abdomen upon a rather careless examination. Temperature, 100° F. Child was failing physically, and was very pale and sallow; it was restless and fretful. The urine was not examined microscopically, but appeared normal. Examination of a stained blood smear was as follows: The red blood corpuscles were ring like, stained faintly, and in an irregular manner, showing a fairly well marked polychromophilia. In size there was also a marked variation, there being numerous very small and very large corpuscles.

May 4, 1907.—The various growths continued to increase in size since last seen. The child died from exhaustion to-day, after an illness of one month.

May 6, 1907.—Autopsy nineteen hours after death. Body of a fairly well developed, but poorly nourished child. In the left temporal region was noted an elongated tumor. Its anterior end was at the outer canthus of the left eye, and extended posteriorly in a horizontal direction. It was five and a half inches in length and two inches in width. The upper border was represented by a line drawn horizontally backward from the left eyebrow; the lower border by the zygoma and a line continued horizontally backward. In the region of both cheeks below the malar eminences were tumors the size of a plum. All of these tumors were soft, elastic, and when palpated gave a sense of fluctuation. The skin was freely movable over them, but they were



FIG. 2.—Secondary tumors.

loosely adherent to the bone. The skin over the tumors appeared normal. In the frontal region over the glabella a small almond shaped swelling was noted. In the mouth the tissues covering the alveoli and hard palate were enormously increased, the surface was doughy and friable, chape in some areas. This swelling was so extensive that the jaws could not be closed, and the tongue protruded.

Both eyes were exophthalmic, the swelling being more marked on the left eye. Anterior at least three quarters

inch anterior to its usual position. The palpebral fissure of the left eye was increased, and there was a mucopurulent discharge in the eye. There was a small opening one eighth inch long at the lower margin of the cornea. The anterior chamber was obliterated, the iris was in contact with the cornea and the pupil was widely dilated. The cornea was steaty in appearance. The upper lid of the right eye was ecchymotic, the pupil was moderately dilated. The remainder of the body showed nothing remarkable, except emaciation. The superficial lymphatic glands were not palpable in any situation.

Chest.—Both pleural cavities were free from fluid and there were no adhesions. Both lungs were crepitant throughout. The pleural surfaces of both lungs presented elevated areas one or two millimetres in height, and from a few millimetres to a centimetre in diameter. The larger of these areas were dark red in color externally, and smooth, the pleura glistening over them. On cut section they were dark red, soft, and easily scraped away with a knife.

The pericardial sack contained a small amount of clear fluid. The heart was in systole and presented nothing remarkable either externally or internally.

Upon removing the lungs there were noted ring like enlargements surrounding the ribs, each rib being involved to a varying extent. Upon examination these reddish masses were found to be under the parietal pleura and periosteum. They were dark red in color, soft, friable, and, although intimately adherent to the bone, were easily separated from it. They resembled the areas already described in the lungs.

The peritoneal cavity contained a small amount of clear fluid. The peritonæum appeared normal.

Liver.—Upon the surface of the liver were areas from a few millimetres to a centimetre in diameter slightly raised above the surface, presenting a glistening, dark red appearance. Upon section a few of these areas were noted scattered through the liver substance. They presented the same appearance already described in the lung.

Gallbladder was normal and filled with bile. The spleen and right kidney appeared normal upon the surface and cut section.

On the left side, in the region of the left kidney, was found a mass. This when dissected out was seen to be six inches in length and three and a half inches thick. The mass was soft and fluctuated on palpation. On cut section it was found to consist of the kidney which had become the seat of a new growth. The upper third of the kidney could be distinguished and was fairly normal in appearance. The remaining lower two thirds was so infiltrated with the growth that the kidney structure could not be discerned with the naked eye. The tumor mass contained a cyst which contained about two ounces of dark red, groudous fluid. The remaining mass was dark red in color, friable, of varying consistence, some portions being semifluid, while other areas were firmer. The whole tumor, however, was so soft that it did not support itself after section was made of it.

Head.—Incisions to open the head began posterior to the right ear, then upward across vertex to avoid incising tumor. The anterior portion of the scalp was then drawn forward over face, and it was noted that the scalp was not adherent to the tumor, or rather tumors, in any of their situations. The large sausage shaped mass upon the left side, already described partially, was found to consist of dark red, very friable tissue similar to that already described in other organs. This tumor was intimately adherent to the bone itself, the periosteum being raised over the tumor. The bone under the tumor was soft, friable, and porous.

In the region of the glabella another small mass was noted, also in the right temporal region one of considerable size, all being in consistency and relations to the skull similar.

The skull cap being removed, the dura was adherent, hence requiring incision and removal with it. Upon examination a mass three and a half inches long, three and a half inches wide and one and a half inches thick was noted external to the dura matter, but firmly adherent to it, and very firmly and intimately so to the adjacent bone opposite the mass already described on the left side externally.

The inner table bore nothing abnormal upon the surface, in open section except upon the left

hemisphere there was a depressed area, which was due to pressure from the tumor.

Scattered about the vault of the skull in the same relations to the dura and skull were smaller masses from the size of an almond to a walnut. At least one half of the area of the inner surface of the skull was covered with these masses.

The horizontal portion of the frontal bone with its periosteum, especially upon the left side, was extensively involved, the growth extending through into both orbits. The globes of both eyes on section were normal, the exophthalmus being produced by the growth of the tumor between periosteum and bone. The growth continued into the face, involving both antrums, superior and inferior maxillary bones. The nose and air passages were not involved. These secondary growths appeared to originate between the periosteum and bone, the tumor in all cases separating the two structures.

Microscopically a section of the kidney showed a reticulum which was scanty and partially supported large masses of blood and small round tumor cells. The reticulum was wholly incapable of furnishing proper support to the tumor cells, which were of the small round cell type, of fairly uniform size.

The secondary growths in the liver, lungs, ribs, and skull presented essentially the same structure, except there was less hæmorrhage throughout the specimens, and the reticulum was more prominent. The growths all showed fairly uniform, small round cells.

*Anatomical Diagnosis.*—Primary, round celled sarcoma of the kidney, with numerous metastatic growths in the skull, ribs, liver, and lungs. Compression of brain. Emaciation.

#### Conclusions.

I. Sarcoma of the kidney may exist without symptoms.

II. Generalization may occur early, before the kidney is greatly enlarged.

III. In this case the appearance of the anæmia and rapid loss of flesh was coincident with its generalization.

IV. In this case, had not a complete autopsy been performed, a correct diagnosis would not have been made.

#### THE CLINICAL SIGNIFICANCE OF McBURNLEY'S POINT.\*

BY ARNOLD STURMDORF, M. D.,  
New York.

In an article, On Appendicitis, published in the *New York Medical Journal*, December 21, 1889, Dr. McBurney wrote as follows:

The exact locality of the greatest sensitiveness to pressure has seemed to me to be usually one of importance.

Whatever may be the position of the healthy appendix as found in the dead house, and I am well aware that its position when uninfamed varies greatly, I have found in all my operations that it lay either thickened, shortened, or adherent very close to its attachment to the cæcum.

This, of course, must in the early stages of the disease determine the seat of greatest pain on pressure, and I believe that in every case the seat of greatest pain, determined by the pressure of one finger, has been exactly be-

\*Read before the Section in Surgery of the New York Academy of Medicine, December 6, 1890.



tween an inch and a half and two inches from the anterior superior spinous process of the ilium on a straight line drawn from that process to the umbilicus.

This may appear to be an affectation of accuracy, but as far as my experience goes, the observation is correct.

Thus announced, nearly twenty years ago, this diagnostic dictum, emanating so authoritatively and promulgated with such modest dogmatism, found unchallenged general acceptance, which continues to dominate clinical discrimination in abdominal disturbances to the present time.

Antedating the adoption of present day methods, the introduction of McBurney's point marks an epoch and a phase in the evolution of our mastery over appendicitis; nevertheless, while it served to blaze the path through the mazes of earlier controversies, it has proved an equally potent factor in leading to error and fruitless mutilation.

"History repeats itself": the accepted dogma of yesterday becomes tradition to-day and merges slowly into the obsolete of to-morrow.

McBurney's point, vested with pathognomonic dignity for almost two decades, must be relegated to the humble rank of a possible contributory diagnostic factor.

The pathognomonic validity of a given clinical sign is proportionate to its constancy in the given condition; this essential postulate is not fulfilled by McBurney's point.

While it is true to-day, as it was twenty years ago, that a typical McBurney point may be present in a typical appendicitis, it is equally true that appendicitis may exist in the absence of a McBurney point, and, most important, a typical McBurney point may be present in the absence of appendical involvement.

To speak concisely, there are three groups of cases in which operative or post mortem findings bear directly upon the point under consideration.

In the first group, a frank appendicitis tends to substantiate the pathognomonic validity of an existing McBurney point.

The second group embraces two types of appendical lesion—one, characterized by a most rapidly fatal tendency; the other, projecting all of its symptoms upon the upper digestive tract, while neither type manifests a McBurney point during any stage of its progress.

The third group, the most extensive of the three, consists of a heterogeneous class of cases that present a typical McBurney point in the absence of any appendical involvement whatsoever.

Any attempt to establish a clinical sign as an index for operative intervention should be based upon a thorough understanding of the normal or pathological physiology of its production.

Unfortunately, such fundamental factors relating to our knowledge of the sensory manifestations in abdominal disorders are still undetermined; nevertheless, there is much information of an empirical nature, gleaned from the observations of Ross, MacKenzie, Head, and others—on the distribution and character of the pain in visceral disease—that has not found general clinical utilization.

It would lead beyond the scope of the present communication to attempt a detailed consideration of these observations, consequently their fundamental bearings only will be touched upon.

Ross contended that in visceral disturbances pain or tenderness radiated along the distribution of the somatic nerves, springing from that segment of the cord which supplies the sympathetic fibres to the affected viscus.

Amplifying Ross's work, MacKenzie and Head defined certain areas, each of which, it is stated, corresponds to the cutaneous terminals of the pain fibres, springing from that cord segment involved by the disturbed viscus.

Whatever may be confirmed or refuted, in the theory and practical application of these observations, they have established one clinical fact beyond controversy, namely, that any given point of pain may be either the *direct expression* of a contiguous disturbance, or the *transmitted manifestation* of a distant lesion.

In other words, an existing McBurney point may represent the *direct pain focus* of a disturbance within its own area or the *reflected pain focus* of a distant lesion.

Thus far, then, we find in McBurney's point simply a clinical sign susceptible of two interpretations and the problem of its distinctive definition naturally presents itself.

A comparison of Head's instructions for the demonstration of his "pain points," with those given by McBurney, reveals two widely different methods, eliciting two distinct and characteristic phases of one and the same subjective sign.

Thus, Head insists upon the gentlest possible tactile exploration of the cutaneous surface, specifying that "the examination must be carried out with a round pin head of such a size that it proves obviously blunt to all parts of one's own face, and used in exactly the same manner as in testing for analgesia."

Compare this most delicate palpatory excursion of a blunt pin head over the cutaneous surface with "the direct pressure of one finger," according to McBurney, and it follows that Head's method can elicit superficial areas of pain only, or—more correctly speaking—areas of superficial hyperalgesia, while McBurney's method must of necessity elicit indiscriminately both superficial and deep seated pain points at the same time according to the intensity of the pressure exerted.

Combining these two methods, by utilizing the one as complementary to the other, it will be found that there exist two McBurney's points, one superficial and the other deep.

The superficial pain point, which for practical purposes we will term the pseudo McBurney's point, presents all the characteristics of Head's so called "referred pain points," indicating a disturbance beyond the limits of their own area, while the deep or direct pain point, when present, will be found to indicate a local disturbance within its immediate vicinity.

It is not only this variation in the level of the two points, but also the marked contrast exhibited in the character and radiation of the pain, as well as certain differences in the response of the local reflexes, which offer distinctive criteria, distinguishing the indirect from the direct pain focus.

An indirect or transmitted pain focus or pseudo McBurney's point, as elicited by Head's method of

exploration, is practically a circumscribed area of cutaneous hyperæsthesia, and, like all such areas, it is characterized by heightened superficial reflexes in the presence of apparently normal deep reflexes; by the simultaneous existence of concomitant pain points, radiating backward and upward toward the spine, most marked over the bony prominences encountered in tracing the course of the involved nerve trunks to their exit from the cord.

In the presence of the direct or deep pain focus, on the other hand, the skin and subcutaneous tissues may be pinched between finger and thumb without eliciting any undue sensitiveness; the deep muscle reflexes are exaggerated, even to the point of tonic contraction; concomitant pains, when present, radiate *downward* along the anterior crural nerves and into the perinæum, but never upward and backward.

As noted before, the cases in which operative or post mortem findings bear directly upon the clinical significance of McBurney's point resolve themselves naturally into three groups.

Applying the foregoing observations to the first group enumerated, namely, the cases in which a distinct involvement of the appendix would tend to substantiate the pathognomonic significance of McBurney's point, the following is to be noted:

There will be found no superficial area of hyperæsthesia, according to Head's method, while deep pressure, according to McBurney, will elicit a focus of pain.

There will be present the familiar accompaniments, both local and general, of a deep seated inflammatory process.

Blumberg's sign is demonstrable in all these cases—that is, when the appendicular inflammation is unaccompanied by peritonitis, the deep pain focus in McBurney's area alone is manifest; with beginning peritonitis, the recoil of the abdominal wall following the sudden withdrawal of the examining finger will prove more painful than the original digital pressure.

The cases in this group represent the acute form of the adhesive, exudative, or suppurative types of appendicular inflammation, *without* perforation or gangrene, which latter conditions are found among the cases of the second group.

This second group embraces two forms of the disease, neither of which, during any stage of their progress, present any distinct focus of pain in McBurney's area.

The first form represents the most rapidly fatal types of appendicular lesion, presenting themselves clinically as unfocalizable forms of profound general sepsis; the second form, on the other hand, manifests but mild disturbances of the upper digestive tract; this latter is the form described by Ewald as "appendicitis larvata, or masked appendicitis."

In the third group, the most protean, extensive, and, from the present point, the most important of the three, are found acute and chronic disturbances of every degree and many kinds, linked by an existing McBurney's point over a normal appendix.

It is in this group that operative artefacts, resulting from clamp and ligature applied to an unoffending appendix, supply a pathological consola-

tion for misdirected surgical effort, while the true source of the disturbance lurks somewhere between the thorax and perinæum, anywhere but in the appendix.

In illustration it is but necessary to recall the abdominal symptoms of thoracic disease, the distension and the pain over the appendicular region resulting from right sided pleurisy, empyæma, and pneumonia, McBurney's point frequently presenting itself, while the physical signs of the thoracic disturbance are still in abeyance.

Our understanding of the sensory manifestations of visceral disorders is still incomplete; nevertheless, it is fairly well established that the abdominal organs are devoid of direct pain sense, and that the pain of visceral disturbance is located in various layers of the abdominal parietes.

According to Ramstroem, the lower intercostal nerves and the lumbar plexus subserve the function of pain conduction in visceral disorders.

These nerves, after supplying sensory fibres to the superficial layers of the abdominal parietes, intersect and combine to form a complicated ramifying network between the internal oblique and transversales muscles, dipping down at the edge of the rectus sheath, they terminate in the parietal peritoneum.

In this arrangement all sensory manifestations within the appendical area are dominated by the iliohypogastric and ilioinguinal terminals, and when the distribution, ramifications, and anastomoses of these nerves is recalled, it will become apparent that McBurney's point, superficial or deep, must be interpreted clinically simply as a focus, upon which may be projected the sensory manifestations resulting from disorders in any of the organs or tissues of the right thorax or abdomen.

The greater the distance between an existing McBurney point and its causative disturbance, the more superficial the pain focus, and, conversely, the more superficial this pain focus the more certainty of its indicating a distant lesion and a normal appendix.

The comparative safety of operating in a quiescent or chronic stage of appendicular inflammation has tended probably more than any other factor to inculcate a reckless confidence in the surgical indications of an existing McBurney's point; there are those who in other conditions exhaust every means to establish proper operative indications, yet accept the presence of McBurney's point as sufficient justification for appendectomy.

The present communication is intended to be suggestive rather than exhaustive, and, for obvious reasons, a detailed enumeration of the manifold conditions that may simulate a McBurney point would be out of place.

The relation of prolapsed right kidney to the condition under consideration has been emphasized by the writer on several other occasions—the other nephritic, like the ureteral, the gallbladder; the gynecological and genitourinary conditions that naturally force themselves upon our consideration in connection with this theme are too well known to surgeons to require more than mention here.

There is one topic, however, the essential relations of which to our theme warrants more than

allusion, namely, the rehabilitation of primary typhlitis, acute and chronic.

In the *Annals of Surgery* for June, 1907, C. A. McWilliams, treating of the subject of Typhlitis without Appendicitis, reviews the recorded cases of the past seven years. He admits that primary typhlitis is rare in comparison with appendicitis, but feels justified from the evidence which he has collected in holding that primary acute and chronic typhlitis may occur independently of appendicitis, dysentery, tuberculosis, actinomycosis, or cancer, and that it may be either idiopathic in origin or due to coprostasis. Numerous autopsy reports and findings at operations have confirmed him in this opinion. The disease in the cæcum may go on to ulceration and perforation, with the formation of a perityphlitic abscess or general peritonitis, while the appendix remains normal. Howard Kelly alone has reported fourteen cases presenting primary lesions in the cæcum, the appendix being normal.

It is well to bear in mind that there is such a disease as primary typhlitis, especially when dealing with patients who have been operated upon for chronic appendicitis and who suffer from a recurrence of symptoms. This recurrence may be due to attacks of typhlitis. Haberer reports ninety-six interval operations for appendicitis, in only fifty of which were the symptoms entirely relieved by the operation; forty patients continued to have more or less marked symptoms, such as obstinate constipation and severe pain, from which they had suffered prior to operation.

The aim of the humblest scientific effort is the elucidation of fact. The effort frequently entails years of multiplied tasks. The facts gleaned may usually be rendered in a few words. The foregoing is a sketchy outline of such an effort, based upon two hundred and eight cases observed in public and private service during a period of three years.

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51 WEST SEVENTY-FOURTH STREET.

#### PREVENTION OF THE NERVOUS AND MENTAL DISORDERS INCIDENT TO SCHOOL LIFE.\*

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The prevention of those disturbances of the nervous system and of the mind incident to school life is not a problem which the physician can approach single handed, but rather hand in hand with the educator. *Medical inspection* of the schools can only be looked upon as a stepping stone to a more efficient

and comprehensive system of *hygienic supervision* of our entire system of education, if real and lasting results in the betterment of the race are to be hoped for.

Within the past decade great changes in our educational system have been made, changes which mean much for the well being of the child, both mental and physical, but much remains to be done, and glaring defects vitally affecting the child still exist in this as in other communities. Home conditions are even worse as regards physical hygiene in very many cases. The only way we can hope to improve this is by education. The schools have thus a double function to perform, they should be practical examples of the best possible hygienic conditions not only for their direct effect upon the health of the child, but as educational influences which future fathers and mothers will profit by in the homes of the next generation.

School life may be said to begin at five years of age and to extend to about eighteen. It thus covers the latter years of childhood and the greater part of adolescence, those periods of human life when mind and body are passing through their most formative stage, and are most responsive to mental and physical environment. The vast majority of the disorders of mind and body incident to this period are directly attributable to an almost universal disregard of the simplest rules of mental hygiene in the school and of physical hygiene in both the school and the home. As important as are the immediate effects, the more remote results of this disregard are traceable throughout life. The factors most influencing the physical and mental welfare of the child in school—for these can in no wise be separated—are, a, the age at which school attendance begins; b, the mental demands made upon the child in study; c, the opportunities afforded for necessary fresh air and physical exercise; and, finally, d, the hygienic condition of the school building and its surroundings.

The age at which school attendance should begin has been much discussed. Individuals vary slightly in precocity, but it may safely be said that no child should enter school, as now understood, under eight years, and only exceptionally should school attendance begin under ten. Only too well do I realize the derision with which this statement will be generally met, on the ground that it is absolutely impracticable. Let us look for a moment at the grounds upon which these limits are based.

Life up to the eighth or ninth year is largely an animal existence. Every instinct demands light, air, and freedom. Incessant muscular activity resents all physical restraint. Anabolism is most active, building up brain and muscle for the demands of the future. The senses are becoming more and more alert, and memory increasingly retentive. An awakening interest in the world of nature rivets and develops attention. All objects in nature offer a fascinating interest, but as yet the mind is but ill prepared for reason or study. *Physical education* is in striking contrast to physical endurance, and attention, if easily aroused, is as easily exhausted. Physical and mental response to good air, sunlight, food, and physical exercise is at its height, and at its best in this period. And how in these responsive demands of nature met! At times of boy or girl we cut off our children from fresh air and sunshine,

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and confine them for hours in overcrowded, dusty, overheated, underventilated, often badly lighted rooms, shut off the safety valve of physical activity, and force their growing brains to undertake mental processes of which their degree of development renders them incapable, and make sustained demands upon the attention, which it is not able to endure without damaging strain. And we call this education.

Now for the remedy. The proper place for every child is the country, or as near true country conditions as possible, and this is especially true of the age we are now considering. No child under eight, or, better, ten, should attend the city school, as it is now understood, for task study. The child fortunate enough to live a healthy, outdoor, animal life in the country, with no definite study routine, but encouraged by a conscientious effort on the part of parent or nurse to take a lively interest in rational play and nature studies, such as gardening and the like, thus developing attention, orderliness, and the power of observation, this child is receiving the best possible training for future study and progress. When placed in school, contrary to general belief, progress will be so rapid and easy it will be seen within a few years no time has been really lost, and that much mental and physical capital has been gained. But, of course, such ideal conditions are only for the favored few. The great bulk of the population is crowded into cities and towns, with indifferent or poor home surroundings, and many parents forced by our industrial system to spend much of their time away from home. The school for these parents is as much a free nursery as a source of education. Circumstances require, and poor home surroundings make it desirable, that the community should, therefore, provide for the care of city children five years old and over. The kindergarten was at one time supposed to be the solution of the problem, but has not proved so. In the first place, the kindergarten, as generally found, was only adapted to the very young children—four or five years old—and too soon were the poor unfortunates pushed into the miserable old competitive, conventional, leveling, task study system. Moreover, the kindergarten classes are almost universally held in the ordinary public school building. What is needed is a radical departure from all this. Special schools, kindergarten, or whatever title you choose to give them, should be established in the suburbs or parks, where nature studies, or, better, nature observation, could be followed. The classes should invariably be held out of doors except in severe weather; systematized play and exercise in natural surroundings should predominate over assigned tasks, and no attempt made to educate the child under eight, as is now understood, in much of the graded work of the modern elementary schools. What we require are systematized playgrounds in the broadest sense in connection with rational kindergarten work, and the next development in the playground movement, now so rapidly gaining momentum, will probably be along these lines. Nor is the possibility of suburban or park schools for older children as well as kindergartens a mere dream. In Baltimore the development of suburban growth and the extension of the park system make the scheme entirely practical as regards new schools. Plenty of elbow room should be pro-

vided along these lines. In the case of the children in the denser centres of population, free transportation on the street cars to schools more favorably situated should be provided by the city. At first sight this may seem impractical, but a moment's reflection will show that such a plan does not complicate the already serious congestion of traffic during the morning and late afternoon hours, as the school traffic would be in exactly the opposite direction to the ordinary rush. No doubt the street railway company would be only too glad to fill their returning half empty cars at a much reduced rate through the sale of special school tickets.

As regards the effect of the *mental demands* made upon the child of suitable school age by the requirements of the present system of education, I speak with some hesitation. Much has been done and much is being done by the thoughtful educator of this and other communities to work out a rational system. The brake upon progress lies more in slavish adherence to the old system and blind ignorance on the part of parents and the community, than upon progressive educators, who see light, but are hampered at every turn. Before we can hope to educate the children rationally we must awaken the parents to the vital importance of a change.

Shorter hours of classroom work, more frequent recesses, variety in study to maintain interest, elective work for the older children, avoidance of home study, freedom from competitive work, and brisk, capable, young teachers do much to lessen the mental wear and tear with its train of nervous and physical evils. The child must be educated as an individual, and education not used as a means to grind individuality to the dead level of a school grade.

The opportunities afforded for *physical exercise* at present are notoriously insufficient in nearly all the public schools of this city. Such work should be in the hands of professional physical directors. Gymnasias properly equipped are a valuable adjunct, especially for the older children and in inclement weather, but in general, exercise should be taken out of doors in playground or athletic field. This is not possible in our present city schools with their small yards, but must be found in the parks or suburbs. The younger children can get their exercise in regulated games in the playground, and by movements under order. Rhythmic movements are not advisable. In contrast we find, even in our new suburban schools, a small, high fenced bricked yard, in which the children are turned helter skelter for fifteen or twenty minutes, with scarcely elbow room, to play, fight, or freeze as the case may be—and this is the physical exercise which we offer all sizes, ages, sexes, and constitutions to repair the physical and mental waste our system of education entails, and to help strengthen body and mind for the tasks of to-morrow. Of what advantage is our boasted knowledge of the cause of disease and the so called preventive medicine of to-day if we do not apply it? The Greeks understood the secret of a healthy mind in a healthy body infinitely better twenty centuries ago.

*The hygiene of the present school buildings*, or, rather, the lack of it, is largely responsible for many of the physical and mental defects of the children. So much has been written of the deplorable condition of many of the older city schools that repetition

here is unnecessary. The buildings are overcrowded, the air space of the room insufficient, ventilation simply nonexistent, rooms overheated by closed coal stoves, badly lighted, with improper wall coloring, desks ill fitting and not adjusted to the size of the child, toilet facilities unhygienic and inadequate—these go to make up a picture in many schools. Apart from the direct effect of all this upon the health, what ideals can we expect from children brought up in such surroundings. I can bring no more convincing argument of the effect upon health of such conditions than to cite the result of a recent inspection of a school annex situated over a paint shop. The children were overcrowded in small, low pitched rooms, heated by red hot stoves, and without ventilation. These children showed a proportion of enlarged tonsils of 24 per cent., as compared with 11 per cent. among children of the same age and class in a new school one block away. If our civilization compels us to remove our children from the fresh air and sunshine when their bodies most require both, to deprive them of the natural outlet to their energy through unrestricted physical exercise, and to force their unstable and delicate brains to undertake mental tasks, which, under most favorable circumstances, involve great strain upon mind and body, it is certainly our duty to insist that the conditions under which they are housed should be exemplary.

In the years of childhood we sow most of the seeds of physical and nervous deterioration. In the years of puberty and early adolescence this seed, which in childhood has already sprouted, and in some cases grown, now springs up and flourishes with peculiar vigor, and we begin to gather our crop of neuroses or actual organic degenerations from a body and mind rendered especially unstable by the physiological demands of this critical period of life. Dementia præcox, hysteria, neurasthenia, the neuroses, the psychoses, chorea, the tics and habit spasms, and impaired mental power are but a few. Apart from physical defects, which act as a predisposing handicap, many of these conditions owe their immediate onset to overstudy, examinations, and the attempt to keep up with the strict grade system, which tries to fit the child to the task and not the task to the child. Many of these children have come into the world with the additional handicap of bad heredity, and even under the best conditions have a tendency to drop on the march.

The physical defects responsible for a *diseased or disordered nervous system* as seen in school children are often of a character which can be remedied or improved. Their prompt recognition and treatment is, therefore, all important.

*Malnutrition* probably stands at the head as a cause of functional and organic nervous disease. Very many of the children are insufficiently and improperly fed. This at once brings up the question of feeding, not only of children of school age, but of these same children in infancy, for we must begin at the beginning. Careful observation leads me to believe that we are less frequently dealing with actual inability through poverty to supply sufficient food than with dense ignorance as to what kind of food should be given. In our work of inspection we use the school nurse as an educational factor. She visits the homes of such patients, and as far as pos-

sible makes practical dietetic suggestions to parents.

*Eyestrain* probably ranks next in importance. Our Baltimore figures are incomplete, as a routine Snelling test is not made in all cases. As a prophylaxis to the train of nervous disorders incident to eyestrain, the number of inspectors should be increased from five to at least fifteen. Each inspector now has about 13,000 children under his care, and the impossibility of making a careful examination of the eye under the circumstances is evident. I am not in favor of the teacher making examinations of the eye, as has been suggested. Few are qualified to do so intelligently, and the mistakes will discredit the entire system. Besides, they are already overworked. Notwithstanding the incompleteness of this branch of inspection as now done, very many cases are recognized and corrected. When examination shows serious error to exist, children should not be allowed to attend school until correction is made. This at once brings up the question, Should the city supply glasses as it now supplies school books, some parents protesting that they cannot afford to buy glasses for their children? My feeling is that the city should not do so, for if supplied to one they must be supplied to all. It seems better to rely upon organized charitable agencies in such cases, as savoring less of paternalism. While correction of existing defects is absolutely necessary, much more important is the prevention of eye disease by improved lighting conditions and properly adjusted desks. In some of the older schools the rooms are both insufficiently and improperly lighted. In few of the schools is the question of wall covering considered at all. The conditions in some schools beggar description. The practice of fitting a five year old child and a long legged boy to the same kind of desk is almost universal in the older schools. Not only ocular disease, but lateral curvature, with their train of symptoms and deformities are thus combined. A very practical difficulty is encountered in some cases in compelling the children to wear the glasses, when supplied, as much as they should.

*Adenoids* are responsible for a definite train of nervous disorders. The difficulty lies in securing removal after parents have been notified of their presence. In New York, if, in aggravated cases, parents do not heed the notices of the inspectors, compulsory removal in school is performed. Up to the present time this has not been possible in Baltimore. Our figures vary, but in two old schools recently examined by me there were 207 cases of adenoids among 840 children of all grades. I should insist upon removal in aggravated cases, referring those in dispute to the arbitration of a specialist in the employ of the health department. A very large proportion of backward children suffer from adenoids. This I feel to be due to several causes, the direct effect of the condition upon the body and mind, the frequency of "colds" and catarrhal disorders necessitating absence from school, and the effect of deafness resulting from Eustachian disease upon the progress of the child. Some of the most striking cases of rapid mental and physical improvement, with astonishing progress in study, are seen after operation for adenoids.

*Enlarged tonsils*, unless associated with adenoids, frequently do not give rise to symptoms. If much enlarged, however, or if there is a history of recur-

rent acute attacks of tonsilitis, parents are notified that they should be removed. Here again comes in the difficulty of enforcing our recommendations. The greatest obstacle to the proper operative treatment of both enlarged tonsils and adenoids is the ignorance or indifference of the average family physician in certain sections, who usually prescribe a gargle, and laughingly tell the parents that the condition is not serious. My school experience has somewhat modified my views of the significance of tonsillar hypertrophy. A very large proportion of cases apparently are not subject to attacks of acute tonsilitis. On the other hand, hypertrophy frequently seems to be a response by the body to bad air and unhygienic surroundings. The figures already referred to, in which, under such circumstances, the percentage of enlargement was more than twice as great as in children better housed, suggest that after all hypertrophy may be in one sense a conservative process. It seems probable that enlarged tonsils *per se* play a small part in the production of physical or mental disorders, and that when coexistent, as they so often are, with adenoids and such conditions as malnutrition, adenitis, backwardness, etc., may be an associated symptom rather than the underlying cause.

*Deafness* among school children is not uncommon, but it is interesting to note how frequently it is overlooked by the teacher, and the resultant backwardness of the child attributed to inattention or impaired mentality. Several pathetic cases have been set right when the teacher realized the mistake and the child was more favorably placed. The frequency of this condition can be lessened by better control of epidemics of scarlet fever and measles. The treatment of such cases in the rapidly building hospital for contagious diseases, where the services of experts can be at once obtained in cases of otitis media, should do much to lessen ear disease. The compulsory removal of adenoids will also do much. Wax is a frequent and often overlooked cause of deafness in children.

*Epilepsy* in the schools presents a difficult problem. Until very recently epileptics were admitted to the general classes. The demoralizing effect not only upon the rest of the class, but upon the unfortunate victim of recurrent convulsions in school, can be imagined. An attempt has recently been made to segregate the epileptics in special classes, but this presents practical difficulties. It has been definitely shown that the proper way to manage the disease among the poor is to establish colonies in the country, where special education and suitable occupation can be provided. A crying need in this community is provision by the State for such an establishment.

Recent investigation of the physical condition of the mentally deficient, the incorrigibles, and the truants has thrown much light upon the proper treatment of such cases. With the idiots and imbeciles we are not now concerned. This condition is, of course, incurable, although much can be done in special institutions by proper training to render them more or less useful and happy. It is a stigma upon the State that totally inadequate provision is made for their care, although public opinion is so aroused that something will doubtless be done by the next legislature.

What concerns us more in this connection is the

problem of how to better the condition of those children who are mentally below par. It has been definitely shown that a very large proportion of such children suffer from physical defects, especially eye-strain, deafness, adenoids, and malnutrition, and that when these conditions are corrected or improved the child at once begins to make more rapid progress in study. The New York figures prove this without question. There still remains, however, a large number of backward and deficient children whose condition is not dependent upon physical disease, but an inherited inferior mentality. Special schools for all such children are impracticable, nor are they desirable. It seems best for such to mingle with normal children in study and at play. To rub up against others better endowed seems stimulating and of distinct benefit. In class work, however, such children must be taught individually in small, ungraded classes. For this purpose teachers of the highest type are needed. I know of no work which requires a higher order of tact and intelligence than the teaching of the so called ungraded classes. The importance of getting the most out of such children and encouraging selfreliance is not only humanitarian, but economical. If placed in special schools and separated from other children they fail to develop selfreliance, and when turned adrift on the world eventually become public charges.

The very high percentage of physical defects found among *truants* and *incorrigibles* has thrown much light upon the causes of truancy. It has been found that the great majority of such cases suffer from adenoids, imperfect vision, deafness, or other defects. Such children have a tendency to fall back in their studies, become sensitive or mortified, then defiant, and finally drop into truancy. The results in the so called parental schools where such children have received proper moral and physical treatment have been most gratifying. Of course, it is not meant that all cases can be explained on this ground, for many are recruited from the congenitally defective and degenerate.

And, finally, a word in regard to that indefinite but increasing class of children to whom only the term *nervous* can be applied. It is begging the question to consider their condition as an inevitable result of our civilization, and to sit by fatalistically and allow the army of adult weaklings, neurasthenics, psychasthenics, and insane to be recruited without protest. The curse of heredity can only be combated by environment and education.

We have in the school the opportunity to bring about better things, if by wise medical supervision of education we make the school an object lesson of practical hygiene, and direct the teaching of the school so as to extend the knowledge of healthful living. In this way not only can disorders of the mind and of the nervous system incident to school life be controlled, but the mental and physical welfare of the race can also be placed on a higher plane.

In conclusion, let me summarize certain leading points:

1. Children under eight, or, better, ten, should not attend school if country life and parental attention are possible.
2. City children between five and eight should be placed in kindergartens situated in parks or suburbs where nature study and systematized play and light



ungraded objective work in the open air can be carried out.

3. Schools for older children should be gradually removed to the parks or suburbs and equipped with playgrounds and physical directors.

4. Overstudy and competition among the more ambitious pupils should be prevented, and the leveling of the child to the grade avoided.

5. The hygienic condition of the schools should be maintained at the highest efficiency, both for the effect upon the child's health and as educational object lessons.

6. Physical defects (usually remediable) at the basis of many mental and nervous disorders are principally:

a. Malnutrition, to be combated at present largely by the educational influence of the school nurse.

b. Eyestrain, if of advanced grade or if productive of symptoms, to be corrected, and the wearing of glasses made compulsory.

c. Adenoids and enlarged tonsils to be removed; in neglected cases the health department should have power to enforce removal.

d. Deafness to be prevented by the better control of epidemics and removal of adenoids.

7. Epileptics to be placed in separate schools, or, better, in rural colonies.

8. The condition of many so called mental deficiencies improved or cured by correction of physical defects.

9. Truancy and incorrigibility in many cases due to the handicap upon mental work of physical defects.

10. Education of idiots, imbeciles, and the feeble minded, as far as they are capable, in special institutions maintained by the State.

11. The education of children slightly below par mentally in small ungraded classes in the public schools.

12. Substitution of a broad medical supervision over education by a board of physicians and educators instead of mere medical inspection.

16 WEST CHASE STREET.

## THE PSYCHIC TREATMENT OF NERVOUS DISEASES FROM A PRACTICAL STANDPOINT.\*

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Since the address of the Rev. Ellwood Worcester and Dr. Coriat, of Boston, Mass., before the Hopkins Medical Society, May 20, 1907, it has seemed expedient that the psychic treatment of patients should be treated from the standpoint of the general practitioner on its practical and everyday side. There is danger that a man not especially trained in observation and the study of psychology might, possibly, take an extreme view of these methods and the facts presented to him on that night and in the literature of the present day.

In the first place, I take exception to the statement that the mass of people who have become interested in psychotherapy have been really driven into this by the neglect of the profession at large

in adopting such treatments. I doubt, indeed, if there is any suggestion more potent than the influence of the family physician, or the simple administration of a remedy by one in whom we have such confidence. I believe that the medical profession at large have used and uses suggestive therapeutics more than is generally known and as much as they have dared, owing to the prejudice against such methods by many patients. That a training along these lines is most essential I admit, but whether strictly scientific or no, is questionable when we see it recommended that such cases be turned over for treatment, and apparently successful treatment, to men who have not had a scientific training.

Leaving this point for the moment, the question of chief importance is, Why this growing need for psychic treatment in this country? I hope to show that this is not due to the neglect of the doctors, but rather an increase of a certain degenerate type of mind, fast spreading over our land. We have in this country every reason for the production of a class or type of people who, without entering into any scientific classification, I shall group under the general heading of the "mind weary"; a reaction, as it were, against the strain and turmoil, the ambition and excessive nerve restlessness of the present day. I believe that I can safely say there is scarcely a psychoneurosis that would not come under this general heading. There is no better class of people in which to study this type than in those who are led to join the Christian Science Church. This is a type that has lost the desire to think for themselves, or, if they must do so, do not care to use the mind in a way that is hurtful or fatiguing. How many thousands of these poor mind weary wretches are on the lookout for some simple, plausible, easy solution of the problems of life that will cut them out of all its responsibility! What wonder that a mother, worn out by numerous cares, should adopt the theory in which she, smiling over her sick child, can say that "all pain is error, there is no such thing as pain," and go back to her bed, free from all the worries of motherhood and safe in the consciousness of her right doing. People of this type will accept anything without argument, proof, or consideration. As an illustration: An able man and thinker, a personal friend and patient of mine, attended a meeting at the Mother Church of the Christian Scientists in Boston some time ago. He related to me a number of the experiences given at that meeting, two of which I will repeat, as well as my memory allows, as an example of what I am endeavoring to prove.

The first experience cited by one of the members of the congregation was as follows: A man on the street was run over by a heavy furniture van, and suffered a fracture of the thigh, the powdered bone from which could be seen sprinkled on the streets. While some one was running for a doctor, another for an ambulance, etc., a majestic figure appeared, namely, Mrs. Eddy, who waved her hand over the man, and in a moment he was healed, arose, and walked away.

The second experience was told about a little girl of three years, who, while sewing, drove a needle through the thumb and base of the thumb, and the

\*Based before the Johns Hopkins Hospital Medical Society, Oct. 1, 1907.

left hand. The mother withdrew this, quoted a few words from *Science and Health*, the child stopped crying, and the wound immediately healed.

My friend, being a broad minded and intelligent man, appreciated at once the utter impossibility of these two experiences, the powdering of raw bone, for instance, and the ability of a child of three to force a needle through the bone of the thumb. He looked around upon the faces of the fashionable, well dressed and better class audience to find a single dissenting look or even a gesture of incredulity, but to his surprise these experiences, with a dozen more equally ridiculous, were accepted by all, as a matter of fact, and beyond question. He asked me for an explanation of this, as he called it, curious phenomenon. I replied, as I would here, it is because they belong to a mind weary class, who care not to think or investigate; they will accept anything rather than take the trouble to argue it down or deny it.

I only bring in these cases to show why it does not seem to me especially requisite that a general practitioner must have a technical training in psychology in order to influence such people. Let us compare the mind weary man or woman, toiling up the road of life, to a person walking up a hill with a heavy burden on his back. We can lessen this burden by taking him into our confidence, relieving his mind of secret griefs, etc., etc., by suggestion and encouragement, telling him that after all his burden is not so heavy, etc., etc. We can make the hill seem less steep by giving him assistance in the form of food and money, etc., as our philanthropic societies do and are doing, but we are making a mistake if we neglect making the man actually stronger himself, for who knows that in a few years a heavier burden may be put on his back, a steeper hill may lie before him, and our assurances cannot be lasting, and we ourselves may not be on hand to help him. The result of all this is a still more serious nerve relapse.

Has any one ever seen a perfectly organically healthy man or woman, who could long remain unhappy? Has any one ever felt quite the same as when he was in what we call the "pink of condition," as the trained athlete should be before some trial of his strength? Is not the first duty of the physician, after all, the strengthening of the body so it can bear its burdens and nourish the weakened nervous system? I therefore say, while agreeing with eminent authorities on the necessity for better instruction in psychiatry in our medical school, that it is absolutely necessary, and of more value, that a thorough training be given in the application of physical methods. Teach the tailor and the factory girl how to prevent contractions of the chest, the crooking of the back—in fact, everybody, better laws of hygiene; keep your towns and cities clean, free of dust and smoke, lessen the hours of work and increase the hours of recreation, and we will see how happy the dwellers therein will become, and how little need physicians will have for psychic treatment among their patients.

And now, as to the treatment of this mind weary class already among us and probably doomed to be with us, at least in our generation; help them as suggested in all three ways, but by mental methods

only when they really need it. If a man or woman is happy in a hobby, let them retain it or even indulge it for the time being, if it does not harm others. You will often be unable to supply anything better to take its place. Why? For this reason: Nature has ways of protecting her own; when the mind becomes too greatly distressed by effort and worry, it searches around for or oftentimes evolves a theory that is especially fitted to its own satisfaction at the time, and which allows it to rest and find repose. Like certain plants or bacteria, it goes into a resting or spore stage, which the theory allows it to do, when the environment is against its growth, and then the harrassed, worried-looking, and nervous individual acquires a selfsatisfied, benign, and placid expression. In some cases restraint is necessary for the protection of society. For example: The anarchist is a man born with the inability to work, or at least the disinclination to do so. He goes restlessly from one vocation to another until the theory, such a happy one to him, that the rich man should share with him his wealth and luxuries, etc., explains the lack he feels within himself for serious occupation, and he takes up anarchy willingly and happily, works hard, and will even die gladly for the cause. Anarchy, undoubtedly, makes him happier, and if it did not harm the rest of us we could leave him alone with his delusion with possible benefit to himself. The Christian Scientist or the applicant to the mental healer is one born with the disinclination to think; they finally hit on some simple theory which explains everything to their own satisfaction. This lets them out of most of the worries of life, and probably saves a further degeneration of the mind, and may thus help posterity.

The first stage in the degeneracy of the mind, then, is the disinclination to think; a later stage is the inability to think, and at last we arrive at the various stages of imbecility, dementia, etc.

In conclusion, I would say that it seems to me a dangerous procedure to turn even the purely functional neuroses over to untrained men for treatment, even if they can give efficient mental treatment, owing to the impossibility to determine, often, what is organic and what is functional, or how dependent the mental state is on the badly developed or poorly nourished body. I remember very well a case Dr. Osler disagnosticated as organic trouble, which another very eminent physician said was functional. After saying everything bad in the calendar about Dr. Osler the poor patient died a year or so later of organic disease. This is a common experience, and I mention it as showing the impossibility of distinguishing at once or for years in some of these cases. There should always be cooperation throughout the treatment of such cases with a trained physician; at least a month's careful watching and then recurring examinations throughout the treatment, no matter how long it takes to effect the cure.

I think our medical schools should have better courses in psychiatry; but, more important even, as we can always get a specialist in a pinch, and manage fairly well without this special training, would be a thorough knowledge of electrotherapeutics, scientific massage, the administration of heat

and cold, and last, and most important, the problems of nutrition—which we admit are so important in pædiatrics—and often ignore in adult life. That fat reduction, if scientifically carried on, will cure a fat neurasthenic as nothing else will, if you can substitute good muscle for his poor tissues, is an every day experience with those interested in such matters, and a very important problem for the consideration of the general practitioner. I believe, honestly, that gymnastics, outdoor exercise, proper nutrition, etc., will go much further with neurasthenics alone than suggestion will alone. They in themselves are suggestive, and do not weary the mind with argument, and, as I have shown, will make the man stronger to bear the burden of his life, which may become greater when you are no longer at hand to help him. A prize-fighter, asked why he took up the profession, said "he was very nervous as a kid, but when he could lick any man in the room this all left him."

Beware, without much deliberation, using your influence in turning a mind, which sometimes is unfit for your ideas, from the ones which often, as I have said, the wornout mind has evolved for itself, better indeed than you could do for it, and which in a poor state of nutrition of the body may be its haven of rest. Build such a body up, and make the psychic change later. And now, last, but not least, let us, as American citizens, as well as physicians, try and prevent this wave of degeneracy which is spreading over our country, rather than be compelled to cure it after it has fastened itself upon us. Who can read those two articles in *McClure's Magazine*, April and May numbers of this year, without shame? Who can doubt the genuineness, from the evidence given, of the statement that in the midst of one of our greatest cities, in its very centre in fact, there are over 30,000 people who are below the par of the most barbarous savages on the face of the globe? Let us use our influence over our patients to prevent undue emigration, the corruption of politics, and see that our cities are kept clean and hygienic, that proper rules and regulations are carried out in the schools and the factories, etc. Let us, as physicians, teach the people how to prevent disease in their children and themselves, and if they refuse to be taught, let us see that the city authorities compel them to keep just and suitable laws.

It is a great mistake that the building up problem of the human body is ever turned over to ignorant people, and who are less trained in their work and capable of doing more harm than the mental healer could do with his crude psychotherapy. A doctor should be able to give massage and baths, or at least should know whether his employees are able to do so, and the same thing applies to the various physical-culture methods, diet, and a number of other growing necessities. Given a man's age, height, etc., how few of us know his proper dimensions, the strength of his muscles, their capacity, lifting power, etc., or, in other words, what a normal man should be and how to make him so. What nations should twenty men have for twenty days in a certain climate, etc., are practical problems which might and have confronted many a physician most unexpectedly, to his great embarrassment. The

average medical student reads ten books on psychology, or along these interesting and fascinating lines, to one on nutrition or vital statistics, etc., which are unfortunately dry and not very entertaining, but this does not lessen their importance.

This paper is a plea, then, for scientific study along the lines of physical needs and physical development and the scientific teaching of the same—far more important, I consider, than that of psychiatry for men beginning their life work and which we feel the lack of more than anything else when we first start out in the practice of medicine. I trust that this paper may serve as a warning and some help to men with a medical life before them, and may restrain their enthusiasm along a very thorny and hazy path for the beginner—psychotherapy. I remember well in 1898, when I used hypnotism in place of an anæsthetic on some surgical patients in this hospital, with fair success, how enthusiastic I was until I found out what limitations my methods had, and now I earnestly advise you to learn all you can first about building your patients up. Your daily experience will evolve a power for psychic treatment and develop your powers of influence. The younger generation of medicine has a great work before it; its war cry is prevention rather than cure, and especially when considering our neuro-pathic classes.

21 MT. ROYAL AVENUE, WEST.

#### CHORIOEPITHELIOMA MALIGNUM.

By ANTONIO M. CRISPIN, M. D.,  
New York.

The difficulties of diagnosing and the comparative rareness of these uterine tumors, together with their clinical and pathological interest, encouraged me to report the following case, in which I operated in April, 1905, thus adding one more to the scant literature on the subject.

The comparative infrequency of these tumors can best be judged by reading the masterly article by Dr. Robert T. Frank in the *New York Medical Journal* of April 21, 1906, where, in a most exhaustive and comprehensive study, he found but twenty-eight cases reported in the American literature. The nomenclature of these growths has been quite extensive, and various are the terms applied to designate this rare form of neoplasm. It has been designated as deciduoma malignum, malignant bladder mole, sarcoma decidua cellulare, malignant placental polyp, and more recently chorionepithelioma and chorioepithelioma.

The first important study on the subject was published by Sanger in 1889 and was followed by Gottschalk and Frankel. The consensus of opinion as to the origin of this growth accepts the theory advanced by Marchand, that these tumors are of chorionic, fetal, or ovular origin. Voight maintains a contrary opinion, and says that they arise from maternal tissue and not from fetal ones. Frank in the article referred to says: "A chorioepitheliomatous tumor of pregnancy may be defined as a neoplasm which arises from some portion of the fetal covering (ectoderm) invading the tissue of its host, the mother." It was clearly shown by Marchand what



relation the protoplasmic masses of the tumor have with the syncytium and their relation to those of Langerhans's layer. It has also been demonstrated by others that the syncytium and Langerhans's cells are derived from the ectoderm, and therefore these tumors are of fetal or ovular origin, causing a malignant proliferation of the two layers of the chorionic epithelium.

These tumors as a rule follow pregnancy, abortion, or a hydatidiform mole. In my case it was the sequela of an abortion. Metastasis is one of the remarkable characteristics of these growths, and there is a decided tendency to early invasion of other viscera. Malignancy is also a marked characteristic of these tumors. They are usually located in the uterus, but it has been primarily observed in the vaginal and in the fallopian tubes. Generally it follows pregnancy, specially a hydatid mole, but it has nevertheless been observed after the menopause in a woman fifty-eight years old.

The symptoms presented by the patients are usually as follows: After pregnancy, abortion, or the expulsion of a hydatidiform mole, 58 per cent. of cases, there is repeated genital hemorrhages, generally profuse, although it may be scanty. The hemorrhage may be continuous, and in the period of quiescence a thin, watery discharge may appear. Anæmia may supervene. When the disease has advanced the tumor ulcerates, and pieces of necrotic tissue are discharged, the odor of which may become intolerable. Metastases appear in the other organs, ulcerating into bladder or intestines.

The prognosis is extremely grave. The only hope is early surgical intervention. Medication for the control of the bleeding seems not to exert any influence.

The diagnosis is established by the careful consideration of the symptoms and the physical signs. Enlargement of the uterus, resembling a gravid one, varying in size from a five week pregnancy to that of full term. The profuse bleeding, and the removal by curetting of a piece of tissue for microscopical examination, will establish the diagnosis.

The treatment of these cases is that of all malignant growth—extirpation. Curetting aggravates the condition.

CASE.—Mrs. A. S., age forty-nine, has no information to offer about her parents. It may be interesting to know that one of her brothers had been operated upon by me for a sarcomatous growth of the right groin. She always enjoyed good health, menstruated when she was eleven years old, married very young, and has had thirteen living children and two abortions. Her present illness began five months ago, when she aborted at the third month of gestation. Bleeding was very profuse, and as it did not stop she consulted a physician who curetted her, but this only aggravated the condition and the hemorrhage was increased. I was then invited to see her. She was a large, stout woman, very anæmic. On bimanual examination, the cervix felt soft and large, the os quite patulous, uterus globular and about the size of a four month gravid uterus, uniformly enlarged, and freely movable. Hemorrhage continuous. I advised immediate operation, which was accepted, and had her removed to the hospital. I performed a hysterectomy by the combined method on March 7, 1905, assisted by my friends, Dr. Jacob G. Paepke and Dr. Henry Kalvin. Having first curetted the uterus, which was found very soft and bled profusely, requiring immediate packing, I then opened the abdomen, cutting through enormous quantity of adipose tissue, which impeded the delivery of the uterus; this organ was perfectly smooth and large. After some difficulty, due to the thickness of the abdominal parietes and the intense bleeding from the tissues which

tore easily, I succeeded in delivering it. All went well until the fourth day, when the patient developed intestinal paralysis, for which everything was tried, but to no avail, and she died in the evening. The tumor was sent to the pathologist, Dr. N. Kruskal, and he reported it to be a chorioepithelioma malignum, with the usual findings.

854 LEXINGTON AVENUE.

# RHYTHMICAL ALTERATIONS IN THE WIDTH OF THE PALPEBRAL FISSURE OF BOTH EYES PROBABLY PRODUCED BY SPASM OF THE LEVATOR PALPEBRÆ MUSCLES.\*

By C. A. VEASEY, M. D.,  
Philadelphia,

Assistant Professor of Diseases of the Eye, Jefferson Medical College.

At a meeting of this section, held April 15, 1902, Dr. William Campbell Posey reported a case of unusual choreiform alterations in the width of the palpebral fissure of both eyes, occasioned by spasm of the levator palpebræ muscles, which was observed in a colored boy eight years of age, the patient complaining only of slight headache and of a sensation of sand in his eyes, but an examination showed curious rhythmical alterations in the width of the palpebral fissures, the latter widening about fifteen to twenty times in a minute. The contractions were choreic and entirely under the control of the will, the patient being able to initiate them or stop them when told to do so. The excursions of both eyes were normal, there was no nystagmus, and vision and accommodation were also normal. Atropine was employed, the patient refracted, and there was no return of the movements after the patient received glasses.

Posey believed that these curious movements of the eyelids were due to the contraction of the levator muscles of the lids, and that these contractions took place without any assistance of the frontalis muscles, as the eyebrows remained quiescent. There also seemed to be no connection with the act of winking. He thought that the widening was occasioned by the contraction of that part of the levator muscle controlled by the third nerve rather than by contraction of the small portion consisting of unstriped fibres which receives its innervation from the sympathetic. He argued that if the contractions were due to a spasm of the muscle of Müller there would also have been observed changes in the size of the pupils, as the iris is also innervated by the sympathetic.

It was thought that the movements were choreiform in character, the contraction of the levator taking the place of the more common manifestation of habit chorea, namely, the contraction of the orbicularis.

The following notes are of a somewhat similar case:

T. R., aged seven and a half years, both of whose parents were more or less nervous, was first examined April 12, 1907. The child himself had always been nervous and very quick in his movements. For some months there had been observed an upward movement of each upper lid, occurring about twenty times in a minute and sufficiently great in extent to uncover the cornea and expose the sclera above. The movements were much more marked at times than at others, but were especially bad when something

\*Read before the Section in Ophthalmology of the College of Physicians of Philadelphia, November 14, 1902.

occurred to make the child nervous. The movements were rhythmical in character and were in all probability due to contraction of the levator muscles. The frontalis was not involved nor were there any changes in the pupils. Occasionally there were slight contractions of the alae of the nose. Adenoids had been removed some months before, and the patient had also been circumcised.

It was thought that we were dealing with a case somewhat similar to that described by Dr. Posey, and the patient, who had only 6/9 vision in each eye, caused by a simple hyperopic astigmatism, was refracted under atropine and the glasses ordered to be worn constantly. This gave considerable relief, as the contractions of the lids did not occur so frequently, but the movements did not entirely cease until the patient was placed upon ascending doses of Fowler's solution of arsenic.

In this patient the contractions were probably largely due to the condition of the eyes, being a manifestation of habit chorea, but which did not entirely disappear until after the administration of arsenic. It is certainly a somewhat unusual manifestation, and is here reported because of its infrequent occurrence.

1831 CHESTNUT STREET.

## Therapeutical Notes.

**Applications for Acne.**—According to Ohmann-Dumiesnil (*American Journal of Dermatology*), the general treatment of acne is complicated owing to the fact that the affection may be caused by so many conditions. For local application it is generally agreed that sulphur is best. A generally good application is the following:

R Sulphuris præcip., ..... ʒss;  
Ung. aquæ rosæ, ..... ʒi.  
M. Sig.: Apply twice daily.

As a lotion the following formula of Kummerfeld's is stated to be efficient and pleasant to use:

R Sulphuris præcipitatus, ..... ʒiv;  
Pulveris camphoræ, ..... gr. x;  
Pulveris tragacanthæ, ..... ʒi;  
Liquoris calcis, } ..... aa ʒi.  
Aquæ rosæ, ... }  
M. Sig.: Apply two or three times daily.

[This lotion should be ordered to be shaken well before applying.]

In cases in which there are old, hard papules the following will be found useful:

R Hydrargyri oleatis (5 per cent.), ..... ʒss;  
Sulphuris præcipitatus, ..... ʒss;  
Ung. aquæ rosæ, ..... ʒi.  
M. Sig.: Apply thin twice daily.

**The Use of Drugs in Cholelithiasis.**—In the *Therapeutic Gazette* for December, 1907, John H. Musser, of Philadelphia, discusses the medical treatment of diseases of the gallbladder, and with regard to the use of drugs he has to say that there are very few that can be administered with any degree of confidence that results are to be secured, save those indicated from a careful study of the gastrointestinal tract (including the stools and gastric analysis), those that are indicated by a study of the circulation, and those that are indicated by a study of the blood. Among the drugs that have virtue in a general way he places the alkalis first. Where there is congestion or a tendency to stasis ammonium chloride is of value, as it has an in-

fluence upon the secretions and is said to thin the bile, allay catarrh, and modify the amount of mucous secretion. The author thinks that after the establishment of a biliary fistula, the secretion of bile is increased by the use of the salicylates. The value of sodium phosphate and other sodium salts is well known, but whether the result obtained with them is due to their action as cholagogues or as purgatives relieving the stasis, he is not prepared to say. There is no solvent for gallstones that lie quiet in the gallbladder or in the bile ducts, and there is no medicinal means of removing them. Dr. Musser has never seen any relief to gallstones from the use of olive oil; though it sometimes relieves the symptoms in this way: With gallstones there is usually a hyperacidity, which gives either simple gastralgia or pyloric spasm. It is these symptoms that are relieved when olive oil is administered.

**Lotions and Pomades for Alopecia.**—From Schnirer's *Taschenbuch der Therapie* we take the following selection of formulas:

### I.

B Acidi salicylici, ..... 1.0 gramme;  
Tincturæ benzoini, ..... 2.0 grammes;  
Alcoholis, ..... 200.0 grammes.  
M. S. Apply to the scalp once or twice daily.

### II.

R Resorcin, ..... 5.0 grammes;  
Olei ricini, ..... 45.0 grammes;  
Balsami peruviani, ..... 0.5 gramme.  
M.

### III.

B Sodii bicarbonatis, ..... 3 parts;  
Spiritus lavandulæ, { ..... aa 15 parts;  
Glycerini, .....  
Aquæ distillatæ, ..... ad 200 parts.  
M.

### IV.

R Hydrargyri ammoniati, ..... 2.0 grammes;  
Unguenti aquæ rosæ, ..... 50.0 grammes;  
Tincturæ benzoini, ..... 1.0 gramme;  
Olei rosæ, ..... 5 gtt.  
M. S.: Pomade.

### V.

R Quinina, ..... 1.0 gramme;  
Acidi tannici, ..... 2.0 grammes;  
Ung. aquæ rosæ, ..... 100.0 grammes;  
Olei rosulæ (mignonette), { ..... aa 2 gtt.  
Olei neroli, ..... }  
M. S.: Pomade.

[In this formula the oil of mignonette, which is difficult to procure in this country, may be replaced by 1 drop of oil of bergamot.]

**Adherent Cade Ointment.**—At the Hôpital Saint Louis, Danlos, makes use (*Journal de médecine, through The Practitioner*), in different skin affections, especially in psoriasis, of an ointment which has the advantage of being very adherent to the skin and which can only be removed by the use of oil or soap. The formula is:

R Oï cadmi, ..... ʒss;  
Pulv. talci, ..... ʒss;  
Pulv. smectæ, ..... ʒi.  
M. F. unguentum.

The preparation of this ointment entails a lengthy trituration to provide for the complete incorporation of the zinc oxide and the talcum with the oil of cade.

**The Contagiousness of Follicular Tonsilitis.**—The contagiousness of follicular tonsilitis is pointed out by a writer in the *Journal of the American Medical Association*, for January 4, who advises treating it with the same local antiseptics and the same preventive measures against giving the disease to others as are used against diphtheria. It seems to be proved that many attacks of acute inflammatory rheumatism begin by the germ entering the system by way of the tonsils, even if follicular tonsilitis is not present. On the other hand an apparently typical follicular tonsilitis often precedes rheumatic symptoms. If there is much general infection from the tonsilitis, as shown by a high temperature, headache, and backache, one of the following prescriptions should be given:

## I.

R Monobromated camphor, .....gr. iss;  
Citrated caffeine, .....gr. iiss;  
Acetanilid, .....gr. viii.  
M. et fac capsulas 5.  
Sig.: One capsule every three hours, with plenty of water.

## II.

R Acetphenetid, }  
Phenyl salicylate, } .....āā gr. xxv.  
M. et fac chartulas 5.  
Sig.: A powder, with water, every three hours.

The local treatment of follicular tonsilitis and diphtheria is the same, as follows:

R Solution of hydrogen dioxide, .....3vi.  
M. Sig.: Dilute with three parts of warm water and use as a gargle every three hours.

and

R Boric acid, .....3i;  
Water, .....3vi.  
M. et sig.: Use undiluted as a gargle every three hours.

The gargles should be used alternately, each one every three hours (one or the other every hour and a half) during the day time, and every three or four hours at night.

If the patient is debilitated by the inflammation, a simple tonic is needed, which may consist either of strychnine sulphate, gr. 1-30; or a mixture of quinine sulphate, gr. iss and reduced iron, gr. 34, either to be given three times a day.

**Local Applications in Rheumatism.**—For application to painful joints the following combination is recommended in *The Hospital* for November 23, 1907:

R Salicylic acid, }  
Oil of turpentine, } .....āā 3ss;  
Hydrous wool fat, }  
Lard, .....q. s. ad 3iiii.  
M. Sig.: Apply to the parts affected on lint, and cover with gutta-percha tissue and a flannel bandage.

In chronic rheumatism and gout the following may be tried:

R Salicylic acid, .....3v;  
Castor oil, .....3iii;  
M.

Lint soaked in this is applied in the same way as the preceding application.

**Treatment of Comedones.**—Ohmann-Dumesnil, in the *American Journal of Dermatology*, some of the commoner diseases of the skin. In reference to acne punctata or comedo, commonly known as

blackheads, he notes that constipation usually exists, amounting at times to a veritable obstipation. Of course, he remarks, it is necessary to overcome this, the removal of the constipation forming a useful adjuvant to the treatment which may be adopted. In rectal obstipation he says there is no better remedy than a pill of socotrine aloes to be taken every night for several days. The diet should be regulated. The internal remedy preferred by him is arsenic in the form of arsenous acid [arsenic trioxide (U. S. P.)], which he prescribes in the following combination:

R Acidi arsenosi, .....gr. ii;  
Pulv. piperis nigris, .....3ii;  
Ext. gentianæ, q. s.  
M. et ft. cap. No. 60.  
Sig.: One capsule after each meal.

Locally the comedones may be covered with the following paste:

R Acidi acetici dil., .....3iiss;  
Glycerini, .....3ii;  
Kaolini, .....3iiiss.  
M. et ft. pasta.  
Sig.: Apply at night.

**The Medicinal Treatment of Epilepsy.**—During an attack nothing serves so well as the inhalation of amyl nitrite. Between the attacks bromide salts in various combinations are of value. The following prescriptions are adapted from several printed in a recent number of the *Journal of the American Medical Association*:

## I.

R Ammonium bromide, }  
Potassium bromide, } .....āā 3ii;  
Sodium bromide, }  
Syrup of orange peel, .....3i;  
Camphor water, .....q. s. ad 3viii.  
Ft. mistura. Sig.: Two tablespoonfuls three times a day after food.

## II.

R Potassium bromide, .....gr. lxxx;  
Tincture of belladonna, .....℥ xl-lxxx;  
Syrup of orange peel, .....3i;  
Camphor water, .....q. s. ad 3viii.  
Ft. mistura. Sig.: Two tablespoonfuls to be taken three times a day after meals.

## III.

R Ammonium bromide, .....3ii;  
Tincture of digitalis, .....℥ lxiv;  
Syrup of orange peel, .....3i;  
Camphor water, .....q. s. ad 3viii.  
Ft. mistura. Sig.: Two tablespoonfuls three times a day after food.

**Boric Acid Instillation in Otitis Media.**—F. B. Richards (*Lancet*, November 30, 1907, and *Le Bulletin médical*, No. 94, page 1049) recommends, in the treatment of acute and chronic otitis media and other forms of otorrhœa, the instillation of a concentrated solution of boric acid in alcohol and glycerin, as in the following formula:

R Acidi borici, .....4.0 grammes;  
Alcoholis, .....8.0 grammes;  
Glycerini, .....18.0 grammes.  
M.

Twice or thrice daily and, especially mornings and evenings, the ears are syringed out with lukewarm water. The head is then held so the affected ear is uppermost and the drops, previously warmed, are freely poured in.



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## INDUSTRIAL ACCIDENTS AND DEPENDENCY.

In the highly intricate relationships of the modern social fabric there is one feature that comes prominently forward in the life work of many physicians. This pertains to the alleviation of the suffering of many who are struck down in the struggle of life for shorter or longer periods of time by the numerous accidents of industrial occupations.

In the quarter ending March 31, 1907, according to statistics furnished by the Department of Commerce and Labor, 45,000 accidents were reported in this country, which number represents a totally inadequate idea of the great total. What compensation is afforded these sufferers and their families whereby the necessities of life may be acquired, not to mention that factor which enters into our lives, the payment of the doctors' bills? Prophylaxis and remedial legislation looking toward the diminution of accidents is one phase of the matter which cannot here be discussed. What are the conditions?

The lawyers of large corporations will tell us that the many suits brought for damages are mostly of the nature of blackmail, but the public at large do not believe it if jury awards are to be regarded as expressing the views of the masses; and we, as physicians, also know that this is far from being a proper statement of the case. An investigation of about 400 cases coming to the attention of the New York Charity Organization Society and reported by Francis H. McLean in a recent number of *Charities and the Commons*, December 7, 1907, affords an illu-

minating glance at what really happens in these cases, and as such throws considerable light on the subject, interesting alike to general practitioner, medicolegal expert, lawyer, and judge.

About one half of the accidents occurred to men under forty years of age, that is, in the best part of their industrial life. About 50 per cent. happen to workmen in unskilled trades. This includes laborers, drivers, longshoremen, and others. Taking 241 of the scheduled cases where the wages were accurately determined, they find that forty-six, or 25 per cent., were earning from \$5 to \$10 a week only; and that 144, or about 60 per cent., were earning less than \$15. The tables indicating occupations also show that this range of wages will run about the same in the cases where the weekly returns are not given.

Of the cases scheduled, eighty-two accidents were in the building trades, seventy-six were in connection with factories and machinery, and thirty-seven happened upon the street. This last figure, regarding street accidents, indicates the range of accidents not covered by the reports of the State bureau. It should be stated that, of course, no street accidents were recorded unless they happened to workers whose duty took them upon the streets, that is, drivers and messengers. Those injured on their way to or from business were not included. The schedule of permanently injured reads as follows: Amputations of fingers or toes, seven; amputation of legs, feet, hands, or arms, twenty; brain permanently injured, ten; partially crippled, eight; paralyzed, five; blinded, fifty-three; permanently injured by blood poisoning, two; spine injured, two; internal injuries, three; loss of hearing, one; made deaf and dumb, one; hernia, resulting in partial loss of wage earning ability, at least 250; rendered insane, twenty-one; killed, forty-five.

Coming to the question of donations or settlements by employers, the author limits himself to an analysis of about 200 cases, in which the returns were fairly complete. Of these, some sort of donation or settlement was made in forty-seven, so far as known. Absolute accuracy is not alleged for these figures, but approximation to the total truth. This is about 20 per cent. of the total. This table of forty-seven settlements and donations is a veritable crazy quilt of absurdities when viewed comparatively. For temporary injuries the settlements are generally quite fair. That is, full wages were paid during the period of disability in a number of cases. When more serious results were present, many incongruities were to be observed. As a corollary, the facts regarding litigation, as nearly as they could be obtained, are given. Only the 223 cases which are fairly well scheduled in this regard are taken. The figures given are mu-

tually exclusive—suit begun, nineteen; suit begun, but settlement expected, three; suit begun, with no probable hope of recovery, two; suit begun, but complicated by absolute release, two; suit begun and lost, four; judgment obtained in two cases, one for \$300 and the other for \$200. The \$300 one is appealed, and in the other the lawyer took half for his fee.

With reference to settlements, it should not be forgotten that many elements enter into the individual settlements as they are now made—the question of liability, how much the sufferer was himself to blame, how much the other employees were responsible, and the size of the company and its ability to make generous settlements. These and many personal elements enter in. The net result, however, is one which is disgraceful for a civilized community.

In forty-nine cases where the families were provided with charitable assistance there was a stated expenditure of charitable relief of \$2,646. In many cases, however, such general entries as "rent paid by society" or "church," etc., appear. It is, therefore, a conservative estimate to figure \$50 as an average expenditure in the ninety-two families which were in care of New York charitable societies. In addition, it must be remembered that there were 111 persons who were given hospital care for periods varying from a month to a year; also there must be reckoned the cost to various charitable agencies, public and private, in care of the fifty-three blind. To this must be added the cost of the twenty insane inmates of the State hospitals, also the cost of medical attention in the hernia cases, in many of which the sufferers were provided with free trusses, etc. What the total figures would be involves so much estimating that the committee in this statement of facts does not wish to make the venture. It believes that the amount of money thus expended in relief, through public and private sources, during one year would amount to a good round sum.

But this is not all. In ninety-two cases which were closely under the observation of trained charity agents special pains were taken to have them make returns upon the marked deterioration of the families themselves resulting from the accidents and the conditions which followed. Such deterioration was decided in at least twenty-six of the ninety-two. The forms of deterioration may be thus summarized: Chronic dependency; intemperance, not before present; lowering of standards of living; breaking down in health of widow; family broken up; habit of begging developed; savings used up; furniture pawned; first experience of being dispossessed. When it is remembered that these ninety-two cases include only a small fraction of the cases of permanent disability investigated, the amount of temporary and permanent deterioration becomes a social debt of great

magnitude. What that social debt is, if one were able to-day to know accurately the results of the thousands of accidents which have occurred within the last few years, is the unanswered question.

## SULPHUROUS ACID AND THE SULPHITES AS FOOD PRESERVATIVES.

The chief of the Bureau of Chemistry of the Department of Agriculture, Dr. H. W. Wiley, has recently issued a report of nearly 300 octavo pages giving an account of his experiments with sulphurous acid and the sulphites used for food preservatives as regards their effects upon the human system. In this investigation Dr. Wiley has had the assistance of Mr. W. D. Bigelow, Mr. F. C. Weber, and others. The experiments were performed upon young men who volunteered for the purpose. The sulphurous acid was administered in the form of the gas dissolved in water, and the sulphites were given in capsules. This inquiry is thought to be perhaps of even greater importance than the previous studies of the effects of boron compounds and of salicylic acid and its salts, on account of the more extensive use now made of the sulphurous substances as preservatives of food products.

The unequivocal conclusion is arrived at that sulphurous acid and the sulphites, which have no nutritive value in themselves, exert a distinct deleterious influence when taken in considerable quantities and for more than a very short time. Particular stress is laid upon the great probability of the production of serious lesions of the kidneys, inasmuch as a large proportion of the drugs in question is eliminated in the urine after the formation of sulphuric acid. As a matter of course, these lesions could not be demonstrated, for the young men were not brought to the post mortem table, but there were unquestionable indications of such urinary conditions as could not but result in the long run in actual structural changes in the kidneys, probably of an incurable nature. Dr. Wiley's cautious temperament would naturally compel him to stop short of the infliction of permanent disease, but enough seems to have been ascertained to prove the danger of resorting to sulphurous acid and the sulphites as preservatives of food preparations, and to indicate that even the fumigation of wine casks with sulphur may lead to a dangerous contamination of the wine contained in them, which is said to absorb no slight amount of the sulphurous acid generated.

It really seems as if only the old household preservatives were safe, such as salt, sugar, vinegar, brandy, spices, and smoke, and perhaps some of them should be used less freely than they are at present. Recent national legislation on the subject has come none too soon, and it ought to be supplemented by State enactments.

## THE ÆTIOLOGY OF BERIBERI.

Interest in the ætiology of beriberi continues unabated. In two papers in the *Journal of Hygiene* for October, Axel Holst and he and Theodor Frölich compare ship beriberi, which they consider to be different from true tropical beriberi, to scurvy, and they publish some interesting feeding experiments to show the connection of ship beriberi and scurvy and the relation of diet to the production of the latter disease. The first experiments were performed on pigeons and chickens. In these animals a disease was produced which resembled tropical beriberi more than it did ship beriberi, in that a polyneuritis was frequently produced. It was also shown that many more of the ordinary articles of food were able to produce polyneuritis gallinarum than was formerly thought to be the case; for example, spoiled canned meats.

The mammalian experiments were done on guinea pigs. It was found that a one sided diet of various sorts of grain, groats, and bread produced a disease that corresponded both in its naked eye characteristics and in its microscopic appearances to human scurvy. The disease did not develop, however, when a one sided diet composed of fresh cabbage or fresh potatoes was administered. Dried potatoes, however, did produce a similar disease. This disease was favorably influenced by remedies known as anti-scorbutics. The authors have not been able to produce ship beriberi in guinea pigs in this manner. Those, therefore, who advocate the ætiological relation of mouldy rice and beriberi seem to have the advantage over those who believe in the bacteriological nature of the disease. In some recent experiments made on tropical beriberi in Hongkong, Hunter and Koch (*Journal of Tropical Medicine and Hygiene*, October 15th) have concluded that the organisms found in their culture media which were inoculated with the blood of beriberics were the result of defective technique, and that they have nothing to do with the disease.

## THE BLOOD IN POISONING BY ANILINES.

The number of recorded cases of poisoning by the constant use of coal tar derivatives in this country is quite large, but the effects of aniline and of nitrobenzene and closely allied substances have not been studied to any great extent. A paper on the condition of the blood in workers in factories in which these compounds are produced, therefore, is of some interest. Madden (*Journal of Hygiene*, October) presents a study of the blood in thirteen men who were working as aniline dyers and twenty-one men who were employed in the manufacture of dinitrobenzol. In the aniline workers he

found that there was a slight increase of the erythrocytes, with a decrease in the percentage of the hæmoglobin and in the specific gravity of the blood, a low color index, and evidences of degeneration and imperfect development of the red cells. The differential count of the leucocytes showed a diminution in the polymorphonuclear neutrophiles and an increase in the lymphocytes, the eosinophiles, and the basophiles. In those men who worked in dinitrobenzol the changes in the blood were more marked and the condition appeared after a much shorter time spent in the factory. The number of erythrocytes was greatly reduced, and the hæmoglobin and the specific gravity were correspondingly lowered, giving a normal color index.

The occurrence of basophilic degeneration is one of the earliest phenomena of the poisoning. In cases of chronic poisoning there is a slight leucocytosis, with an increase in the percentage of the lymphocytes. It is difficult to demonstrate the presence of methæmoglobin in the blood by the spectroscope, except in the most severe cases. From a number of animal experiments the conclusion is drawn that both aniline and dinitrobenzol produce methæmoglobin and hæmolysis, and that the condition in workers in these substances corresponds to those in animals artificially poisoned, but is on a smaller scale. The best treatment for poisoning by these substances is by the inhalation of oxygen.

## A "PHOBIA" OF THE HOSPITALS.

Apropos of the recent expulsion from one of the large private hospitals of New York of a patient under treatment for pneumonia, because tubercle bacilli were found in his sputum, it may well be asked if the procedure was really warranted by well founded apprehension of the spread of tuberculous disease to the other patients. It is said to be the policy of similar hospitals to insist on the transfer of such patients, either to one of the free municipal hospitals or to their homes. We do not suppose that the exposure incident to the transfer need have an injurious effect on a patient thus transferred, but the influence of such an arbitrary and apparently harsh course of action on the patient's morale, especially in so severe an illness as pneumonia, must, we should say, be depressing to the degree of distinctly reducing the prospect of his recovery. We can hardly wonder that the hospitals operated by private organizations decline to receive persons manifestly affected with certain infectious diseases, but tuberculous infection, particularly when it seems to be a mere incident in the course of a grave acute disease and discovered after the patient's reception, does not appear to us to matter less so.



## News Items.

**Medical Reciprocity.**—The State Board of Medical Examiners of Texas has established reciprocity with the State boards of Maine, Missouri, Maryland, and Nebraska.

**American Psychological Association.**—Professor George E. Stratton, of Johns Hopkins University, has been elected president, and Professor A. H. Pierce, of Smith College, secretary, of this association.

**Cincinnati Hospital.**—Dr. Louis Schwab has been elected president of the new board of medical directors of this hospital, Dr. C. R. Holmes has been appointed vice president, and Dr. A. B. Isham, secretary.

**The Buffalo Academy of Medicine.**—At the regular meeting of the Section in Medicine, held on January 14th, Dr. Irving M. Snow read a paper entitled *The Curative Value of Rest in Children with Chronic Loss of Appetite*.

**The Gloucester County, N. J., Medical Society** held its annual meeting in Woodbury, N. J., on Thursday, January 16th. The paper of the evening was on *Surgical Diagnosis*, and was read by Dr. Joseph Price, of Philadelphia.

**The Clinical Society of the Elizabeth, N. J., General Hospital** will hold its next regular meeting on Tuesday evening, January 21st, at 9 o'clock. Dr. James S. Green will read a paper entitled *Vis Medicatrix Naturæ* in Surgery.

**Society of Medical Jurisprudence, New York.**—At a meeting held on January 13th, the executive officers of the society were reelected, as follows: Mr. Mortimer C. Adams, president; Mr. John C. West, treasurer, and Mr. Charles Blaney, secretary.

**The Alumnae Association of the New York Medical College and Hospital for Women** held its regular bi-monthly meeting on Wednesday, January 18th. The paper of the evening was read by Dr. Emma D. Wilcox on *Preventive Treatment in Diseases of Women*.

**The Camden County, N. J., Medical Society** held its annual meeting on Tuesday, January 7th, and elected the following officers for the ensuing year: President, E. A. Y. Schellenger; vice president, Dr. W. I. Kelchner; secretary, Dr. J. W. Martindale; treasurer, Dr. W. H. Pratt; librarian, Dr. J. H. Wills.

**Public Lecture at the New York Academy of Medicine.**—Dr. Louis Livingston Seaman will deliver a lecture at the Academy of Medicine on Thursday evening, January 30th, at 8:30 p. m., on the Civil and Military Medical Organizations of the South American States. All who are interested are invited to attend.

**Medical Society of the County of Kings, N. Y.**—The Section in Pediatrics held a meeting on Friday evening, January 17th. Dr. F. A. Marshall presented a case of *Ichthyosis Hystrix*; Dr. J. M. Winfield read a paper entitled *Treatment of Eczema in Infancy and Childhood*, and Dr. L. C. Ager reviewed the French *pædiatric literature* for 1907.

**The New York Diet Kitchen Association** held its thirty-fifth annual meeting on Thursday, January 16th. Addresses were made by the president of the association, Mrs. Villard; Dr. Samuel T. Armstrong, medical superintendent of Bellevue and Allied Hospitals, and Dr. William H. Park, director of the Research Laboratory of the Department of Health.

**The Hartford, Conn., Medical Society** held its annual meeting on January 6th, and elected the following officers for the ensuing year: President, Dr. Frederick S. Crossfield; vice president, Dr. P. H. Ingalls; secretary, Dr. W. H. Van Strander; assistant secretary, Dr. Orin R. Witter; treasurer, Dr. George K. Welch; librarian, Dr. Walter R. Steiner.

**The Military Service Institution of the United States** has made the following awards of prizes for the best essays on current military topics: Seaman Prize, No. 1, \$100, to General A. A. Woodhull, M. D., United States Army; Seaman Prize, No. 2, \$50, to Major C. Lynch, M. D., United States Army; Ames Prize, \$50, to Captain E. A. Helmick, Tenth United States Infantry, and the Fry Prize, \$50, to Lieutenant F. P. Lahm, Signal Corps.

**Illinois State Board of Health.**—At the thirty-first annual meeting, which was held in Springfield on January 7th, Dr. George Webster, of Chicago, was reelected president of the board, and Dr. James A. Egan, of Springfield, was reelected secretary and treasurer. This is the twelfth time Dr. Egan has been elected secretary of this board.

**The Hayden Medal**, offered by the Academy of Natural Sciences of Philadelphia for the most valuable contribution to the science of geology, was awarded to Dr. Charles Doolittle Walcott, secretary of the Smithsonian Institution, on Tuesday, January 7th. Professor Persifer Fraser made the presentation address. The medal is of gold and is awarded triennially.

**The Care of Families in which There Is Tuberculosis** was the subject under consideration at a meeting of the Charity Organization Society of New York, which was held on January 13th, under the auspices of the committee on district work of the society. Brief addresses on the subject were made by Dr. James Alexander Miller, Dr. Silas F. Hallock, and Mr. Edward T. Devine, and a general discussion followed.

**The Society of Regular Physicians of New Britain, Conn.**—At the annual meeting of this society, held on January 7th, the following officers were elected: President, Dr. S. Wellington Irving; vice president, Dr. T. Eben Reeks; secretary and treasurer, Dr. Arvid Anderson. At the close of the meeting the annual banquet was held at the New Britain Club. Dr. Irving, the newly elected president, acted as toastmaster.

**The Ohio State Board of Medical Examination and Registration.**—At a meeting of this board, held on January 9th, the following officers were elected: President, Dr. A. Ravogli, of Cincinnati; vice president, Dr. S. M. Sherman, of Columbus; secretary, Dr. George Matson, of Columbus, and treasurer, Dr. E. J. Wilson, of Columbus. The board announced that twenty-three candidates had passed the examination held in December.

**The Kansas City Academy of Medicine** held its annual banquet on the evening of January 9th. Dr. Frank J. Hall acted as toastmaster, and the speakers were Dr. E. L. Chambliss, Dr. C. Lester Hall, Dr. Thomas C. Holland, of Hot Springs, Ark.; Dr. J. E. Sawtell, president of the Kansas Medical Society; Dr. Charles Babo, president of the Oklahoma Medical Association; Dr. C. C. C. Stephenson, president of the Arkansas Medical Society, and Dr. J. Q. Chambers.

**Bequest to the Iowa State University Hospital.**—By the will of Mrs. Helen J. Gifford, of Davenport, Ia., this hospital will receive \$5,000 which is to be devoted to the maintenance of a free room in the hospital, as a memorial to Mrs. Gifford's son, Waite Lowrey Gifford. The will also provides that about \$20,000 more shall be added to this fund, and if three grandchildren die without issue, a trust of \$75,000, in which they have a life interest, is to go to the hospital.

**The Section in Otology and Rhinology of the College of Physicians of Philadelphia.**—At a meeting held on Wednesday evening, January 15th, the following papers were read: *Further Observations on the Value of Lactic Acid as a Remedy for Certain Conditions of the Nasal Passages*, by Dr. A. W. MacCoy; *Some Applications of the Röntgen Diagnosis to Disease of the Accessory Sinuses*, by Dr. C. L. Leonard, and *Primary Mastoiditis, with Objective Tinnitus Aurium*, by Dr. S. MacCann Smith.

**Ohio Medical Teachers' Association.**—The third annual meeting of this association was held in Columbus, on December 27th, and was the most successful in the history of the organization. The programme included discussions of the details of the entrance requirements and the curriculum of medical colleges and of the standards of medical education in general. About seventy-five members were present and a number of visitors, among whom were the presidents of several literary colleges of the State.

**Section in Ophthalmology of the College of Physicians in Philadelphia.**—A stated meeting was held on Thursday evening, January 16th. Dr. G. Oram Ring exhibited a case showing the result of the removal of a foreign body from the iris. Dr. Howard F. Hansell read a paper entitled *The Subsequent History of a Case of Acquired Cataract in Childhood*. Dr. Walter L. Pyle exhibited a

case of microphthalmos with double inferior total coloboma. Dr. G. E. de Schweinitz read a paper on Obstetric Injuries of the Cornea.

**The Health of Pittsburgh.**—During the week ending December 28, 1907, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chicken pox, 6 cases, 0 deaths; typhoid fever, 70 cases, 8 deaths; scarlet fever, 13 cases, 0 deaths; diphtheria, 11 cases, 3 deaths; measles, 94 cases, 0 deaths; whooping cough, 6 cases, 1 death; pulmonary tuberculosis, 10 cases, 9 deaths. The total deaths for the week numbered 170, in an estimated population of 403,330, corresponding to an annual death rate of 21.91 per 1,000 of population.

**Medical Society of Franklin County, Pa.**—The regular quarterly and annual meeting of this society will be held in Chambersburg, Pa., on January 21st, at 1:30 p. m. There will be an election of officers and of new members. Dr. John W. Croft, of Waynesboro, will deliver the presidential address on Hysteria, and the following papers will be read: Diagnosis and Treatment of Diphtheria, by Dr. Guy F. Asper, of Chambersburg; Uncultivated Acres of the General Practitioner, by Dr. J. Burns Amberson, of Waynesboro, and Gymnastics in Heart Disease, by Robert Oden, M. G., of Hot Springs, Va.

**Medical Association of the Greater City of New York.**—The annual meeting of this association will be held in the Academy of Medicine on Monday, January 20th, at 3:30 p. m. There will be an election of officers for the coming year, and the executive council, the corresponding and statistical secretary, and the treasurer will present their reports, after which the following papers will be read: Newer Methods of Examining the Bladder, by Dr. Frederic Bierhoff; Utereral Catheterization, by Dr. F. Tilden Brown; Lithotomy versus Lithotripsy, by Dr. James Pederesen, and Conservative Prostatectomy, by Dr. Follen Cabot.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending January 4, 1908, there were during the week 665 deaths, as compared with 673 for the corresponding week in 1907. The annual death rate was 16.01 in 1,000 of population. The principal causes of death were: Apoplexy, 10; Bright's disease, 44; bronchitis, 20; consumption, 67; cancer, 30; convulsions, 8; diphtheria, 23; heart diseases, 56; influenza, 19; intestinal diseases, acute, 25; measles, 6; nervous diseases, 32; pneumonia, 116; scarlet fever, 14; suicide, 13; typhoid fever, 3; violence, other than suicide, 29; whooping cough, 1; all other causes, 149.

**The East Side Physicians' Association of the City of New York.**—A stated meeting of this association was held on Friday evening, January 17th. Dr. Max Gertler presented a case of congenital heart lesion and Dr. George Dow Scott presented a case for diagnosis. Dr. A. E. Isaacs exhibited a case of carcinoma of the sigmoid causing acute intestinal obstruction, also a wired fracture of the patella, with radiograph. Dr. Abram Brothers presented some interesting gynecological specimens, and Dr. I. Seth Hirsch demonstrated "electric sleep" by means of the Leduc current. Dr. Leon F. Garrigues read a paper on the Causes and Treatment of Backache in Women.

**The Spokane County, Wash., Medical Society** gave a banquet on the evening of January 8th, in honor of the Washington State Board of Medical Examiners, at the close of the semiannual examination of applicants for licenses to practise in the State of Washington. Dr. N. Fred Essig, of Spokane, acted as toastmaster, and addresses were made by the following speakers: Dr. D. Mason, Dr. W. F. Morrison, Dr. Henry S. Martin, Dr. E. B. Nelson, Dr. George K. McDowell, Dr. J. G. Cunningham, Dr. N. M. Baker, Dr. E. D. Olmstead, Dr. M. A. W. Shockey, Dr. T. L. Catterson, Dr. C. M. Doland, Dr. C. W. Sharpless, Dr. W. Johnson, and Dr. W. J. Munley.

**The Bill to Increase the Medical Corps of the Army.**—A bill providing for an increase of the number of colonels in the medical corps of the Army from nine to fourteen; of lieutenant colonels from twelve to twenty; of major-general from sixty to one hundred; and of captains and first lieutenants from two hundred and forty to three hundred, has been favorably reported by the Committee on Military Affairs of the House of Representatives, and of the Senate. The measure provides that contract surgeons may be permanently appointed to the medical corps, and also provides for a reserve medical corps to serve in time of war.

The leaders in both houses seem to look favorably upon the bill, and the probabilities of its becoming a law at this session of Congress seem to be quite strong.

**Scientific Society Meetings in Philadelphia for the Week Ending January 25, 1908.**—Monday, January 20th, Northeast Branch, Philadelphia County Medical Society. Tuesday, January 21st, Dermatological Society; Academy of Natural Sciences; North Branch, Philadelphia County Medical Society. Wednesday, January 22d, Philadelphia County Medical Society. Thursday, January 23d, Pathological Society; Entomological Section, Academy of Natural Sciences; Section Meeting, Franklin Institute. Friday, January 24th, South Branch, Philadelphia County Medical Society; Northern Medical Association. Saturday, January 25th, Samaritan Hospital Medical Society.

**Philadelphia Paediatric Society.**—At a meeting of this society, held on Tuesday, January 14th, Dr. I. H. Jones presented a case of fibroid nasal polypus in a boy, Dr. J. T. Rugh showed a case of spondylitis complicated by a psoas abscess following measles, and a case of Bell's palsy in an infant three months old was shown by Dr. J. Claxton Gittings. Dr. Thomas A. Cope gave a demonstration of the routine methods of differentiating the various fats and casein in infant's stools; Dr. D. J. M. Miller reported a case of empyema and gangrene of the lung complicating typhoid fever, and Dr. John D. Target reported a case of spina bifida with other abnormalities. The annual presidential address was delivered.

**Improvements of the City (Charity) Hospital.**—Plans have been filed for improvements on Blackwell's Island and Randall's Island, as follows: For Blackwell's Island, a four story tuberculosis pavilion, with roof gardens, solarium, and exterior verandas, to cost \$180,000; a one story and attic hospital pavilion for the City Home for the Aged and Infirm, to cost \$75,000; a two story pathological laboratory, to cost \$40,000, and a three story and attic residence for the medical staff, to cost \$80,000. All these buildings are to be grouped around the Manhattan Hospital, of which they are to be annexes. On Randall's Island, a four story home for nurses, to cost \$200,000, is to be added to the plant of the Children's Hospital. The total cost of the five buildings will be \$575,000.

**Philadelphia Branch of the American Pharmaceutical Association.**—The January meeting, which was held on Tuesday evening, January 7th, was devoted to a discussion of the valuation of drugs and assay processes. The following papers were read: Recent Progress in the Chemistry of Alkaloid Estimation, by Professor W. A. Puckner; The Pharmacopoeia from the Viewpoint of a Scientific Worker, by Dr. W. A. Pearson; The Standardization of the Preparations of Digitalis by Physiological Means, by Dr. E. D. Reed; The Standardization of the Preparations of Digitalis by Chemical Means, by Mr. Charles E. Vanderkleck; The Use of the Compound Microscope in the Valuation of Crude and Powdered Drugs, by Professor Henry Kraemer. An interesting discussion followed.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Health Department for the following statement of new cases and deaths reported for the two weeks ending January 11, 1908:*

Diseases.	January 4-11, 1908.		January 12-19, 1908.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	37	8	58	6
Smallpox	—	—	2	—
Scarlet Fever	98	—	150	—
Measles	251	30	303	15
Scarlet Fever	148	33	307	49
Whooping cough	—	1	—	—
Diphtheria	138	46	305	42
Polio-myelitis	344	18	41	—
Cerebro-spinal meningitis	51	8	—	—
Totals	1,288	200	2,043	318

**For the Prevention of Tuberculosis in New York.**—On Monday evening, January 27th, a public meeting is to be held in Albany to inaugurate a general campaign of education as to the best methods for the prevention of tuberculosis. The meeting is being arranged by the State Charities Aid Association in cooperation with the State Department of Health. The Hon. Joseph H. Choate will preside and Governor Hughes will be the principal speaker of the evening. Address will also be delivered by Dr. William H. Welch of Johns Hopkins



University; Dr. Eugene H. Porter, State Commissioner of Health; Mr. Homer Folks, secretary of the State Charities Aid Association; Mr. George F. Canfield, vice president of that organization, the Lieutenant Governor and the Speaker of the Assembly.

**The Section in General Medicine of the College of Physicians of Philadelphia** held a meeting on Monday, January 13th, and the evening was devoted to a symposium on the recent advances in knowledge of affections of the heart. The programme was as follows: A case of Adams Stokes disease was presented by Dr. B. F. Stahl, and Dr. George W. Norris exhibited pulse tracing from the same case demonstrating the heart block. Dr. Joseph Erlanger, of Madison, Wis., read a paper on Recent Advances in the Pathological Physiology of the Heart with Special Reference to Arrhythmia. Dr. Lewis A. Conner, of New York, read a paper on the Clinical Study of Heart Cases, and a paper on the Use and Abuse of Digitalis and Other Heart Tonics, was read by Dr. Theodore C. Janeway, of New York. The following formal discussion was held: Dr. John H. Musser, on the Importance of Instruments of Precision in the Study of Heart Cases; Dr. Hobart Amory Hare, on Remedial Measures other than Drugs in the Treatment of Heart Disease; Dr. Alfred Stengel, on Extracirculatory Manifestation of Cardiac Failure, and Dr. Joseph Sailer, on Blood Pressure in Relation to Prognosis in Heart Disease. After the meeting a reception was tendered to Dr. Erlanger, Dr. Conner, and Dr. Janeway at the University Club.

#### Society Meetings for the Coming Week:

**MONDAY, January 20th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York (annual); Hartford, Conn., Medical Society.

**TUESDAY, January 21st.**—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Kings, N. Y. (annual); Triprofessional Medical Society of New York; Buffalo Academy of Medicine (Section in Pathology); Binghamton, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital; Syracuse, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Medical Society of the County of Westchester, N. Y.

**WEDNESDAY, January 22d.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society.

**THURSDAY, January 23d.**—New York Academy of Medicine (Section in Obstetrics and Gynecology); Brooklyn Pathological Society; New York Celtic Medical Society; Hospital Graduates' Club, New York (annual).

**FRIDAY, January 24th.**—Academy of Pathological Science, New York; New York Clinical Society; New York Society of German Physicians.

**SATURDAY, January 25th.**—West End Medical Society, New York; New York Medical and Surgical Society; Harvard Medical Society, New York; Lenox Medical and Surgical Society, New York.

**Personal.**—Dr. William H. Welker, assistant in biological chemistry at Columbia University, has been appointed demonstrator of physiological chemistry at the University of Pennsylvania, to succeed Dr. P. B. Hawk.

Dr. Marshall Langdon Price has been appointed secretary of the Maryland State Board of Health.

Dr. Theobald Smith, professor of comparative pathology at Harvard University, has received the degree of doctor of laws from the University of Chicago.

Dr. E. Chapot, provost professor of histology at the University of Rio de Janeiro, died recently.

Dr. James U. Barnhill has retired from the editorship of the *Columbus Medical Journal*, in order to devote more time to his private practice.

Sir Thomas Clifford Allbutt, M. D., regius professor of physics at Cambridge University, was created a Knight Commander of the Bath on December 16th. A complimentary dinner was given him by the Master of Downing College, Cambridge.

Sir William Bennett has been elected president of the Institute of Hygiene, London, to succeed the late Sir W. H. Broadbent.

Dr. Nicholas Senn, whose death occurred on January 2d, had just received the Order of Merit of the Japanese Society of Medicine, in recognition of his services to the Japanese people.

Japan, and had recently been elected an honorary member of the Royal Medical Society of Budapest.

Dr. Clarence J. Broeman, of Cincinnati, has been appointed house surgeon of the New York Skin and Cancer Hospital.

**The New York Academy of Medicine.**—The Section in Ophthalmology will meet on Monday evening, January 20th, at 8.15 o'clock. Dr. J. E. Weeks will present a patient showing iridectomy in glaucoma after the method of Lagrange, and Dr. E. B. Coburn and Dr. Mortimer Warren will present a case of phlyctenular eye disease treated with tuberculin. The paper of the evening will be read by Dr. H. W. Wootton on Final Results of the Extraction of Senile Cataract. There will be an election of officers.

A meeting of the Section in Medicine will be held on Tuesday evening, January 21st, at 8.30 o'clock, when the following papers will be read: The Significance of Acetone Bodies, with a Clinical Method for Their Quantitative Determination, by Dr. T. Stuart Hart; Metabolism in Pneumonia, by Dr. Alexander Lambert and Dr. C. G. L. Wolf; Experimental Notes on Artificial Nutrition, with Special Reference to the Hypodermic Method, by Dr. Herbert S. Carter.

The Section in Laryngology and Rhinology will meet on Wednesday evening, January 22d, at 8.15 o'clock, when the following programme will be presented: Dr. Joseph H. Abraham will present a patient showing a case of neglected syphilis, with marked destruction of the nose, nasal cavities, palate and tongue; Dr. J. A. MacKenty will report three cases of trichinosis involving the upper respiratory passages; Dr. J. E. Newcomb will read a paper entitled *Hæmatoma and Abscess of the Septum*; Dr. Sydney Yankauer will show a specimen of a foreign body removed from the bronchus; Dr. John McCoy will exhibit a new tonsil and faucial pillar separator, and Dr. J. Wolff will present a new method of post nasal tamponade.

The Section in Obstetrics and Gynecology will meet on Thursday evening, January 23d, at 8.30 o'clock. There will be a general discussion of the subject of the management of febrile conditions after abortion and labor, and a paper on Uterine Cysts will be read by Dr. Ulysses Kahn.

**Annual Meeting of the Medical Society of the State of New York.**—The programme for the one hundred and second annual meeting of this society, which takes place at Albany on January 28th, 29th, and 30th, has just been issued. The sessions will be held in the Common Council Chamber, City Hall, corner of Maiden lane and Eagle street, Albany. The time and place of the sittings follow:

**MONDAY, January 27th.**—8 p. m.: Meeting of Council in the anteroom of the Common Council Chamber, City Hall. 8.30 p. m.: Meeting of House of Delegates, Supervisor's Room, City Hall.

**TUESDAY, January 28th.**—Meeting of House of Delegates, Supervisor's Room, City Hall. (Time and place to be selected at the meeting on Monday night.) 11.30 a. m.: Scientific Session, Common Council Chamber, City Hall. 2 p. m.: Scientific Session, Common Council Chamber, City Hall. 8 p. m.: Section in Cutaneous Diseases, Common Council Chamber, City Hall. 8 p. m.: Section in Public Health, Court Room, City Hall.

**WEDNESDAY, January 29th.**—9.30 a. m.: Scientific Session, Common Council Chamber, City Hall. 2 p. m.: Scientific Session, Common Council Chamber, City Hall. 7.30 p. m.: Banquet at Hotel Ten Eyck.

**THURSDAY, January 30th.**—9.30 a. m.: Scientific Session, Common Council Chamber, City Hall. 12 noon: Meeting of Council.

Arrangements have been made with those in charge of the State Tuberculosis Exhibit to have this collection set up in one of the rooms of the City Hall during the meeting, so that those who attend may have the opportunity of studying this subject from a practical standpoint. An important public meeting connected with this work will be held on Monday evening, January 27th, at Harnanus Bleecker Hall. It will be presided over by the Hon. Joseph H. Choate, and addresses will be made by Governor Hughes, Dr. William H. Welch, of Baltimore, and others.

A reduction of a fare and one third from points in New York State, on the certificate plan, has been secured for those attending the meeting.

Dr. Frederic C. Curtis, of Albany, is president of the society, and Dr. Wisner R. Townsend, 125 West Fifty-eighth street, New York, is secretary.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL

January 9, 1908.

1. Practical Application of Oponic Therapy (*To Be Continued*). By THEODORE C. BEEBE.
2. Mexican Mining Practice from a Tuberculous Point of View. By J. S. KAHN.
3. Chronic Dyspepsia. By JOHN B. DEEVER.
4. A Method of Obtaining Extension for Fractures in the Upper Two Thirds of the Humerus. By HOWARD A. LOTHROP.

2. Mexican Mining Practice From a Tuberculous Point of View.—Kahn remarks that a physician with phthisis could hardly find a better place for practising medicine than a Mexican mountain mining camp. Labor, says Dr. Kahn, is very cheap out there, the average Mexican peon drawing a daily salary of  $1\frac{1}{2}$  pesos or 75 cents in United States currency, the companies usually furnishing them "houses"—one room affairs, occasionally made of *adobe* (bricks made of mud and straw as in our western country), but more frequently jacals of cactus stalks and dried grass. Not infrequently these houses are merely small caves in the hillsides, with a front wall of cactus stalks. In addition to homes, medical care is also furnished them, so that practically every camp of six hundred or more has its own hospital or dispensary with a resident doctor paid by the company. The drug stores are well stocked, the doctor being usually given a free hand in the purchase of drugs and supplies, the companies allowing him more expensive synthetical proprietary preparations, even plenty of diphtheria antitoxine at \$6.50 gold per 4,000 units. An intelligent Mexican is always given as assistant to do the cleaning, the simple bandaging, to help dispense medicines, and to give anesthetics. Tablet medication is used as a rule, as far as possible, but there is always a goodly stock of United States Pharmacopoeia elixirs, tinctures, and fluidextracts to be used when desired. The doctor is supposed, as a rule, to furnish his own instruments (these are admitted to Mexico duty free); and usually no provision is made for beds inside the hospital or for trained assistance. The author remarks that he receives 50 cents gold for an office visit, \$1 for a house visit, double for venereal visits, \$2 for a house visit or each visit to a confinement case, \$5 to \$15 for stab or gunshot wounds, and 50 cents a stitch for superficial wounds. The proportion that he receives is very similar in extent to that of the average doctor north of the Rio Grande. It amounts to enough in a week to about meet living expenses, and does not include the salary. A furnished house is usually given to the doctor, rent free, if married, otherwise the best room in the settlement, that is, a house or room furnished from the point of view of a mining camp, which means, clothes closets, desks, tables, wash-stands, and chairs, and even at times beds, usually all built by the mine carpenter. Still, varnish is not essential to happiness, and canvas seats and backs to chairs, while they do not appeal to aesthetic sensibilities are yet far from uncomfortable. These rooms or houses are frequently lit by electricity, generated in the power house for working the mine hoists, etc. Another not uncommon luxury is a

shower bath with hot water derived from the air compressing machines for ventilating the mines.

4. A Method of Obtaining Extension for Fractures in the Upper Two-thirds of the Humerus.—Lothrop describes his method, which he used in an attempt to correct a marked deformity in a case of fracture of the surgical neck. Under ether union was completely broken up and the following apparatus immediately applied: A tin, internal angular splint was applied, but the short arm of the splint was adjusted to the patient's forearm and the long arm was of sufficient length to reach to a point a little above the level of the acromioclavicular articulation. The vertical arm need not reach above the level of the axilla, provided the coaptation splint reaches the angle of the tin splint for direct resistance. A stiff felt shoulder cap, suitable in size and shape for the patient, was selected. This was padded and placed on the outer aspect of the shoulder. Its front portion covered the vertical arm of the internal angular splint. By means of strapping, the shoulder cap was fastened to this arm of the internal angular splint in such a position that its upper rounded extremity was two inches above the convexity of the shoulder, thus leaving a considerable space. By means of strapping, the tin splint and the shoulder cap were made one piece. By means of one or two rather wide circular strips of adhesive plaster this apparatus was adjusted firmly to the upper arm. Downward pressure on the top of the cap would produce extension in proportion to the degree of force exerted. Pressure directed backward would carry the upper end of the lower fragment in the same direction. A sling was applied for support only of the hand and distal half of the forearm, which was thus maintained horizontal across the chest. A four inch gauze bandage was then applied. The essential features of this apparatus are, first, the careful adjustment of the splints, so as to leave a large free space above the shoulder and under the upper end of the shoulder cap; and, second, the application of the bandage so as to exert pressure on the top of the cap downward and backward. The opposite axilla should be padded and a pad should be adjusted carefully between the front edge of the cap and the arm at the site of fracture, if of the surgical neck, the former to protect from the pressure of the bandage, the latter to help force the upper end of the lower fragment backward.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

January 17, 1908.

1. The Problems of State Boards of Health. By CHARLES D. SMITH.
2. The Importance of Early Recognition and Treatment of Rachitis. By THOMAS S. SOUTHWORTH.
3. False Statements Concerning Causes of Oral Pathology. By S. BLAIR LUNNIE.
4. The Significance of Changes in the Optic Nerve in Certain Affections of the Cerebrospinal System. By WILLIAM CAMPBELL POSEY.
5. Röntgen Ray in Epithelioma. By WILLIAM ALLEN POSEY.
6. Adenomyoma of the Uterus. By THOMAS S. COTTEN.
7. The Oponic Index in Orthopaedic Surgery. By CHARLES O'BRYEN and T. HENRY COTTEN.

4. The Significance of Changes in the Optic Nerve in Certain Affections of the Cerebrospinal System. Posey remarks that the classification of changes in the optic nerve which has been adopt-

ed by most ophthalmologists is based on the location of the inflammation according to its site in the axis of the nerve, the term "papillitis" being used to designate all forms of inflammation which affect the head of the nerve and produce visible ophthalmoscopic changes, while involvement of the nerve in its deeper portion is described by the terms "descending" and "retrobulbar" neuritis. In true papillitis, the swelling of the disc is very great, and while in the early stages the veins less frequently present dilations than in neuritis from meningitis, the retinal vessels become later greatly dilated and tortuous, especially the veins. Hemorrhages and extravasations into the retina are not uncommon. In descending neuritis, the swelling of the papilla is never very pronounced, and there is a disposition for the inflammation to spread to the adjacent retina. The changes in the disc, too, are often most intense at the periphery, the centre being but slightly involved. Hemorrhages and extravasations are not uncommon, and the vessels are not kinked as they pass over the edges of the nerve, as is so often the case in intense degrees of neuritis. Retrobulbar neuritis may be regarded as a mixed condition of interstitial inflammation of the nerve with atrophy. In this variety of neuritis there are at first either no ophthalmoscopic signs or merely those of simple congestion. Later, after the disease has subsided, signs of atrophy usually make their appearance. Retrobulbar neuritis may occur in either an acute or chronic form. In the former, which is induced usually by gout, syphilis, or sinusitis, there is rapid loss of sight with neuralgic pain in the temple. In the latter the loss of sight is very gradual and there is but little pain. Nyctalopia is a frequent symptom in this form of neuritis, the patient declaring that he sees better in a dim illumination, exposure to an excessive light leading to a deterioration in vision which may last for some time. In primary atrophy the disc is gray or grayish white; the scleral ring surrounding the nerve is broadened and the stippling in the lamina cribrosa is plainly visible. In this connection it must be remarked that although this form of atrophy has been described as occurring without signs of previous inflammation, in the early stages of the degeneration the nerve sometimes assumes a dull red tint, due to a superficial overcapillarity, while the deeper portion of the nerve is gray and lacking in circulation. The retinal vessels are but little altered. In secondary atrophy the disc is usually whiter than in the foregoing and the retinal vessels are more or less contracted. In consecutive atrophy the disc is not only pallid, but possesses also a bluish or greenish tint, from the connective tissue overgrowth resulting from the previous inflammation of the nerve. The head of the nerve is considerably shrunken and appears as though filled in by connective tissue, the excavation being veiled. Finally, the retinal vessels are much contracted, and, if, as may be the case, the neuritis originating the atrophy was dependent on an inflammation of the inner coats of the eye, atrophic areas and heaps of pigment may be seen in the retina and chorioid adjacent to the disc.

6. **Adenomyoma of the Uterus.**—Cullen could trace the mucous membrane origin of the glands in

fifty cases of uncomplicated diffuse adenomyomata of the uterus. In six additional cases where squamous cell carcinoma of the cervix complicated adenomyoma of the body the continuity was established in five cases. In two cases of diffuse adenomyoma of the body the clue as to the origin of the glands was destroyed by adenocarcinoma of the body. Thus in only one case out of fifty-six where he expected to find the glands originating from the mucosa, if his view as expressed in 1896 was correct, did he fail to find it substantiated. It will thus be seen that when we include adenomyomata of every kind, whether subperitoneal, submucous, or diffuse, he has been able in fifty-six out of seventy-three cases to trace the origin of the gland element to the uterine mucosa. All adenomyomata of the uterus in which the gland elements are similar to those of the uterine mucosa, and are surrounded by stroma characteristic of that surrounding the normal uterine glands, owe their glandular origin to the uterine mucosa or to Müller's duct, no matter whether they be interstitial, subperitoneal, or intraligamentary, solid or cystic.

7. **The Opsonic Index in Orthopædic Surgery.**—Ogilvy and Coffin observe that tuberculin in small doses at proper intervals is of undoubted value in the treatment of selected cases of tuberculous bone and joint infections. The rise of the opsonic index is accompanied by an improvement in the local and general conditions of the patient, if no secondary infection exists. The opsonic index will prove of value in determining the advisability of discontinuing mechanical treatment, and in determining the prognosis in tuberculous bone and joint disease. While there are discharging sinuses and mixed infections the opsonic index may be raised by the use of tuberculin, without an accompanying improvement of the general or local conditions.

#### MEDICAL RECORD

January 11, 1908.

1. The Plague, By ALVAH H. DOTY.
2. The Renal Complications and Sequelæ of Influenza, By HEINRICH STERN.
3. Influenza of the Nose, Throat, and Larynx, By W. SOHIER BRYANT.
4. Duchenne of Boulogne. A Biography and an Appreciation, By JOSEPH COLLINS.
5. Relation of Accidents to Functional Nervous Diseases and Psychoses; Medicolegal Considerations, By ALFRED GORDON.
6. Foetid Breath ("Bromopnea"), By WILLIAM J. LEDERER.
7. Forms of Tubercle Bacilli Which Cannot Be Colored by Ziehl-Neelsen Stain, By C. A. TREUHOLTZ.

3. **Influenza of the Nose, Throat, and Larynx.**—Bryant remarks that the treatment of influenza of the nose, throat, and larynx is abortive, local and general, besides the treatment of the complications. The abortive treatment consists in the local use of astringent antiseptics which sometimes abort and often ameliorate the virulence of the infection if they are applied immediately on the appearance of the first sign of local discomfort, pain, or oedema. Silver nitrate in 10 per cent. solution, painted on the affected area has given much satisfaction. Alcohol 99 per cent. with equal parts of glycerin has worked nearly as well. Local treatment is directed to the relief of the oedema, assuaging pain and tenderness, and cleansing and partially sterilizing the mucous

surfaces. In the nose and throat this may be accomplished with silver nitrate; a solution in strength of from 2 to 5 per cent, applied with a swab has given good results. Argyrol, up to 30 per cent., on a swab is good. When there is a false membrane, a spray of hydrogen peroxide is indicated. After the acute stage is passed and the œdema gone, a spray of Dobell's solution seems to facilitate expectoration of the mucopurulent secretion. When the discharge has lessened, an alkaline aromatic spray is desirable to finish up with. Hydrogen peroxide gargle is indicated for the throat if a purulent condition exists there. In the larynx, the applications must be considerably reduced in strength. Silver nitrate in 2 per cent. solution can be applied with a swab or spray after cocaineization. Alcohol 95 per cent., and glycerin, each one ounce, ferric chloride, 15 grains, and water, two ounces, make a good spray. The general treatment demands absolute rest in bed and light purgation followed by stimulation, especially circulatory, to keep up the failing strength. Special attention must be paid to keeping up nutrition. The ingestion of large quantities of physiological salt solution is desirable to help the naturally increased diaphoresis and stimulate diuresis for the purpose of washing out the toxins. Small doses of salol (gr. iii), calomel (gr.  $\frac{1}{8}$ ), and sodium bicarbonate (gr. x.) tend to keep the alimentary canal in good order. General anodynes and hypnotics are to be chosen with care to avoid the weakening of the heart's action. Dover's powder or codein seems to be satisfactory. Trional can be used with care. The pains may be greatly relieved by the application of heat or counter-irritation. The nasal occlusion is best managed with a 2 per cent. cocaine spray followed by adrenal powder and an alkaline aromatic spray. The sinus complications are treated by keeping the nose free by the method already described. If that is not sufficient, the hot nasal douche should be used; take two quarts of salt solution as hot as can be borne with half an ounce of sodium bicarbonate, and use a fountain syringe at an elevation of six inches, allowing the solution to run into one nostril and out the other. After the douche use some aromatic spray. The tonsillar condition can be treated by strong applications of silver nitrate up to 15 per cent., or by hydrogen peroxide gargle or spray preceded by a hot water gargling. If there is an accumulation of pus an incision is indicated to evacuate it.

**5. Relation of Accidents to Functional Nervous Diseases and Psychoses; Medicolegal Considerations.**—Gordon speaks of his extensive experience among all accidents and cites cases as examples for points he wishes to bring out. In conclusion he remarks that in cases of railway or other injuries caused by neglect of those who have in charge the management of transportation cars, it is no more than just that the injured person should be compensated for disability. On the other hand simulation or exaggeration of incapacity should be condemned. The physician is indispensable to the law. In the name of justice he must be invariably reserved in his statements. His opinion must be formed after a thorough study of each individual case. He must not forget that, while some severe traumatism produce mild symptoms, some insignifi-

cant traumata cause marked disturbances of the nervous system. The degree of the disability and the prognosis of the affection vary in each individual case. The recognition of the affection, the recognition of the influence of the accident upon its manifestations, finally the discrimination of a genuine malady from a simulated one—all these elements can be acquired only when the physician is properly prepared. In view of the practical importance of the subject, a continuous study of it is indicated.

**7. Forms of Tubercle Bacilli Which Cannot be Colored by Ziehl-Neelsen Stain.**—Treuholz's investigations seem to show that the tuberculous virus frequently exists in some form that cannot be stained by our usual methods and which is capable of rapidly developing into the fully grown tubercle bacillus capable of being stained by the method of Ziehl-Neelsen. It is hardly possible that the large number of bacilli found after incubating the spleen can be accounted for by rapid division of those that may be present in the tissue, and moreover single bacilli were the rule in the incubated tissue; it was further found that the spleen which had been incubating three weeks did not show any marked increase in the number over that of four days. In drawing conclusions from the granules found, says the author, we are confronted with several sources of error, namely, the possibility of the presence of other Gram staining organisms, precipitated stain, and points of deeply staining chromatin; these errors were excluded as much as possible by cultural experiments and staining of control slides of normal tissue. An interesting point noticed in these investigations was that the Gram staining bacilli showed a much greater frequency of beading than the Ziehl-Neelsen stained bacilli. These investigations open up an interesting field of work and will probably prove of utility in the study of negative sputa and other tuberculous products where the tubercle bacillus has hitherto been very difficult to find.

#### BRITISH MEDICAL JOURNAL.

December 28, 1907.

1. The Mental Origin of Neurasthenia and Its Bearing on Treatment, By D. DRUMMOND.
2. Clinical Remarks on Tuberculous Chlorosis, By A. JAMES.
3. The Automatic Rhythm of the Heart, By A. M. GOSSAGE.
4. Locomotor Ataxia: Its Early Recognition and General Management, By E. A. DENT.
5. An Open Method of Ether Administration, By F. W. BAILEY.
6. An Open Continuous Drop Method of Administering Ether, By A. BROWNLEE and J. L. THOMAS.
7. Malignant Endocarditis Lasting Over Six Months Without Bruit, By R. CAPES.

**1. Neurasthenia.**—Drummond states that in neurasthenia the physical symptoms are without pathological basis. With rare exceptions an established nervous temperament has been inherited. Overwork, mental strain in business, the grief of bereavement, or some alarming shock do not in themselves produce neurasthenia and cannot be said to be its cause, though by lowering health and weakening mental control they may contribute to the development of the more serious disturbance. But uncontrolled and bad habits of thought in early life have a cramping and con-



aging effect on the mind. Among the points indicating the neurotic nature of the symptoms are the following: Neurotic pains are often described as constant, as always present during waking hours; organic pains are seldom so described. The language employed in describing symptoms is generally exaggerated, expansive, and florid. Neurasthenic patients usually bring with them some relative or friend to endorse their story, though they may be perfectly well able to describe all their symptoms in detail. *Pari passu* with the progress of the symptoms there is evidence of an ever increasing nervousness. This is valuable, because in cases of organic disease the functional aspect becomes less noticeable as the disease advances. As regards treatment the point of chief importance is mental treatment administered under the most favorable conditions, of which the first essential is isolation under the doctor's control. The mental treatment is, in fact, a sort of education with encouragement. The plan adopted should not be too rigid, treatment being always directed, in one way or another, to the one end of leading the patient away from the constricted, self-centered habit of mind in which attention is absorbed in narrow personal feelings, and substituting an interest in the wider affairs of life. To this main object the various helps of rest, over feeding, massage, etc., can be regarded only as subordinate accessories.

2. **Tuberculous Chlorosis.**—James states that in cases which present in a more or less marked degree all the ordinary appearances of chlorosis, and yet in which the examination of the blood shows the red corpuscles and hæmoglobin to be normal, there is very often found a history of past or present tuberculous disease. This is the condition called by Trousseau false chlorosis or tuberculous anæmia. Anæmia in tuberculosis is now well recognized, but the possible association of tuberculous disease in cases of apparent chlorosis is often overlooked. The writer suggests that in these cases there is really an oligæmia—that is, a diminution in the total amount of blood. This theory explains why on recovery we get associated with increased volume of blood improvement alike in the appearance and in the nutrition and vigor of the patient, and yet the hæmocyto-meter and the hæmoglobinometer show little or no change. In the treatment of tuberculous anæmia the use of iron is, as a rule, to be avoided, its place being taken by arsenic and general therapeutic measures, such as hydrotherapy, salt water baths, etc.

3. **The Heart Rhythm.**—Gossage states that there are two opposing theories as to the origin of the automatic power of the heart to beat rhythmically, both of which recognize that the automatic power of the heart lies in itself, and is quite apart from the central nervous system or the circulation of the blood. These are the so called neurogenic and myogenic theories, implying that the origin of the impulse lies in the nervous and muscular elements respectively. The writer thinks that the complete myogenic theory has the more weighty evidence in its favor and should be accepted until stronger arguments are brought against it. It is not incompatible with any of the known phenomena of the heart beat, while it affords the best explana-

tion of many of them. It is certain that the muscle fibres possess the powers of contractility, excitability, conductivity, and tonicity, and it is probable that these are exercised during the normal beat of the heart without the intervention of the nervous tissue. It is also certain that all the muscle fibres are not capable of building up a stimulus for themselves, but there is evidence to show that certain fibres of peculiar structure possess this property. While certain facts seem to find their readiest explanation in the neurogenic theory, especially the response of the quiescent heart to the stimulation of the accelerator nerve, there are others pointing as strongly to the hypothesis that the heart beat is purely muscular. This conception does not preclude the possibility of the beat being influenced by outside nervous impulses. This would give a sufficient explanation of the large nerve supply of the heart. Attributing the rhythmic power of contraction to the muscle is, of course, only a very partial explanation of the cardiac beat, the cause of which lies deeper in physico-chemical changes in the cells.

4. **Locomotor Ataxia.**—Dent holds that locomotor ataxia is essentially a chronic and progressive disease, and that from a strictly curative point of view little can be expected. The course is usually very long—twenty or thirty years. Our aim, therefore, should be chiefly to relieve the symptoms and to arrest or retard the degenerative process as far as possible. Syphilis is responsible for most of the cases. Fatigue, excesses, cold, trauma, overstrain, intoxication, etc., are considered to be exciting causes. If syphilis be treated early and thoroughly, the probability of tabes is only lessened, not removed. The earlier the diagnosis, the better the outlook. Cases showing dyspepsia, neuralgia, burning sensations and numbness in the hands or feet, eye and laryngeal symptoms should always be carefully investigated. A valuable aid in early diagnosis is examination of the cerebrospinal fluid; if there is not excess of lymphocytes present, locomotor ataxia (and also general paralysis) can confidently be excluded. The cases may never advance beyond the preliminary or pretoxic stage. Retention and incontinence of urine with cystitis, etc., are common symptoms. Salol and urotropine here give excellent results, and it may also be necessary to wash out the bladder. Dyspnoea or laryngeal crises are, as a rule, not serious and may be relieved by a few whiffs of amyl nitrite or chloroform. Perforating ulcers may form on the foot, and are to be treated by prolonged rest in bed and antiseptics. Fractures of the bones are caused easily, and unite quickly with a great amount of callus, the condition being akin to the arthropathic changes seen in the joints where there is rapid effusion and abnormal movement (Charcot's joints), the knee being the joint most commonly affected. Frenkel's exercises are the best form of treatment for the ataxia, and even the worst cases show improvement. They should be carried out under the eye of the doctor and be persevered with for not less than a month. In certain cases the x rays applied daily for five minutes to the dorsal region of the spinal column give good results. Baths in general aid the circulation and are refreshing and comforting. Benefit has been noted from the suspension treat-

ment, but it is probably due to suggestion. Both galvanic and faradic currents have been used, but without any great result. Cold and damp climates aggravate the pains. Potassium iodide and mercury are largely given, but have little influence. Silver nitrate in one quarter grain doses often relieves and lessens the pains and does permanent good. Aluminium chloride, gold chloride, zinc phosphate, and arsenic certainly help in some cases. Strychnine is constantly employed for its tonic effect. Penacetine and antipyrine are used for the relief of the pains and morphine should be postponed as long as possible. Testicular juice, spinal cord, brain substance, and spermin have been tried, but with very unsatisfactory results. Tabetic patients should not marry.

## LANCET.

December 28, 1907.

1. The Personal Factor in Diet, By C. J. MACALISTER.
2. Constitutional Development and Social Progress of Boys and Girls from Infancy, By F. WARNER.
3. A Series of Four Cases of Infantile Gangrene of the Cornea in which the Treponema Pallidum Was Found, By S. STEPHENSON.
4. Revealed Tuberculosis in Children at School Ages, from Four to Fifteen Years, By H. C. LECKY and W. C. HORTON.
5. Observations on Cases of Streptococcal Meningitis, By W. J. WILSON.
6. A Case of Diarrhoea, Erythema, and Asthma Apparently Due to Nasal Disease, By J. W. STENHOUSE.
7. A Note on the Treatment of Pyorrhoea Alveolaris by Inoculation with a Bacterial Vaccine, By D. W. CARMOLT-JONES and J. E. HUMPHREYS.
8. Appendicectomy in Chronic Dysentery, By J. A. POTTINGER.
9. Nontuberculous Intranasal and Postnasal Abnormalities: Their Recorded Association with Tuberculosis, By W. C. RIVERS.

3. **Infantile Corneal Gangrene.**—Stephenson reports the details of a series of four cases of keratomalacia in all of which the treponema pallidum (*spirochaeta pallida* of syphilis) was found in scrapings from the necrotic cornea. Keratomalacia is a grave affection of the cornea, apt to supervene in infants whose vital resistance has been reduced by general illness, such as congenital syphilis, tuberculosis, or ileocolitis. It has a distinct seasonal incidence, the majority of cases resulting from ileocolitis. The cases are characterised first by atropia, and secondly by a sloughing condition of one or both cornea, associated with but slight symptoms of local reaction, such as redness, reflex blepharospasm, or swelling of the eyelids. Curious, dry, frothy looking patches of xerosis may sometimes be found in the ocular conjunctivae, but are not essential to the diagnosis. The necrosis of the cornea is not due to any particular microorganism; any pyogenic microbe may cause it, e.g. the various staphylococci, the pneumococcus, the colon bacillus, and the xerosis bacillus. Keratomalacia often leads to destruction of the cornea, and to the death of the patient, usually from bronchopneumonia.

4. **Revealed Tuberculosis in Children.**—Lecky and Horton have examined a number of school children for the purpose of determining the amount of revealed tuberculosis among them. Their conclusions are as follows: 1. The amount of revealed (or recognizable) tuberculosis in school children is very small. They found but three cases in 806

children. 2. The extremely small percentage of cases of pulmonary tuberculosis found among unselected school children, as contrasted with the relatively large percentage of cases of pulmonary tuberculosis found among school children specially referred to a doctor owing to a suspicion of, or evident ill health, indicate that when pulmonary tuberculosis does start in children they quickly show it by failing health and are removed from school. The schools cannot, therefore, be considered as places where much tuberculosis is spread.

9. **Nasal Abnormalities and Tuberculosis.**—Rivers has renewed the literature on nontuberculous intranasal and postnasal abnormalities, and their association with tuberculosis. The commonest abnormalities are those simple ones leading to nasal obstruction (such as septal deformity, turgescence, and hyperplasia of the nasal mucous membrane) and also atrophic conditions. All writers agree that abnormal intranasal conditions are more common in consumptives than in the nontuberculous. The oval cavity, or an abnormal nasal mucosa, cannot be expected to perform the complex physiological functions requisite to prepare the air for the lungs. Not one writer doubts but that the intranasal precedes the pulmonary condition. The evidence seems complete that impairment of nasal respiration, more probably, perhaps, than any one of its many sequelae, is a definite predisposing cause of pulmonary tuberculosis. Most authors pronounce for direct pulmonary infection from inhalation of unfiltered air. So that rhinology should play an important part in the prophylaxis and treatment of consumption. The simple catarrhal laryngitis common in consumptives is dependent on intranasal conditions and not solely due to the exertion of coughing. Rhinological treatment in such cases may be the means of averting tuberculous laryngeal disease. As to prophylaxis the application to the physically selected classes and to school children is obvious.

## LA PRESSE MEDICALE.

December 18, 1907.

Opening Lecture. By Professor PRENANT.

December 21, 1907.

1. Synergic Action of the Gastric and Pancreatic Juices upon Fæcula, By H. ROGER and H. C. SIMON.
2. The Functional Action of the Aperture of the Stomach in Animals with a Permeable Pylorus on Which Gastroenterostomy Has Been Performed, By M. GUIBE.
3. Osteomalacia, the Suprarenal Capsules and Adrenalin, By R. ROMME.

1. **Synergic Action of the Gastric and Pancreatic Juices Upon Fæcula.**—Roger and Simon assert that the various secretions met with in different parts of the digestive canal reinforce each other. Thus the saliva, checked by the acidity of the gastric juice, the pepsin, checked by the alkalinity of the duodenal secretions, are not deprived of their entire influence, but aid in the amolytic action of the pancreatic juice. If they have lost their zymotic power they have kept their zymosthenic power.

2. **Functional Action of the Aperture of the Stomach in Animals with a Permeable Pylorus on Which Gastroenterostomy Has Been Performed.** Guibe presents the following conclusions:

sions: 1. In every case of gastroenterostomy performed upon stomachs in which the pylorus is more or less permeable a spontaneous obliteration of the artificial opening should be expected. 2. If, after a cure of some duration, the former morbid symptoms should reappear, medical treatment should be adopted. If this should fail there should be no hesitation in having recourse to another surgical intervention, which may perhaps demonstrate the closure of the previous anastomosis. 3. In every case, to guard against this inconvenience as much as possible, the anastomotic opening should be placed as near as possible to the pylorus and should be made as large as possible. The method of suturing is also, without doubt, of great importance.

December 25, 1907.

1. Opening Lecture. By PROFESSOR NICOLAS.
2. Bismuth Subnitrate in Diseases of the Stomach, By FERNAND LEVY

**2. Bismuth Subnitrate in Diseases of the Stomach.**—Levy alleges that the favorable effects produced by bismuth subnitrate in certain diseases of the stomach are not wholly due to its physical action in coating the surface of the mucous membrane, but that they are partially due to a chemical action produced in which it is partially precipitated in the form of the oxychloride. It lessens the phase of gastric digestion by reducing the hyperchlorhydria and it tends to suppress fermentation.

LA SEMAINE MEDICALE.

December 18, 1907.

- A Case of Adams-Stokes Syndrome without Blocking, By PROFESSOR R. LEPINE.

**Adams-Stokes Syndrome Without Blocking.**—Lepine's patient was a woman, sixty-five years of age, rheumatic, nervous, overworked, who had suffered for nine years from epileptiform attacks, or, rather, fainting fits. Her heart was enlarged and there was a slight mitral stenosis, and her pulse was very slow. This association of slow pulse with epileptiform or fainting fits forms, in the author's opinion, the syndrome of Adams-Stokes disease, although some authors have used the term "heart block" as synonymous.

December 25, 1907.

- Occlusion Form of Sigmoidispermoiditis, By F. LEJARS.

**Occlusion Form of Sigmoidispermoiditis.**—Lejars reports a case in which the symptoms of ileus were produced in a woman, sixty-eight years of age, by an inflammation of the sigmoid, which caused perforation and aperispermoiditis. Operation failed to save the patient, who sank and died twenty-four hours later without pain, vomiting, or the slightest reaction.

BERLINER KLINISCHE WOCHENSCHRIFT

December 16, 1907.

1. Concerning the Development and Present Stand of the Serodiagnosis of Syphilis, By A. WASSERMANN.
2. Experimental Contributions to the Morphology and Biology of Malignant Tumors, By C. LEWIN.
3. Concerning the Fibrolysin Treatment of Perigastric Adhesions, By C. MICHAEL.
4. Permanent Cure of Perspiration of the Hands by the Use of Exophthalmic Goitre and the Sexual Life of the Woman, By N. KRON.
5. Congenital Stenoses of the Urethra, By A. HOCK.
6. Observations on the Human Semen by the Dark Field Illumination, By C. POSNER.
7. Fibrolysin Treatment of Perigastric Adhe-

sions.—Michael reports two cases in which cicatricial adhesions about the stomach which were the results of operations which had been performed were dissolved by injections of fibrolysin and thiosinamin, made subcutaneously in the neighborhood of the cicatrix.

**4. Permanent Cure of Perspiration of the Hands.**—Kronmayer reports three cases in which hyperidrosis of the hands was cured in two and reduced to a slight degree of perspiration in heat in the other by exposure of the hands to the action of the x rays. He believes that the x rays may be considered, in the true sense of the word, a radical means of cure of hyperidrosis.

**5. Exophthalmic Goitre and the Sexual Life of the Woman.**—Kron reports two cases of women afflicted with exophthalmic goitre the symptoms of which were worse during pregnancy and improved after confinement. In one the goitre became reduced from 37 to 34 cm. The effect on menstruation is discussed, and the author considers that we have to deal with in exophthalmic goitre a disturbance of the metabolic processes of the first importance, as in diabetes. Menstrual disturbances are produced by the chemically changed blood just as in general disturbances of nutrition, and many authors are justified in considering these symptoms as indicative of exophthalmic goitre.

**6. Congenital Stenoses of the Urethra.**—Hock reports two cases of congenital stricture of the urethra. The first patient, a man, seventeen years of age, came under observation on account of a retention of urine. The principal evidence that the stricture was congenital came from the statement of the patient's mother that from his earliest infancy he had had trouble in urination. He also had nocturnal and diurnal incontinence and hæmaturia. External urethrotomy proved to be necessary to give relief. The second patient was a man, forty-seven years of age, who had likewise had difficulty in urination from early infancy. In this case, in addition to a stenosed orifice, there were two strictures, one four centimetres from the orifice, the other in the pars bulbosa. The author also refers with less detail to two additional cases of this rare affection which have come under his observation.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

December 10, 1907.

1. The Analysis of the Extrasystole in the Picture of the Auricular Pulsion, By RAUBENBERG.
2. Cylindruria and Albuminuria, By ASCH.
3. Investigations Concerning Mendel-Bechterew's Reflex of the Dorsum of the Foot, By OSANN.
4. Decapsulation of the Kidney in Eclampsia, By FRANK.
5. Concerning the Postoperative Pulmonary Complications and Thromboses after Etherizations, By OTTE.
6. Concerning the Worthlessness of the Addition of Preparations of the Suprarenal Capsules in Lumbar Anæsthesia, By MICHELSSON.
7. Epididymitis Erotica, By WÄLSCH.
8. A Case of Total Extirpation of a Cyst of the Pancreas, By SCHMIDT.
9. A Case of Swine Erysipelas in Man and its Cure by Means of Swine Erysipelas Serum, By WELZEL.
10. Pigmentation of the Nails in Secondary Syphilis, By VORNER.
11. Sterile Raw Catgut, By KUHN.
12. Fibres of the Utricle Nivea as Surgical Threads, By MADENER.
13. A Simple Fermentation Saccharometer, By BÄSLER.
14. Birth and Death Among the Wandering, By KRAUSS.
3. Mendel-Bechterew's Reflex of the Dorsum



**of the Foot.**—Osann thus sums up the results of his investigations: 1. The normal extension reflex of Mendel arises through direct stimulation of the extensor brevis digitorum. It is almost constant in health. Its occurrence may be prevented by external hindrances, such as œdema, changes in the joints, voluntary tension of the extensor, and atrophy of the muscles. 2. The absence of the extension reflex alone is of no special diagnostic importance, but attains a certain value when it cannot be explained by the mentioned external hindrances and is associated with pathological flexor reflexes. The absence or presence of the extension reflex serves to a certain degree as a measure of the Mendel-Bechterew reflex, and in consequence there can be distinguished a positive and a partial Mendel-Bechterew. 3. The Mendel-Bechterew reflex appears in cases of organic spastic paresis of the lower extremities. It occurs in many cases in which Babinski's reflex is present, but is not so comprehensive. In rare cases there may be a positive Mendel-Bechterew with a negative or uncertain Babinski. 4. Although these two reflexes are so frequently associated they have nothing in common. Babinski's is a purely cutaneous reflex independent of the muscular tone of the lower extremities, while the existence of the Mendel-Bechterew seems to depend on a hypertonic condition of the flexor muscles of the foot and toes. Very frequently it is associated with foot clonus. 5. A distinct analogy exists between the Mendel-Bechterew reflex and the flexor reflex of the finger described by Bechterew.

4. **Decapsulation of the Kidney in Eclampsia.**—Franck reports a case in which decapsulation of the kidney was performed with excellent result in a desperate case of eclampsia.

5. **Postoperative Complications After Etherization.**—Otte thinks that he has succeeded in avoiding the postoperative pulmonary complications which occasionally follow the administration of ether by such a manner of administration as shall avoid an overdose of the drug and by prophylactic measures, such as clearing up of acute troubles of the respiratory organs if possible before operation, having the patient's stomach empty at the time of operation, avoidance of sudden chills during and after the operation and washing out of the mouth with a disinfectant lotion before the operation. In particular he emphasizes the inhalation of steam for half an hour before and after the operation.

7. **Epididymitis Erotica.**—Wälsch deals under this name with a distention of the epididymis dependent on congestion produced by psychical or mechanical excitation of the sexual organs but in no way inflammatory.

10. **Pigmentation of the Nails in Secondary Syphilis.**—Vornier reports a curious case, in which a man, twenty-one years of age, contracted syphilis and simultaneously with the appearance of the secondary eruption black places appeared in the lunula of the finger nails which grew larger from week to week. The pigmentation of the nails was not uniform. On the left hand the fifth finger alone was strongly marked, and the pigmentation was not perfectly even.

# THE GLASGOW MEDICAL JOURNAL.

December, 1907.

1. Breisky's Kraurosis Valvæ; Four Cases, Three of Them Complicated with Epithelioma.

By JOHN EDGAR.

2. The Physiopsychology of Hallucination.

By J. H. MACDONALD.

2. **Hallucination.**—MacDonald speaks of hallucinations. He remarks that the student of history cannot help being struck by the part played by hallucinations in the story of human progress. In the annals of every nation, even from the remotest periods, we meet with hallucinatory episodes affecting the trend of popular thought and belief, and directing the conduct of the people. In some instances we find that the hallucinations pertain to a particular individual, who interprets the hallucination as a mysterious, divine revelation, an interpretation which, begetting in its turn the secret belief in a divine mission, dominates the consciousness, leads to concentration of thought, a determination of purpose, and an accumulation of energy that urges on the hallucinated being to a realization of his dream, and sometimes makes him a leader of men. Thus, we find Joan of Arc in the history of France. But history also furnishes instances of hallucinations affecting masses of humanity. As example the author cites the hallucinatory epidemics that affected whole communities and armies during the holy wars, and here also one individual, Peter the Hermit of Amiens. Biographers relate hallucinatory episodes in the lives of many illustrious men of all times, some of them men of undoubted genius. Martin Luther, according to the evidence of his own writings, was undoubtedly subject to auditory hallucinations. So also was George Fox, the founder of the Society of Friends. Socrates, the ancient Grecian philosopher, is judged to have been the victim of hallucinations. Descartes, after long confinement, was followed by an invisible person calling upon him to pursue the search of truth. It is recorded by Lombroso that Van Helmont declared he saw a guardian angel appear to him in all the most important events in his life. Napoleon was said to have had interviews with a familiar spirit in the form of a little red man, and he asserted he saw his star in every great occurrence. Oliver Cromwell, while lying tired and sleepless in bed, had an apparition of the gigantic figure of a lady who told him he would be the greatest man in England. Johnson when at Oxford one day heard his mother distinctly call "Sam," though she was then at Lichfield. Cowper was one day found by his medical attendant with a penknife sticking in his side. He believed he had heard a voice from heaven commanding him to take his own life. Pöpe one day asked the doctor attending him what was the arm which seemed to come out of the wall. Byron occasionally fancied he was visited by a spectre, but regarded it as the effect of an overstimulated brain. Goethe stated that one day he saw the exact counterpart of himself coming towards him. These are but a few out of many instances in the lives of great men in whom the existence of hallucinations seems to have been well established by the evidence of the facts. Hallucination should be defined as a subjective perception, a perception without a corresponding objective

stimulus. Hallucinations of hearing are those which we meet with most frequently among the insane. They vary in character from simple noises, rumblings, moanings, hissings, whistlings, tinklings, musical sounds, barks, growls, cries, to the most complex of words and sentences. Hallucinations of sight may assume the most diverse forms. The most elementary appear as mere blurs, clouds, sparks, flashes of light, while, in the more complex, faces, persons, every variety of object and scene may be portrayed in detail. Sometimes they are very indefinite, colorless, and phantomlike; at other times they are very vivid, highly colored, and stand out in bold relief. Hallucinations of smell are not at all uncommon, and patients often complain that they smell poisonous gases, chloroform, iodoform, fæces, putrefying substances, dead bodies, seminal discharges, etc. Hallucinations of taste also occur, as when the patient tells us that he detects poison, blood, fæces, etc., in his food. Hallucinations of touch may be referred to any point in the body. They vary in character and intensity from creeping, pricking, cold, and burning sensations, to electric shocks, caresses, stabs, blows, bites, and injuries of all kinds. The author reviews the theories about hallucination. He believes that the theory of the peripheral origin of hallucination holds good in some, but not in all, instances. Even when the primary stimulus occurs within the cerebrum, hallucinations are produced only after the sensory centres, which are the seat of images, have been stimulated. A hallucination is never an entirely new creation of the brain, but simply a reproduction of memory images, and, in cases where the hallucination seems new, strange, and enigmatical, we have to deal merely with a new combination of its component elements. So also in dreams, which are the hallucinations of the sleeping state. It is an interesting and remarkable fact that hallucinations vary in different races and at different periods of history according to the knowledge and the dominant ideas of the day and the people. The ancient Greek who had visual hallucinations saw gods and goddesses, satyrs, driads, and nymphs. The hallucinated individual of the middle ages had visions of saints and guardian angels, or saw the devil, after the manner of that day, with horns, a goat's head, an arrow headed tail, and a pitchfork. In these later days visions of heaven or hell are more Miltonic in character, and with the wider diffusion of knowledge and the practical tendencies of advancing civilization they are becoming less frequent and less definite than they used to be. So, too, in the case of auditory hallucinations. In earlier times the hallucinatory voices were interpreted as those of celestial beings or spirits. Then the introduction of speaking tubes afforded a new explanation, and the sufferer was convinced that a secret system of tubes existed in the walls of his apartments. The introduction of the telegraph and then of the telephone was followed by the transference of the voices to wires hidden in the walls, while in these days it is no uncommon thing to find the victim of auditory hallucinations who declares that he is constantly receiving marconigrams and wireless messages. The author concludes that no doubt a hallucination is an abnormal cerebral product, and if it were possible

to divide mankind into two categories, those of sound mind and those of unsound mind, we should have no option left but to include the hallucinated with the unsound. Such a division is, however, impossible. Sanity and insanity are comparative terms. Each individual has a normal peculiar to himself, and applicable to none other. Any attempt to make a division between sanity and insanity must be artificial and conventional in the highest degree. The existence of hallucinations is certainly no criterion of insanity. We can, however, agree that when the subject of hallucinations fails to recognize these as anomalous productions of his brain, and allows his thoughts to be directed from their ordinary course, and his conduct to be regulated by the hallucinatory mental content, he is no longer of sound mind.

### Proceedings of Societies.

#### SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Twentieth Annual Session, Held in New Orleans,  
December 17, 18, and 19, 1907*

The President, Dr. HOWARD A. KELLY, of Baltimore, in the Chair.

*(Continued from page 90.)*

**Fracture of the Femur in Forcible Delivery.**—Dr. CHARLES R. ROBINS, of Richmond, said the possibility of fracture of the femur in the various manipulations of the lower extremities in forcible delivery was mentioned in medical literature, but he had been unable to find anything on the treatment. He was convinced from inquiry that such fractures were more common than the scant mention would indicate, and that successful treatment offered serious difficulties. The splint which he presented had been designed for the purpose of treating such a fracture occurring in his own practice, and the result obtained had been perfect. In the treatment of such a fracture it was absolutely necessary to adopt some method that would permit handling of the child for nursing without disturbing the limb, that would permit changing of napkins, that would prevent soiling, and that would not excoriate the delicate skin. These indications could not be met by any of the methods in vogue for treatment in older persons. The splint he described in detail, also its application.

**Some Results of the Hodgen Splint Treatment of Fractures of the Thigh as Shown by the X Rays.**—Dr. GEORGE S. BROWN, of Birmingham, demonstrated by means of sketches the changes he had made in the original splint of Hodgen as the latter had modified it from the old Smith's anterior splint. These changes were: First, he used one piece of cloth as a hammock to take the place of the underlapping strips of roller bandage, which were troublesome about rolling up in strings and otherwise getting out of order. Again, he had placed small tent blocks on the supporting cords by means of which the level and hang of the limb in the splint could be adjusted in a most satisfactory manner. Again, he had placed two wire loops at the distal corners of the wire frame, through which were passed the traction strips of muslin, which were pinned to the traction adhesive strips at the malleoli; these, be-

ing passed through these loops, were tied together across the sole of the foot, thus holding the limb firmly in the frame and doing away with the foot block which was formerly used, as in Buck's extension. The loops of the small suspension cords were hung upon the hook of a spring scales, which in turn was hung to the sash cord that went over the pulley wheel in the ceiling.

The writer maintained that while the limb was swung up from the bed and the suspension cord was at an angle, the pull was sure to be constant, and that this splint was the only apparatus so far devised that would give a constant pull. He asserted that the principle that should be followed in the treatment of fractures should be that of gradual reduction by a moderate pull steadily but constantly maintained, under which the muscles would entirely give up their resistance. Reduction under ether was unnecessary and useless, as the muscles would quickly recover their resistance and undo all that had been done in this way; the old Hodgen splint operated on the same principle, but owing to its crudeness would not stay in order, could not be properly regulated as to the pull, could not be properly balanced, and was not so comfortable. Buck's apparatus was painful, and for that reason the patient was constantly making efforts to have the weight removed long enough to allow him occasional relief from the strain on the hamstring tendons, and this kept the muscles alive and resistant, and, as long as the muscles were alive and resistant, it was practically impossible to overcome the shortening in an oblique fracture; but with the Hodgen, the muscles were put completely at rest in from a week to ten days.

The essayist showed a number of skiagraphs taken from old patients of his, most of whom had been treated some years before the discovery of the x ray. In all but two of the pictures the results were excellent, and these, he explained, had not had the advantage of proper treatment. Two pictures of fractures through the great trochanters showed union so perfect as to leave nothing more to be desired, and the same could be said of several fractures of the shaft. In summing up, it could be said of this splint that after it was put on a limb it was well nigh automatic in its operation. It was so comfortable that patients never objected to it in any way. It made less work for surgeons and nurses by at least 75 per cent. than any other means of treatment of these injuries, and the results were always excellent or fairly good.

**Practical Points in the Treatment of Fractured Femur.** Dr. W. P. CARR, of Washington, said that numerous surgeons had advocated wiring or some open operation in all or nearly all fractures of the femur, and maintained that perfect results could not be obtained without it. Results could be obtained in nearly all cases of simple fracture that were both functionally and anatomically perfect, if the following points were carefully observed: Extension by weight and pulley or other efficient means must be used daily. The shortening must be absolutely overcome in the first twenty-four or at most thirty-six hours, or it could never be entirely overcome. From ten to twenty-five pounds weight would be required to do this, and there should be great care to see that the weight was effective. Shortening was due to faulty application of the weight or too little

weight. Catching of some part of the apparatus on the foot of the bed or in the mattress or bed clothing, and slipping down in bed, were the most common defects. The traction should be applied so as to tend to lift the heel and not pull it down against the mattress, as so commonly happened. Slipping down was best prevented, not by elevating the foot of the bed, but by elevating the lower half of the mattress to an angle of twenty degrees. In fractures just below the lesser trochanter, the elevation should be thirty-five or forty degrees, flexing the thigh to that extent, and the limb should be abducted slightly. Compound fractures should, as a rule, be wired, as the wound was usually contaminated and the chances of suppuration were lessened by an open operation and thorough cleansing of the parts. Children were best treated by vertical extension. All shortening could be absolutely avoided by care during the first few days. Careful measurements should be made, and skiagrams, when possible. Any fracture not in satisfactory position at the end of a week should be wired. If simple rules of mechanics were observed, a single small loop of soft iron wire was all that would be needed to prevent shortening, lateral displacement, or rotation. Iron wire was much stronger than silver. Angular deformity must be prevented by traction, a plaster of Paris cast, or splints, no matter what method of fastening the bones was used.

Three instruments were shown that had proved very useful in resecting and wiring bone: First, a modification of Wyeth's bone saw, much simpler and more effective than Wyeth's. Second, a bone drill made like a small brace and bit, to be used in one hand while the other hand was free to hold the bone. Third, a very small, thin, grooved director, small enough to pass through the drill hole and guide the wire. This was very useful in passing the wire from within outward through the second fragment, especially when oozing of blood obscured the opening of the drill hole.

**The Relaxed Knee Joint and Its Treatment.**—Dr. ALBERT H. FREIBERG, of Cincinnati, called attention to a group of cases involving the knee joint which, on account of the absence of manifestations in the radiogram, the absence of any infectious element, and most often the absence of any organic change in the joint to be appreciated by physical examination, had for the most part been considered functional. Excluded from this consideration were the cases with knee symptoms proceeding from weak and flat foot. The complaint of the patient in these cases was either that of joint pain largely or altogether dependent upon function, with occasional effusion into the joint after unusual exertion, or else the occurrence of sudden attacks which were frequently very similar to those resulting from injury to the meniscus. In the latter cases there was the sudden onset of very sharp pain, so that the patient often fell. This was commonly followed by an effusion, which subsided after a few days, leaving the joint apparently normal. The chief clinical characters, aside from these symptoms, were atrophy of the quadriceps extensor of the thigh and diminished power of extension of the knee consequent thereon. This atrophy was to be determined by accurate measurement with the tape line. Since the quadriceps was normally the tensor of the knee joint, it was



relaxation permitted its falling into folds, and it was thus subjected to frequent injury by being pinched between the femur and tibia, and the symptoms were thus explained. Villous hypertrophy might ensue in consequence of the repetition of these attacks. In all the cases reported it was possible to determine a traumatic origin, although in several the injury appeared to be slight. The theory of reflex atrophy was favored rather than that of inactivity, because in several cases the limb was used without any intermission after the injury. The description of this class of cases as "relaxed knee joint" was advocated as a distinct syndrome and not simply as a feature of villous arthritis. The treatment consisted of measures to restore the volume and strength of the quadriceps, such as suitable gymnastic exercise, resisted movements, massage, and electricity. Tone must be restored to the relaxed capsule by suitable local measures, such as hydrotherapy, etc. Often the return to the normal was so slow that the assumption of damage to the central nervous system seemed justified. All patients might, however, be expected to recover with proper treatment and sufficient perseverance.

In summarizing, the author stated that many cases of so called functional knee symptoms were due to reflex atrophy of the quadriceps following injury. The term relaxed knee joint should be reserved for such cases. The injury might be so slight that its ætiological relation was overlooked. The atrophy following injury could in many cases not be explained by the theory of inactivity. Cure of these cases would be brought about by the restoration of the normal volume and strength of the quadriceps extensor. In some cases recovery was so protracted as to warrant the belief in material damage to the central nervous system. While in such cases endeavors were necessarily limited to treatment at the periphery, ultimate recovery might be expected to follow persevering and well directed efforts.

**Abdominal Cæsarean Section.**—Dr. HENRY D. FRY, of Washington, discussed the management of labor in minor degrees of pelvic contraction, with special reference to the relative indications for abdominal Cæsarean section. He tabulated eighteen cases of Cæsarean section.

**The Treatment of Diffuse Suppurative Peritonitis.**—Dr. STUART MCGUIRE, of Richmond, Va., reviewed the work of Muscatello, Clark, Fowler, Bond, Cannon, and Murphy, and stated that the present generally accepted method of treatment had not been adopted empirically, but was the result of deductions from scientific observations. A recent analysis of the last five hundred cases of operations for appendicitis in his private hospital gave a record of twenty-four patients with diffuse suppurative peritonitis. The first six were treated by the old method of irrigation and multiple drainage, with five deaths; the last eighteen were treated by the so called Fowler-Murphy method, with but one death. The difficulty he had experienced in carrying out the treatment was in maintaining the patient in an exaggerated Fowler position. He found by visiting other hospitals that two principles were in practice, angulation of the patient and angulation of the bed. The first was effected by keeping the bed horizontal and elevating the body of the patient by means of a shoulder rest; the second by elevating the head of the bed

and allowing the patient to lie flat on the inclined mattress. The advantage alleged for the semisitting position over bed elevation was that it gave better drainage, but this he did not believe to be true, as it was impossible to maintain the patient in the proper position on a shoulder rest, while it was an easy matter to prevent his slipping on an inclined mattress. The disadvantages of the semisitting position were that it made it difficult for the nurse to handle the case, that it was attended by muscular tension and fatigue, and that the patient would slip down so that his body would bend at the costal arch and his abdomen would be on a plane parallel with the surface of the bed. The advantages of elevating the head of the bed were that the mattress might be put at any angle, that the patient lay on the flat surface, often unconscious of his position, and that he was completely relaxed and easily nursed.

Dr. McGuire exhibited a model and photographs of an apparatus which he had employed for more than a year to elevate the head of the bed and to prevent the patient's sliding down the incline. The bed elevator consisted of a wooden base and upright piece, with notches on its side. An iron link supported a block, which received the leg of the bed. When horizontal, it would slip up or down, but when oblique would catch in one of the notches. The bed seat consisted of a board which made a shelf on which the patient sat. A wooden shaft projected downward and passed through a second board, which rested against the footpiece of the bed. In the shaft were a number of holes, and a peg placed in one of them would prevent the shaft passing through the bottom board, and thus transfer the weight of the patient to the foot of the bed.

**Pulmonary Embolism.**—Dr. WILLARD BARTLETT and Dr. R. L. THOMPSON, of St. Louis, went into the history of the circulation of the blood, thrombosis, and embolism. They discussed the various reasons why thrombus formation took place, stating that it was most common in neighborhoods rich in venous blood. An embolus might float off if there were such thrombi and cause instant death if it plugged the pulmonary artery or one of its main branches, but if the clot was small and lodged in a small lung vessel, no symptoms at all might be seen. Attention was called to varicose veins conducting the blood from large abdominal tumors, and the object of the paper was their recognition and treatment. Thrombus formation had attended as high as 5 per cent. of certain long series of operations, while 2 per cent. of the same were attended with fatal pulmonary embolism.

The authors reported twenty-two cases, sixteen of them surgical. An autopsy was performed in the majority of the twenty-two. Pulmonary embolism occurred in these cases at intervals varying from one to twenty-eight days. Two of their patients recovered, but twenty died, the interval between the onset of pulmonary symptoms and death varying from a few seconds to twelve hours. The symptomatology was considered, as was also the prophylactic treatment.

**The Diagnosis of Extrauterine Pregnancy.**—Dr. H. J. BOLDT, New York, read a paper on this subject. Under the term extrauterine pregnancy he included all gestations which were situated outside

the uterine cavity. While, anatomically, extrauterine pregnancy might be divided into several varieties, from a clinical point of view such a distinction was not essential. Tubal pregnancy was the most frequent form of ectopic gestation. Uninterrupted extrauterine pregnancy was but rarely recognized, and then usually by mere accident when operating for other conditions, or when examining a patient for a complaint causing symptoms independent of extrauterine gestation. He had never palpated in a case of tubal pregnancy prior to the occurrence of symptoms due to the pathological implantation of the ovum, except in one instance, a double tubal gestation. In this case, however, the right tubal gestation gave rise to symptoms and was diagnosed. On the opposite side a tubal enlargement was felt, the nature of which was not diagnosed, but on operation the tubal distention proved to be due to a tubal pregnancy which had not begun to be interrupted by bleeding within the tube or by any inflammatory process about the tube. The distention was limited to the outer two thirds of the tube, which was freely movable and did not possess the doughy feeling of a pyosalpinx or the tense elasticity of a hydrosalpinx, which he had supposed to exist on that side. The symptoms were divided into subjective and objective, and these were discussed at length.

The absence in the history of the passing of a decidua did not exclude the presence of ectopic gestation. In the large number of extrauterine pregnancies the author had seen—nearly three hundred—less than one half gave an affirmative history on this point. A decidua might be passed unnoticed, or it might remain in the uterus and eventually be transformed into normal endometrium.

After considering the diagnostic features of early extrauterine pregnancy, the author pointed out that after the second half of the gestation period the diagnosis depended on one's ability to determine the presence of a fetus outside of the uterus, which was, as a rule, not very difficult, unless the fetus was located between the folds of the broad ligament, and the woman had thick abdominal walls, or the fetus had been dead for some time and was not in close contact with the abdominal parietes or the cul-de-sac of Douglas. At this period of gestation the history would aid very much, because in nearly all cases, in addition to the symptoms that were present in the early stages of ectopic pregnancy, there were also in the history symptoms which showed that one or more attacks of local or even general peritonitis had occurred.

A pregnancy in the interstitial part of the Fallopian tube caused bulging of the uterine cornu of the invaded side. This bulging, being in an upward direction, necessarily made the cornu much higher than that on the opposite side, and the annexa were given off at a much lower plane than that of the impregnated side. In the event of rupture, which nearly always occurred during the first half of the gestation period, sometimes before the end of the second month, the hemorrhage was very profuse and required rapid intervention. The diagnosis was based upon the determination of pregnancy, with the appreciation of the local findings.

Pregnancy in one horn of a bicornuate uterus should not cause difficulty in diagnosis if the pregnancy had gone to the fifth month or more and the

fetus was still living. During the first half of gestation, in addition to the subjective symptoms of pregnancy, one should ascertain the presence, alongside the nonimpregnated cornu, of the impregnated cornu, which was of a doughy consistency, unless the fetus was dead. In such event, the impregnated uterine horn became harder and more globular, so that it might be mistaken for a pedunculated myoma or perhaps an ovarian cyst. But if one took all factors into consideration, the history and the objective symptoms to be found on bimanual examination, the diagnosis should not be difficult under ordinary circumstances. It might, however, be quite difficult if the patient was corpulent and had rigid abdominal walls.

The greatest difficulty in making a correct diagnosis was in distinguishing an ectopic gestation in its early stages from purulent inflammatory conditions of the annexa, because in the latter the patients sometimes gave a history identical with that of ectopic gestation, and objectively the tube was distended and firm in consistence. Also the change in the uterus and in the vaginal mucous membrane might be similar. We might have the delayed or omitted menstruation, or atypical bleeding, and he had seen two cases where the blood was similar to that described as typical for the bleeding of interrupted extrauterine pregnancy. Furthermore, the character of the pain was sometimes identical, except that no collapse ever followed, as in profuse hemorrhage. He frankly confessed that occasionally in such cases he had been unable to make the diagnosis without surgical intervention.

The error most frequently made by physicians was that of mistaking ectopic gestation for early abortion. Of his ectopic gestation patients, who had been curetted by their attendants, more had been so treated under the impression that they had had an incomplete abortion than for any other erroneous diagnosis. In taking the history it would be found that with abortion cases the pains usually began with a moderate aching or drawing pain in the lumbar region, radiating toward the hypogastrium. In tubal pregnancy the pains were much more intense and were unilateral in the beginning, and the periods of intermission were generally further apart.

Appendicitis might sometimes be mistaken for extrauterine pregnancy, or the opposite error might occur. In an inflammation about the appendix, however, the exudate, if there was one, would be higher up in the pelvis, more toward the iliac fossa. Furthermore, there was always a febrile condition in appendicitis, and none of the symptoms of pregnancy were found unless pregnancy and appendicitis were coexistent. Besides, if one was careful in eliciting a patient's history, there would always be found a difference.

**Renal Decapsulation for Chronic Parenchymatous Nephritis.** Dr. J. C. OLIVER, of Cincinnati, presented a report of the case of a young man upon whom decapsulation of both kidneys had been practised for the relief of chronic parenchymatous nephritis. The patient received medical treatment alone for a period of about eight months. At the expiration of that time his condition was much worse than it was at the time he began treatment. In fact, his condition was apparently desperate when a resort to surgical intervention was determined upon.

Decapsulation was practised on December 9, 1905. The first favorable sign following the operation was an improvement in vision on the sixth day. The average secretion of urine prior to the operation was from four to fifteen ounces in twenty-four hours. He passed nineteen ounces the day following the operation, and by the end of a week this amount had increased to fifty ounces. The preexisting general œdema diminished so rapidly that at the end of two weeks one could notice a very decided reduction in the amount. A marked increase in the percentage of urea excreted was associated with the augmented excretion of urine, but the percentage of albumin remained high. This period of improvement was followed by one of relapse. The œdema increased rapidly, and repeated tapplings were necessary. The heart exhibited symptoms of gradual dilatation, and there were almost nightly attacks of severe dyspnoea. The patient was very ill during January, February, and March, 1906. It became necessary to aspirate both sides of the chest six or seven times during this period. The patient became so desperately ill that his demise was looked for almost daily. A marked improvement took place in his condition about the 1st of April. The dyspnoea diminished, the urine increased in quantity, the œdema disappeared entirely, and the patient was able to get up and walk about. The amount of albumin in the urine diminished, and the casts were very much fewer and less granular. The patient was dismissed from the hospital on June 8, 1906. During the period from June to October he continued to improve, and he gained in strength to such a degree that he was able to do some light work. There was but little further gain in the eyesight after the primary improvement. The patient was suddenly taken ill during the first week in October. He became comatose, remained in that condition, and at the end of three days expired. There was no return of dropsical conditions. The death was in all probability attributable to the deranged heart.

**Inoperable Sarcoma of the Neck.**—Dr. OLIVER reported a case of inoperable sarcoma of the neck which was apparently cured by a combination of the use of Coley's toxins with exposure to the action of the Röntgen ray. The treatment extended over a period of five months, at the conclusion of which the tumor masses had entirely disappeared. Nineteen months after the apparent cure a small nodule appeared in the right parotid region. The patient was now receiving injections of the toxins in the hope that these newer manifestations might also prove amenable to the treatment.

(To be concluded.)

### Book Notices.

*Pathologische Physiologie; ein Lehrbuch für Studierende* von Dr. EDUARD KREHL, a Professor und Direktor der medizinischen Klinik in Heidelberg. Mit einem Beitrag von Professor E. LEVY in Strassburg. Fünfte neu bearbeitete Auflage. Leipzig: F. C. W. Vogel, 1907. Pp. 649.

We have had occasion to call attention to Krehl's work on pathological physiology on the appearance of four of its previous editions. Like many German works of this class, a new edition is in reality a new edition, and additions, corrections, and re-

writing are apparent, making the work one brought up to date in verity.

The anatomicopathological point of view regarding disease has had its great advantages. It has systematized our knowledge and brought order out of chaos. Bacteriological science has added its quota to a better comprehension of ætiological factors, while chemistry has led to the interpretation of modifications in the underlying laws that govern many of the life processes. These combined have made an enlightened pathological physiology a possibility.

That a time has arrived when disease must have a wider interpretation in terms of function is evident from the great success that Krehl's work has already had, and for years no work of its compass has appeared in which the essentials of morbid physiology have had a more illuminating light thrown upon them, or a deeper or more comprehensive grasp been shown of the chief factors which make for disease. It is a book to be most cordially commended to medical student, general practitioner, and specialist alike.

*Zur Psychologie und Therapie neurotischer Symptome. Eine Studie auf Grund der Neurosenlehre Freuds.* Von Dr. ARTHUR MUTHMANN, II. Arzt des Kurhauses Bad Nassau, früherem II. Arzt der psychiatrischen Klinik der Universität Basel. Halle a. S.: Carl Marhold, 1907. Pp. 115.

The author gives as his reason for publishing this small monograph the good results which he believes he has obtained with the use of the Freud psycho-analytical method in the Basel Psychiatric Clinic. He further believes that, as the amount of literature bearing upon the method is still very slight, his contribution will not fall within the class of discussions already done to death.

He devotes the major portion of the work to the setting forth of the histories of a number of patients who by means of the Freud method are willing or compelled to unburden themselves of much that has been kept hidden in their life experiences. Most of them are hystericals, and the main thesis discovered is truly Freudian, namely, the psychical effects of the sexual life.

We have always felt that Freud made a partial if not complete wreck of his scientific craft when he ran upon the rock of the sexual causation of all neurotic ills. 'He still remains upon this isolated island of interpretation, and his followers are not few.' Muthmann's contribution is an interesting one on what might be more rigidly interpreted as a study in the variations and aberrations of sexual feeling, and it can be alleged for it that it furnishes another book on that region of psychic life which has ever challenged the attention of the "Peeping Toms" of the medical world.

Such analyses are no doubt valuable in obtaining information, one sided though it may be, of the natural history of the sexual life, but they err, in our opinion, and the present volume emphasizes this defect, erroneous in assuming that the ultima Thule has been reached the moment that sexual doings have been overturned and exposed to the view of the curious analyzer.

The part of the work which is specially valuable, however, and taken in its entirety it is a small



monograph of real service, is the very able summary of the various avenues of psychotherapeutic research which have been developed of late years.

*Die Lokalanästhesie, ihre wissenschaftlichen Grundlagen und praktische Anwendung.* Ein Hand- und Lehrbuch von Dr. med. HEINRICH BRAUN, Direktor des königlichen sächsischen Krankenstiftes in Zwickau. Zweite, teilweise umgearbeitete Auflage. Mit 128 Abbildungen. Leipzig: Johann Ambrosius Barth, 1907. Pp. 452.

This book has seen two editions in two years, a circumstance which speaks well for its contents. The history of local anaesthesia is given in Chapter I, followed by the physiology of sensibility and pain and local anaesthesia and its methods in Chapter II, while Chapter III and IV treat of local anaesthesia produced by compression of nerves, anaemia, and cold. Chapters V and VI lead up to Chapter VII, dealing with the chemical compounds used in local anaesthesia. Cocaine, as is only natural, receives a lengthy discussion, and the subject is followed by tropacocaine, eucaine, holocaine, aneson (anesin), orthoform, nirvanin, anaesthesin, subontin, stovaine, alypin, novococaine, etc. Chapters VIII and IX treat of other methods of producing local anaesthesia, such as the mechanical, the use of suprarenin and electricity, medullary anaesthesia, etc. The indications, contraindications, and technique are treated of in Chapter X, while in Chapter XI to XVII are considered the operations that can be conducted under local anaesthesia. Very instructive and giving a brilliant testimony of the thoroughness of the author is the literature for the first nine chapters, running in small type over thirty pages, followed by an index giving the names of authors and a general index.

*Elements of Human Physiology.* By ERNEST H. STARLING, M.D., Lond., F.R.C.P., F.R.S., Jodrell Professor of Physiology, University College, London. Eighth Edition. Chicago: W. T. Keener & Co., 1907. Pp. viii-716. (Price, \$3.75.)

Professor Starling's *Elements of Human Physiology* has been a handy manual for a number of years. The present edition has been little changed from the previous one, the seventh, but the book has been fully brought up to date.

It is a book which will find its proper place, not only on the desk of the medical student who follows up the knowledge he has received in the lecture room by reading at home, but also on the shelves of the practitioner, who will quite often find it necessary to refresh his memory.

*Atlas and Textbook of Human Anatomy.* By Dr. JOHANNES SOBotta, Professor of Anatomy in the University of Würzburg. Edited with Additions, by J. PLAINFAIR McMURRICH, A. M. Ph. D., Professor of Anatomy in the University of Toronto, etc. Volume III, Vascular System, Lymphatic System, Nervous System, and Sense Organs. With 297 Illustrations, Mostly in Colors. Philadelphia and London: W. B. Saunders Company, 1907. P. 342. (Price, \$6.)

This last, third, volume has kept what the first two promised. As was to be expected, the book is much larger than the preceding two (vol. I, 258 pages; vol. II, 194 pages; vol. III, 342 pages). It portrays the vascular, the lymphatic, and the nervous systems, and the sense organs.

The author also gives his reason for including in one volume arteries, veins, and nerves; and describing the heart with the viscera in another volume. He says: "Long years of experience in the dissect-

ing room have led the author to depict the peripheral nerves and bloodvessels as the student is accustomed to see them in the cadaver, i. e., the vessels and nerves together in the same region. . . . (Thus) the student using the atlas in the dissecting room can find upon a single page the description of the great majority of the structures found in a layer of his dissection, and is not forced to hunt through the volume and waste much time in unnecessary search."

This reason seems to be a good one, although we still believe that the 110 pages devoted to the vascular system added to the second volume would have given the volumes a more uniform size and brought this system, with the heart, into one book. (See *Journal*, lxxxv, page 381.)

The coloring of the plates is excellent. The method of distinguishing the parts of the body has been carried out systematically, as was done in the preceding volumes. Thus, the arteries are colored red, the veins blue, the nerves bright yellow; in the brain red illustrates the pyramidal tract, violet the occipitotemporal cerebropontile, and blue the frontal cerebropontile. A beautiful reproduction is given in Fig. 623, representing the base of the encephalon.

Two short addenda are added. Appendix I gives in four pages a condensed account of the regions of the human body, and Appendix II, in three pages, gives general remarks concerning the structure and early development of the human body.

*Technischer Fortschritt und seelische Gesundheit.* Akademische Antrittsrede gehalten am 25. Juni 1906. Von WILLY HELLPACH, Dr. med. et phil. Privatdozent der Psychologie. Mit einem Geleitwort vom Bildungswert der Psychologie. Halle a. s.: Carl Marhold, 1907. Pp. 30.

In this lecture Hellpach calls renewed attention to a question which was eagerly debated by the Athenians, and if the code of Hammurabi is evidence, by the ancient Babylonians. In it, however, he seems to deal with the problem as though it were entirely new and a creation of modern environment forced upon mankind by the sudden blossoming out of technical processes in all avenues of enterprise.

Neurasthenia and hysteria are on the increase in far greater proportion than the natural increase in population would seem to warrant. Modern machinery, railroads, electricity, telephone, the clang-clang, and hustle and bustle of modern industrial activity are responsible for the widespread increase in nervous irritability. This, in short, is the general line of argument of the writer. But, while outlining what he believes are real facts, and their essential relationships to the causes which he depicts, he maintains a fairly conservative and optimistic attitude toward the future and the possibilities of the sound nervous system "to stand the racket" and to evolve higher and better forms of nervous stability in the face of the wearing factors that are bound to increase unless the race has reached its acme.

He pays a passing compliment to certain "captains of industry" who reach the top by a ruthless disregard of all ethics and morality, counting themselves above the laws made for the common people—a point of view quite widely held and displayed by the robber barons of the feudal times.

He makes a final plea for better methods of nervous and mental hygiene and for the physician mind healer along rational and temperate psychological lines. The essay contains little new, but is a careful summary of conditions which must be met by the neuropsychiatrist in the present and in the future.

#### BOOKS, PAMPHLETS, ETC., RECEIVED.

Diagnóstico y Tratamiento de las Enfermedades de las Vías Urinarias. Lecciones Elementales. Por Alberto Suarez de Mendoza, Profesor de Enfermedades de las Vías Urinarias en la Facultad de Medicina de Madrid, Cirujano de la Casa de Salud de Nuestra Señora del Rosario. Madrid: Perlado, Paez y Cia, 1908. Pp. 790.

Jahresbericht über die Fortschritte in der Lehre von den pathogenen Mikroorganismen umfassend Bakterien, Pilze und Protozoen. Unter Mitwirkung von Fachgenossen bearbeitet und herausgegeben von Dr. med. P. von Baumgarten, o. ö. Professor der Pathologie an der Universität Tübingen, und Dr. med. F. Tangl, o. ö. Professor der allgemeinen und experimentellen Pathologie an der Universität Budapest. Einundzwanzigster Jahrgang, 1905. Leipzig: S. Hirzel, 1907. Pp. 941.

Atlas der pathologisch-anatomischen Sektionstechnik. Von Prof. Dr. M. Westenhoefer. Mit 34 Abbildungen. Berlin: August Hirschwald, 1908. Pp. 53.

A Textbook of Diseases of the Nose and Throat. By D. Braden Kyle, A. M., M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia, etc. 219 Illustrations, 26 of Them in Colors. Fourth Edition, Thoroughly Revised and Enlarged. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 797.

Atlas and Textbook of Human Anatomy. By Dr. Johannes Sobotta, Professor of Anatomy in the University of Würzburg. Edited, with Additions, by J. Playfair McMurrich, A. M., Ph. D., Professor of Anatomy in the University of Toronto, etc. Volume III. Vascular System, Lymphatic System, Nervous System, and Sense Organs. With 297 Illustrations, Mostly in Colors. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 342.

Functional Nervous Disorders in Childhood. By Leonard G. Guthrie, A. M., M. D., F. R. C. P., Senior Physician to Paddington Green Children's Hospital, etc. London: Henry Frowde and Hodder & Stoughton, 1907. (Price, \$3.)

Thinking, Feeling, and Doing. By E. W. Scripture, Assistant Neurologist to Columbia University. London and New York: G. P. Putnam's Sons, 1907.

Light and X Ray Treatment of Skin Diseases. By Malcolm Morris, F. R. C. S., Ed., Dermatologist to King Edward the Seventh's Hospital for Officers, Surgeon to the Skin Department of the Seaman's Hospital, etc., and S. Ernest Dore, M. D., Cantab., Assistant in the Skin Department of the Middlesex Hospital. With Twelve Plates. Chicago: W. T. Keener & Co., 1907. Pp. 172.

Reflections on Plague and the Methods of Checking It. (With Letters to the Press.) By Pestonjee M. Kanga, B. A., LL. B., Solicitor, High Court, Bombay. Bombay: Bombay Education Society's Press, 1907. Pp. 74.

### Miscellany.

**Resolution on the Death of Dr. Henry P. Loomis.** The following resolution was adopted by the Board of Trustees of Bellevue and Allied Hospitals at the meeting on December 31, 1907:

Whereas, The Board of Trustees of Bellevue and Allied Hospitals has learned with profound regret of the death of Dr. Henry P. Loomis, for many years one of the attending physicians to Bellevue Hospital, be it therefore

Resolved, That the board desires to place on record its sense of the value of Dr. Loomis's services to the patients he has treated within the walls of Bellevue Hospital, as well as his more extended services

to the cause of medical science in general; and be it further

Resolved, That copies of this resolution be forwarded to his family and to the medical journals of the city of New York. JAMES K. PAULDING,  
Secretary Board of Trustees.

**Report of the Committee on the Classification and Treatment of Mentally and Physically Defective Children.**—The committee of the Medical Society of the County of New York made the following report, classifying the defective children as physical and mental defectives, which was presented and adopted at the regular meeting, held on November 25, 1907:

**Physical Defectives:** Under the present system the Department of Health has medical oversight of the public schools, especially directed to the detection of communicable diseases. Physical defects are noted as they are discovered in the course of the routine examinations and many defective children are referred to physicians; and it is probable that the physical needs of the children are as well cared for as could be expected under existing conditions. These points seem worthy of suggestion, however: There should be an adequate method by which each child is examined and recorded on admission to school; the record should contain a statement of the condition as diagnosed by the medical inspector, (or of the vision, as noted by the teacher,) the treatment and its results; so that it would be available for the principal or teacher and for the medical inspector in order that the future progress of the child and his attendance may be controlled. In cases where children are sent to physicians or dispensaries for treatment, the medical profession can aid the school authorities by noting, briefly, on a card which should be provided for the purpose by the school authorities, whether the disease is contagious or not, and such facts as will aid the teacher in showing a proper consideration for the child, as when hearing or vision is defective. The termination of treatment should also be noted so that the child may be readmitted to the school without unnecessary loss of time. Until a definite census of the physical defects of school children is obtained, with information regarding the adequacy or inadequacy of present methods of meeting such defects, hasty action of a paternal nature, by the city or State authorities is not favored by the committee, but it is the expression of this committee that there is a proper economic standard for this work as children who are physically defective are less liable to be charges on the community if their physical weaknesses are corrected.

**Mental Defectives:** The public school system has been unable as yet to adequately provide for the increasing number of mentally backward and deficient children. Such children are unable to benefit by the regular school instruction and it is an injustice for the normal children to associate with these mentally backward and deficient children. In many European countries supplemental schools are in successful operation.

In view of the foregoing the committee would suggest:

First. That under the supervision of the Board of Education a census and record of the mentally

backward and deficient children in the schools of New York shall be made.

Second. That a paid Commission or Department of Mental Hygiene should be formed under the supervision of the Board of Education, to examine and classify the mentally backward and deficient children. This department or commission should comprise at least two recognized neurologists. The commission or department shall classify all new pupils and at stated intervals reclassify them. The commission or department shall be empowered to remove for institutional care and training all those mentally defective children who have shown themselves unteachable or incapable of such instruction as to render them ultimately selfsupporting. The commission or department, as a body should have power to reinstate in the regular school for normal children those pupils of the ungraded classes whose mental condition has improved sufficiently to warrant the transfer. The commission or department should outline the organization, equipment, teaching, personnel, and general management of these supplemental schools for mentally backward and deficient children. Idiotic and imbecile children should be regarded as ineligible for these supplemental schools; they should be at once transferred to State institutions for this class.

We are aware that these suggestions are in part in process of being acted upon by the Board of Education. The suggestions are made only to assist and further organize the plan of special schools for the backward and mentally deficient children in the New York school system.

WALTER LESTER CARR, M.D.,  
(Chairman.

C. E. ATWOOD, M.D.  
(Signed) L. PIERCE CLARK, M.D.  
COLMAN W. CUTLER, M.D.  
ARNOLD KNAPP, M.D.  
HENRY KOPLIK, M.D.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending January 10, 1908:

Smallpox—United States.			
Place.	Date.	Cases.	Deaths.
California—Berkeley	Dec. 14-21	1	1
District of Columbia—Washington	Dec. 14-28	4	0
Illinois—Springfield	Dec. 14-28	3	0
Indiana—Ellettsville	Dec. 14-28	3	0
Kansas—Lawrence	Dec. 11-28	17	0
Massachusetts—Boston	Dec. 14-28	1	0
Minnesota—Winona	Dec. 21-28	2	0
Missouri—St. Louis	Dec. 14-28	5	0
New York—New York	Dec. 14-28	7	0
North Carolina—Savannah	Dec. 14-28	1	0
Tennessee—Knoxville	Dec. 21-28	1	0
Tennessee—Nashville	Dec. 14-28	1	0
Washington—Spokane	Dec. 14-28	2	0
Smallpox—Foreign.			
Argentina—Rosario	Dec. 14-28	1	0
Brazil—Rio de Janeiro	Dec. 14-28	16	11
China—Hongkong	Dec. 14-28	34	14
Colombia—Buenos Aires	Dec. 14-28	3	0
Cuba—Havana	Dec. 14-28	1	0
France—Paris	Dec. 14-28	9	0
Germany—Berlin	Dec. 14-28	2	0
India—Madras	Dec. 14-28	6	0
Italy—Genoa	Dec. 14-28	143	0
Japan—Kobe	Dec. 14-28	66	0
Japan—Yokohama	Dec. 14-28	1	0

Java—Batavia	Dec. 14-28	3	0
Malta	Dec. 14-28	1	0
Mexico—Aguas Calientes	Dec. 14-28	6	0
Mexico—Mexico City	Dec. 14-28	2	0
Peru—Lima	Dec. 14-28	32	0
Portugal—Lisbon	Dec. 14-28	7	0
Russia—Moscow	Dec. 14-28	10	3
Russia—Odessa	Dec. 14-28	2	0
Russia—Vladivostok	Dec. 14-28	5	0
Russia—St. Petersburg	Dec. 14-28	30	0
Spain—Valencia	Dec. 14-28	36	3
Turkey—Constantinople	Dec. 14-28	5	0
Venezuela—Caracas	Dec. 14-28	Present.	0

### Yellow Fever—Foreign.

Brazil—Manaos	Nov. 23-Dec. 14	9	0
Brazil—Rio de Janeiro	Nov. 23-Dec. 14	23	11
Cuba—Cienfuegos	Nov. 23-Dec. 14	1	0
Cuba—Santa Clara	Nov. 23-Dec. 14	1	0
Guatemala—Chimaluta	Dec. 14-28	Present.	0
Guatemala—Zacapa	Dec. 14-28	Present.	0
West Indies—Trinidad	Jan. 6	1	0

### Cholera—Foreign.

China—Hongkong	Oct. 28-Nov. 16	3	7
India—Bombay	Nov. 16-Dec. 6	11	1
India—Madras	Nov. 16-Dec. 6	11	1
Japan—Kobe	Nov. 23-Dec. 7	7	3
Japan—Yokohama	Nov. 23-Dec. 7	4	3
Russia—Kiev	Nov. 23-Dec. 7	24	11
Russia—Riga	Nov. 23-Dec. 7	4	4

### Plague—Foreign.

Brazil—Rio de Janeiro	Nov. 23-Dec. 8	17	5
China—Hongkong	Oct. 28-Nov. 16	3	3
Egypt—Alexandria	Nov. 28-Dec. 8	3	1
Egypt—Provinces	Nov. 28-Dec. 8	3	1
India—Bombay	Dec. 4-11	1	2
India—Calcutta	Dec. 4-11	2	8
India—Rangoon	Dec. 4-11	12	0
Japan—Osaka	Nov. 23-Dec. 7	70	62
Peru—Callao	Nov. 23-Dec. 7	4	0
Peru—Chicama	Nov. 23-Dec. 7	1	0
Peru—Matucana	Nov. 23-Dec. 7	2	0
Peru—Trujillo	Nov. 23-Dec. 7	0	0
Peru—Lima	Nov. 23-Dec. 7	1	0
Peru—Piura	Nov. 23-Dec. 7	4	0
Straits Settlements—Singapore	Nov. 23-Dec. 7	2	0

### Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the fourteen days ending January 8, 1908:

AMESSE, J. W., Passed Assistant Surgeon. Temporarily relieved from Havana, Cuba, and directed to proceed to Washington, D. C., for assignment to temporary duty in the Hygienic Laboratory.

ATILES, P. DEL V., Acting Assistant Surgeon. Granted leave of absence for thirty days from January 6, 1908.

BARNES, W., Acting Assistant Surgeon. Granted leave of absence for nine days from January 1, 1908.

BELL, J. M., Pharmacist. Granted leave of absence for eight days from January 1, 1908.

BROWNE, R. W., Acting Assistant Surgeon. Granted leave of absence for two days from December 23, 1907, under paragraph 210, Service Regulations.

FRANCIS, E., Passed Assistant Surgeon. Granted leave of absence for five days from December 31, 1907.

FRICK, JOHN, Acting Assistant Surgeon. Granted leave of absence for five days from January 1, 1908.

FROST, W. H., Assistant Surgeon. Granted leave of absence for one day.

GARDNER, C. H., Passed Assistant Surgeon. Leave of absence, granted for one month from December 6, 1907, revoked.

GOLDBERGER, JOSEPH, Passed Assistant Surgeon. Directed to proceed to Reedy Island Quarantine Station for special temporary duty; upon completion of which to rejoin his station at the Hygienic Laboratory.

HERRING, R. A., Assistant Surgeon. Granted leave of absence for three days from December 29, 1907, under paragraph 191, Service Regulations.

HOLLAND, D. J., Acting Assistant Surgeon. Granted leave of absence for three days from December 29, 1907, under paragraph 191, Service Regulations.

KRISHN, EMB., Assistant Surgeon. Granted leave of absence for three days from December 6, 1907, under paragraph 191, Service Regulations.

LAVINOR, C. H., Passed Assistant Surgeon. Granted leave of absence for one month from January 1, 1908.

LIGHE, S. D. W., Acting Assistant Surgeon. Granted leave of absence for eight days from January 1, 1908.

LINTY, W. L., Acting Assistant Surgeon. Granted leave of absence for three days from January 1, 1908.



LUMSDEN, L. L., Passed Assistant Surgeon. Granted leave of absence for six days from December 24, 1907, under paragraph 191, Service Regulations.

LYALL, R., Acting Assistant Surgeon. Granted leave of absence for six days from December 23, 1907, under paragraph 210, Service Regulations.

MCCONNELL, E. E., Acting Assistant Surgeon. Granted leave of absence for thirteen days from January 1, 1908.

NUTE, A. J., Acting Assistant Surgeon. Granted leave of absence for nine days from December 23, instead of ten days from December 21, 1907.

RICHARDSON, S. W., Pharmacist. Granted leave of absence for seventeen days from January 1, 1908.

ROBERTSON, H. MCG., Passed Assistant Surgeon. Granted extension of leave of absence for ten days from January 4, 1908.

SCOFFIELD, R. B., Assistant Surgeon. Detailed as a member of the Revenue Cutter Service Retiring Board, New York, N. Y.

SIMONSON, G. T., Acting Assistant Surgeon. Granted leave of absence for two days from January 14, 1908.

SPRAGUE, E. K., Passed Assistant Surgeon. Leave of absence granted for seven days from December 31, 1907, revoked.

STANTON, J. G., Acting Assistant Surgeon. Granted leave of absence for fourteen days on account of sickness, from December 5, 1907.

STERN, S. O., Pharmacist. Granted leave of absence for seven days from January 1, 1908.

STONER, J. B., Surgeon. Leave of absence granted for ten days from December 31, 1907, amended to read seven days only.

THOMAS, J. N., Acting Assistant Surgeon. Granted leave of absence for twenty-six days from December 3, 1907, on account of sickness.

THOMPSON, W. R. P., Acting Assistant Surgeon. Granted leave of absence for nine days from January 1, 1908.

WARD, W. K., Passed Assistant Surgeon. Granted leave of absence for two days from December 30, 1907, under paragraph 191, Service Regulations.

WASDIN, EUGENE, Surgeon. Granted seven days' extension of leave of absence.

WATKINS, MCD., Acting Assistant Surgeon. Granted leave of absence for two days from December 26, 1907.

WETMORE, W. O., Acting Assistant Surgeon. Granted leave of absence for one day, December 17, 1907, on account of sickness.

WICKES, H. W., Passed Assistant Surgeon. Detailed as a member of the Revenue Cutter Service Retiring Board, New York, N. Y.

WILLIAMS, L. L., Surgeon. Directed to proceed to Crisfield, Md., for special temporary duty; upon completion of which to rejoin his station at Baltimore, Md.; granted leave of absence for ten days from January 8, 1908.

WILSON, J. G., Acting Assistant Surgeon. Granted leave of absence for one day, December 17, 1907, on account of sickness.

#### Board Convened

A board of medical officers was convened to meet at the Bureau in Washington, D. C., 10 o'clock a. m., Monday, January 20, 1908, for the purpose of examining candidates for the position of assistant surgeon. Detail for the board: Surgeon D. A. Carmichael, chairman; Passed Assistant Surgeon H. S. Mathewson, and Passed Assistant Surgeon J. F. Anderson, recorder.

#### Army Intelligence:

*(Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending January 11, 1908.)*

ASHBURN, P. M., Captain and Assistant Surgeon. Leave of absence extended one month.

FORD, J. H., Captain and Assistant Surgeon. Granted thirty days' leave of absence.

LA GARDE, L. A., Lieutenant Colonel and Deputy Surgeon General. Relieved from duty in the Philippines Division and arrived at San Francisco, Cal., ordered to report to the Adjutant General of the Army for further orders.

PARSONS, H. J., Major and Surgeon. Granted two months' leave of absence with permission to apply for another month.

SCHREINER, E. R., Captain and Assistant Surgeon. Upon arrival at San Francisco, Cal., will report in person to the commanding general, Department of California, for assignment to duty at the General Hospital, Presidio of San Francisco, Cal.

SHAW, J. H., Captain and First Lieutenant. Ordered to accompany 14th Infantry from Vancouver Barracks, Washington, to San Francisco, Cal.; upon completion of this duty granted ten days' leave of absence.

#### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending January 11, 1908:*

BAKER, M. W., Passed Assistant Surgeon. When discharged from treatment at the Naval Hospital, New York, N. Y., ordered home and granted sick leave for one month.

JACOBSON, L. C., Acting Assistant Surgeon. Appointed an acting assistant surgeon from January 3, 1908.

SPEAR, R., Surgeon. Detached from the navy yard, League Island, Pa., and ordered to the *Relief*.

STOKES, C. F., Surgeon. Detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to command the *Relief*.

## Births, Marriages, and Deaths.

#### Married.

BAKER-MILLER.—In Louisville, Kentucky, on Thursday, December 19th, Dr. Henry H. Baker and Miss Mamie C. Miller.

BAYLISS-WHEATLEY.—In Syracuse, New York, on Saturday, December 28th, Dr. Frank P. Bayliss and Miss Eva May Wheatley.

COLLIER-SMITH.—In New York, on Wednesday, January 8th, Dr. Hix Furbush Collier and Miss Janet Birdsall Smith.

CRAWFORD-STRATTON.—In Philadelphia, on Saturday, January 4th, Dr. E. Druitt Crawford and Miss Frances J. Stratton.

DEWAR-STRINGHAM.—In Unadilla, New York, on Monday, December 30th, Dr. Bennett W. Dewar, of Albany, and Miss Fannie L. Stringham.

FLETCHER-SECHRIST.—In Cleveland, Ohio, on Wednesday, January 1st, Dr. Hugh M. Fletcher and Dr. Cora Sechrist.

HAYES-CANAVAN.—In Holyoke, Massachusetts, on Thursday, January 2d, Dr. Justin E. Hayes, of Chesterfield, and Miss Josephine E. Canavan.

LAING-McLEAN.—In Gladstone, Michigan, on Tuesday, January 7th, Dr. A. L. Laing and Miss Mildred McLean.

MARVIN-SWIFT.—In New York, on Thursday, January 9th, Dr. Horace N. Marvin, of Dover, Delaware, and Mrs. Flora M. Swift, of Brookline, Massachusetts.

WILDER-ROTHSCHILD.—In Chicago, on Wednesday, December 25th, Dr. William H. Wilder and Miss Carrie Rothschild.

#### Died.

AUSTIN.—In Bedford City, Virginia, on Thursday, January 2d, Dr. G. W. Austin.

BAXTER.—In Lima, Ohio, on Sunday, January 5th, Dr. Samuel A. Baxter.

DRUMMOND.—In Calvin, Louisiana, on Monday, December 30th, Dr. E. L. Drummond.

GIBBONS.—In Kansas City, Missouri, on Monday, December 30th, Dr. R. J. Gibbons, aged fifty-four years.

GIDDINGS.—In Bakersfield, Vermont, on Thursday, January 2d, Dr. W. H. Giddings, aged sixty-seven years.

KEIRLE.—In Baltimore, Maryland, on Sunday, January 5th, Dr. Nathaniel Garland Keirle, Jr., aged thirty-three years.

MATTHEWS.—In Columbus, Ohio, on Tuesday, December 24th, Dr. Reid C. Matthews.

OVERTON.—In Exploit Point, Newfoundland, on Friday, January 3d, Dr. Henry Rutherford Overton, of New York, aged forty years.

TOWN.—In Spencerport, New York, on Thursday, January 2d, Dr. Arba M. Town, aged sixty-eight years.

WETMORE.—In Catskill, New York, on Sunday, January 11th, Dr. Calvin A. Wetmore, aged seventy-six years.

# New York Medical Journal

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### Original Communications.

#### THE VALUE OF THE SOCIAL WORKER AND THE VISITING NURSE TO THE DISPENSARY PATIENT.\*

BY LINSLEY R. WILLIAMS, A. M., M. D.,  
New York,

Chief of Clinic, Department of Medicine, Vanderbilt Clinic; Instructor in Medicine, Columbia University; Assistant Attending Physician to the City Hospital.

The population of Greater New York, according to the State census of 1905, was 4,014,000, of which the borough of Manhattan gave 2,122,000, over one half. It seems almost incredible that during the year 1905, 994,315 patients applied for free treatment at dispensaries in greater New York—that is, one fourth of the population willingly affirmed that they were unable to pay for medical treatment. This statement, however, bears qualification. Very few dispensaries are able to maintain an adequate system of records, so that an old patient is always an old patient, but in many dispensaries the system is lax, so that an old patient becomes a new patient when transferred to another department, and often when the dispensary card is lost he is counted as a new patient. It is known to dispensary physicians that many patients rarely continue long at any one dispensary; they become "rounders," drifting from dispensary to dispensary, not sick enough to be admitted to a hospital, and thinking, like the well to do patient, that some new doctor will help him. The large total, then, is far more than the actual number of individual patients.

According to the report of the State Board of Charities, 994,315 patients applied for free treatment in 1905, 869,866 applying for treatment in Manhattan—that is, 87 per cent. The population of Manhattan that year was 50 per cent. of the whole. In other words, Manhattan bore the brunt of the dispensary work. There are ninety-six dispensaries in greater New York, and sixty of them are in Manhattan—that is, with half the population, two thirds of the dispensaries take care of over four fifths of the ambulant sick.

In the year 1906 the numbers had diminished in greater New York 9,000 and in Manhattan 17,000. It does not seem possible that 852,200 of the inhabitants of Manhattan are so poverty stricken that they are unable to pay for medical attendance. The registrar of a dispensary is, by law, also a financial investigator, but as he is usually the entry clerk he has no time to investigate, so that in the last resort

more widely known dispensaries there is practically no investigation made, and medical relief is given without investigation; and in our college clinics the investigation has been winked at in order to increase the number of patients, for the sake of material for teaching purposes. The result has been that the dispensary classes have grown, and now, with their enormous numbers, the physicians are utterly unable to give careful examinations and adequate treatment to the patients.

Do not understand that this applies to all dispensaries, but it does apply to most of the larger dispensaries. The chief difficulty in the dispensary situation in New York, then, is too many patients.

In some large clinics the number of patients has not increased in the last ten years, but the amount of necessary work for each patient has increased with modern methods of treatment, so that with even an increased number of physicians the treatment is unsatisfactory and inadequate. This does not apply, of course, to all our large dispensaries equally, nor does it apply to all departments. It applies mainly to the departments of general medicine, which treat from 25 to 35 per cent. of the total number of patients.

The result of this has been that the physician in a medical department tries to observe a few patients interesting to him and to "get rid of" the others as rapidly as possible. I use the term "get rid of" advisedly, for I know that my personal experience has been that of others, and I do not think that I am less conscientious than the average dispensary physician.

There has been many a long, hot summer afternoon when, with no assistants, I have treated from fifty to eighty-five patients, and my sole purpose on those afternoons was to pacify the patient, give him a prescription, and cursorily examine the new patients, so that I would make no "bad breaks," and send them all on their way rejoicing. Then I would go home, feeling that I had done no good to any patient and harm to some, and, as far as I was concerned, I had gained only physical and mental fatigue. This, surely, has been the experience of many.

Let us turn for a minute to the small dispensary, or to the dispensary where the patients have been divided into small classes.

The physician in charge has been able to take a personal interest in each patient; he has been able to study the influence of home and working conditions on the production of disease, the state of the room, the ventilation, the crowded quarters, the irregular habits of living, the lack of intelligence in

\*Read before the Association of Public Health Agencies at New York, November 1906.

the care of the body and in the preparation of food. He has been able to inquire into the patient's habits and methods of work, the hours of labor, the kind of labor; stop to learn, for example, that "railroad business" may be driving a horse car, that an operator may use his own feet for power or have power provided for him—all of which conditions are factors in the production of disease. Because there were few patients the physician was able to do just what a physician would do for his private well to do patients—find out what should be done for them, and see that they do it. The first is hard enough and the latter more difficult still. He would find out whether his patient needed occupation or change of it, if he needed a change of air, if he needed to be moved from the top floor to the ground floor, or from the basement to the top floor. If he were in need of special hospital treatment or sanatorium treatment, or special treatment for baths, electricity, massage, gymnastics, and so on, and then by a knowledge of where these treatments can be obtained, he has seen that his patient obtains them. He has further seen whether relief is needed, food, rent, clothing, and so on, and he has obtained it through the proper channel.

In other words, this physician was a social worker, and in New York this social work was instituted with the beginning of the tuberculosis clinics.

Fully realizing these facts, Dr. Richard C. Cabot, in Boston, attempted to make the large dispensary do what the small class for tuberculosis had so successfully done. In 1906 Dr. Cabot engaged a trained nurse, who could act as a social worker and who could give the necessary information to patients who needed more than the dispensary physician could give. This work he called social service. To see that the patients followed out this advice volunteers were asked for who could visit these patients subsequently—that is, follow them up and see that the advice was taken. The substance of Dr. Cabot's report was read before the Society of the Alumni of the Presbyterian Hospital in December, 1906. During the discussion it was brought out that at the Vanderbilt Clinic, in New York, plans had already been formulated for such work, and that it would be begun as soon as funds were forthcoming. At the close of the meeting a hospital manager who was present offered to defray all necessary expenses for a year.

The work was begun at the Vanderbilt Clinic in January, a woman physician taking the position of social worker. The need is apparent, yet often on the busiest days, in the desire to get through with the patients, no cases are referred to the social worker.

What does this social worker do? This can be best explained by reading the record of several cases successfully and several unsuccessfully treated.

CASE I.—E. L. Rubin Jew, three years in United States; age, twenty-two years; operator. Referred to Social Service February 11, 1907, for change of occupation.

Patient is suffering from neurasthenia and nervous dyspepsia, and says that the confinement and want of ventilation in the factory where he is employed render her fatigued and nervous. She is a girl of good education, speaking French, German, Spanish, Italian, Turkish, Jargon, English,

and a little Russian. She is, however, unable to write English. Her father was formerly prosperous, owner of a mill in Russia. At present he has no work, and the family are dependent upon the wages of the daughter and the money received from a lodger. Application for employment has been made for this patient at Macy's, Wanamaker's, Singer Machine Company, Long Island College Hospital, Charity Organization Society, Association for Improving the Condition of the Poor, Joint Application Bureau, Ellis Island, Special Employment Bureau, and to the Douglass Phonograph Company. The patient's inability to write English and her lack of experience as saleswoman have made all efforts to secure for her a place with adequate compensation unsuccessful.

CASE II.—J. W., born in United States; single; age, thirty-two years; butcher's helper. Referred to Social Service March 11, 1907.

Patient is exceedingly depressed, morbid, suspicious, and apprehensive. Last August he had a severe epileptiform convulsion, and since that time has been greatly worried in regard to his health. He says that his occupation is unhealthy; he works in a slaughter house and in a stooping position; spends the working day in removing the skin from animals. He takes large amounts of alcohol. He imagines that those about him wish to do him harm. Patient was encouraged and urged to return to the clinic, but he seemed utterly hopeless, said that he was tired of life, and the thought of suicide was constantly in his mind.

The patient was referred to the St. Vincent de Paul Society for Friendly Supervision. But the patient was not found, as he had moved from the address given by him at the clinic.

CASE III.—S. E., born in Russia; Jew; twelve years in the United States; married; age, forty-eight; cutter. Referred to Social Service February 6, 1907, for occupation.

Patient is a case of arrested pulmonary tuberculosis who at the present time suffers from emphysema. He has also an old trachoma that detracts greatly from his personal appearance. Patient is almost without education, as he can neither read nor write. He thinks that he could be a peddler, but does not know how to get a license.

February 8th called at Bureau of Licenses, but found that for some time the Mayor has ceased to issue new licenses.

February 10th patient was referred to Special Employment Bureau. Position was secured for him as assistant at a news stand. Patient remained a part of one day and was discharged because he could not write an account of his sales. Special Employment Bureau then said that they could do nothing more for patient.

February 25th, spoke to United Hebrew Charities about case. They said that patient was lazy and declined to do anything for him.

March 13th, gave patient a letter of introduction to Elevated Railroad Employment Bureau, asking for patient a position as gateman. Patient's want of education excluded him from such work. Gave patient a general letter, stating that he is in need of work, telling him to present it to Yiddish theatres and other places where a man of his nationality might find a position.

Patient has had no success in his quest for employment. He is unable to do heavy work and has no education for other work.

CASE IV.—R. H., Irish; widow; age, twenty-five years; housewife. Referred to Social Service March 14, 1907, for change of air and rest. Patient was referred to the Association for Improving the Condition of the Poor, and the following facts were brought out in the investigation:

Some years ago patient married a West India negro. He died about three years ago, leaving her with a young child. She was not strong and succeeded in having the child admitted to a home, as it was impossible for her to support herself and the baby. Not feeling well enough to work, she remained with a colored woman until she was about to be turned out. At this time a colored man invited her to become his housekeeper. She accepted this place and since that time has lived in very vicious surroundings. She does not profess much affection for her employer, but says that she cannot work. The Association for Improving the Condition of the Poor refused to do anything for the case, and, on a promise of the woman to return to Ireland with her child, one of the Paulist fathers promised to provide the money. Pending the making of the necessary arrange-



ments three different homes were applied to for a temporary shelter. All refused, and finally the Sisters of the Good Shepherd agreed to take her and the patient promised to go. At the last moment she changed her mind suddenly and said that she preferred to return to her former home among the negroes. Argument and appeal only met with the response: "Negroes are as good as any one. I do not feel like working, I do not want to go to the Sisters, I want to go back home."

CASE V.—M. D., born in the United States; stenographer. Referred to Social Service February 2, 1907, for investigation and advice.

Patient was suffering from neurasthenia and gastrop-tosis. She had spent over one year visiting various clinics and physicians. Instruction in hygiene given patient, and, at the request of attending physician, special arrangements were made for her to receive massage for the gastrop-tosis, the price being merely nominal. After taking the treatment for a few times patient failed to appear, either for medical treatment or for massage, although when last seen she was somewhat improved.

CASE VI.—C. B., born in the United States; guard on subway; single; age, twenty-five years. Referred to Social Service February 11, 1907, for change of occupation.

Patient was a case of arrested pulmonary tuberculosis, but losing ground on account of lack of proper air and sunlight. He had repeatedly tried to secure employment on the elevated railroad, but had been unable to do so. A personal letter was given patient to present to one of the assistant superintendents.

April 1st, was given employment as guard on the elevated railroad.

April 20th, patient improving greatly.

CASE VII.—K. G., born in Germany; twenty-four years in United States; domestic; single; age, twenty-six years. Referred to Social Service April 12, 1907, for a place of shelter during pregnancy.

Patient is of a low grade of physical and mental development and utterly unable to plan for herself. Her sister is poor and has a large family and was not in a position to aid patient. After unsuccessful application to three different institutions, patient was admitted on April 3d to the Margaret Strachan Home.

CASE VIII.—W. G., born in United States; wood polisher; married; age, thirty-six years. Referred to Social Service April 12, 1907, for admission to hospital.

Patient was a case of pulmonary tuberculosis and in so weak a condition that immediate hospital care was urgently required. He said that while he saw the necessity of medical care and proper nursing, he was reluctant to leave his wife, whose earnings were too small to support herself and two children. Patient was assured that his family would be cared for, and through telephonic arrangement he was admitted to St. Joseph's Hospital on April 12. His family were visited and the case referred to the Association for Improving the Condition of the Poor.

CASE IX.—E. M., born in United States; schoolboy; age, twelve years. Referred to Social Service February 6, 1907, for investigation as to cause of extreme nervousness.

A visit to the family revealed the following conditions: The household consisted of father, mother, and six children, the patient the oldest and the youngest twins of six months. The family lived in three rooms and the patient shared his bed with two other children. There was in the place great confusion and disorder. Babies crying, children quarreling. The mother weak and ill, food insufficient and of the coarsest description. Patient was allowed to drink strong coffee and beer, and no attention was paid to bathing or to sanitation. Patient was instructed to take a walk daily and to join the gymnastics of the Neighborhood House. A proper diet was ordered, and through the Association for Improving the Condition of the Poor, milk and eggs were given the family for patient.

After a brief confinement in the household care much improved, patient is happier and less nervous, gaining in strength and weight. The babies have been treated in a hospital and the youngest twins have had an opportunity to recuperate.

CASE X.—I. H. Jones, born in the West Indies, nurse, and caught measles in United States; age, forty-seven years. Referred to Social Service.

Patient has erysipelas, and is without means and unable to work. He is restless and discouraged, and says

that he would like to return to his family in the West Indies.

Through the Department for Dependent Adults arrangements were made for deportation, and pending such arrangements patient was admitted to a hospital.

The social worker thus is a bureau of information, who not only gives information to the physician in the dispensary, but also applies that information for the benefit of the patient. The family physician or specialist, with his will to do patient who needs a change of air, a cure at a watering place, or an admission to a tuberculosis sanatorium, ascertains for himself all the particulars in regard to these places and institutions, and is able to intelligently advise his patients where to go. This same physician, with his poor patient in the dispensary, is utterly unable to more than tell his patient to go on as he is doing, and renew his prescription. Of course there are individual exceptions in every dispensary, but what was possible for a few patients, with one or two doctors, is now being made possible for a great many patients.

At the Vanderbilt Clinic it is now possible for any physician working in the dispensary, by means of the social worker, to obtain almost everything that a patient can need. The social worker during the past eight months has been able to obtain suitable employment and change of employment, and has been largely helped by the work of Dr. T. C. Janeway, through the Charity Organization Society Committee for the Employment of the Handicapped. Patients have been admitted to homes for incurables and for convalescents. Patients have been secured special diets, especially for diabetes and for constipation. Instruction has been given to many patients in hygiene, and material relief has been obtained for a large number of patients.

We have also been fortunate enough at the Vanderbilt Clinic to have recently installed a complete apparatus for the application of hydrotherapeutic measures under the direction of Professor Simon Baruch, and are able to give hot baths and hot packs, tonic baths, douches, and so on.

We have also purchased a baking machine for joints; and have recently secured the cooperation of Mr. Jacob Bolin, who, with the pupils in his school of massage and gymnastics, is able to give massage and gymnastic exercises.

In February, 1903, under the direction of Dr. J. A. Miller, classes were begun for the treatment of pulmonary tuberculosis, and a visiting nurse was engaged. This was the beginning of the "follow up" work, and it showed what a strong hold could be maintained upon each individual patient, and how the nurse could encourage and stimulate the patient into carrying out the directions given him.

This work of the visiting nurse amongst the tuberculosis patients has been primarily educational, and the nurse has taught all the detail of the care of the consumptive to the patient and his family, in his own home.

The tuberculosis work, which at first spread over a large area, has been limited to a district north of Fifth street and west of Eighth Avenue. At the present time two nurses are engaged in the tuberculosis work, and each patient in this district is visited at least once a fortnight.

Owing to a very inadequate history system, we have been unable to report on the percentage of tuberculosis cases arrested, but the results have been similar to that obtained at other clinics. An excellent history system has just been inaugurated, and satisfactory reports will soon be able to be made.

In the winter of 1905 a nurse was engaged to do actual nursing in the homes of the poor. It is surprising what a comparatively small number of patients have been referred to the nurse for actual nursing. The visiting nurses at the Presbyterian Hospital receive a larger number of patients of this kind, for convalescent patients from the hospital are referred to them daily. The nurses from the Nurses' Settlement do a large amount of nursing in the home, but from many dispensaries no patients are referred to the Nurses' Settlement, simply because it is more red tape for the doctor, and in the dispensary the nurse must be on the spot to receive the patients.

No part of the outdoor nursing is as valuable as that amongst the children. A nurse was placed in the children's department in the summer of 1906, with most satisfactory results, especially satisfactory in instructing mothers how to care for and feed their babies. The nurse sees the mother at the clinic, and makes an appointment to show her how to prepare the baby's food. The following cases reported by the nurse well illustrate the value of her work:

"A child of five months with indigestion, who had been fed every time she cried. The mother was at the clinic on Tuesday, and an appointment was made for 9 o'clock the next morning, and she was told what was needed to prepare the food. The mother was visited at the appointed hour. There was no milk in the house, the mother saying as an excuse that the husband was out of work. Considerable time was expended in getting together milk and the necessary materials. As the mother could not read, she had to memorize everything that was necessary. Visited the following morning, the child still having indigestion, it was found that the mother had forgotten all the instructions. Reinstructed and visited again on Saturday. Mother had remembered instructions and had followed them out, and the child was doing well."

"The feeding of the babies must be done properly, for with chronic indigestion, which results from improper feeding, the baby quickly succumbs to acute diseases of childhood, and is constantly predisposed to attacks of summer diarrhœa. Education of the mothers, then, is the beginning of success in our work, just as it is in the care of the consumptives."

This nursing work has steadily grown, and is now well organized, with five nurses to inspect all the cases of tuberculosis referred to us in our tuberculosis district, but also to do actual nursing in the homes of the poor, and to instruct mothers in care and feeding of infants and children. For several years patients were treated who lived anywhere in the city, the nurses even going to the Bronx and to Brooklyn, but the extent of the work has been gradually curtailed, owing to the establishment of special tuberculosis dispensaries in those boroughs, so that, in 1905, the nursing work was confined to Manhattan only.

During that year a special effort was made to curtail the number of visits upon each tuberculosis patient. For example: Our nurse would visit a new patient, and the case would be reported to the Department of Health. They would send an inspector,

who would subsequently send a nurse from the Department of Health. The case would be referred to the Charity Organization Society, which would investigate, and find that the patient had previously been assisted by the Association for Improving the Condition of the Poor. The Association for Improving the Condition of the Poor would send their visitor to investigate, and by this time the patient wished that he had never seen a nurse, or doctor, or social worker. By means of an agreement with the Department of Health, no inspector or nurse is now sent unless upon our written request, and all patients are visited until they have moved or died, when the rooms of the patient are fumigated. In other words, we keep under observation every case of tuberculosis in our own tuberculosis district that has been referred to us. To eliminate the number of unnecessary visits made by representatives of the charitable societies, I wrote to the New York Association for Improving the Condition of the Poor, asking if our senior nurse could not be made a volunteer visitor of that society, and to directly investigate her own patients and to directly give relief under their supervision. This the association agreed to do, and this agreement has been carried out for nearly two years with marked success, and material relief has been given not only to the tuberculosis patients, but also to the families of other sick patients who were coming to the clinic for treatment, so that now, instead of having four, five, or six visits from different people, the patient receives a visit from but one nurse. This increases his confidence, and enables us to treat the patient in a more thorough and satisfactory way.

For three years I had the privilege of being examining physician for the Association for Improving the Condition of the Poor, and was very much interested in the examination of the mothers and children who constituted their fresh air parties. As result of this work cooperation with fresh air work was easy, and we were able during the summers of 1904, 1905, 1906, and 1907 to send away for fresh air vacations, by means of the Association for Improving the Condition of the Poor and other agencies, a total of 1,565, as shown in the accompanying table:

*Fresh Air Outings to Members of Families.*

	Day's outings.	Week or more.
In 1904.....	21	7
In 1905.....	310	23
In 1906.....	1,073	82
In 1907.....	523	152

These were almost all mothers and children.

During July, August, and part of September, 1907, the New York Association for Improving the Condition of the Poor maintained a day camp for babies at Junior Sea Breeze at the foot of East Sixty-fourth street. This institution was an educational one, to teach mothers how to care for infants and children. A staff of from ten to twenty-three visiting nurses was maintained from July 15th until September.

Instead of waiting for patients to come, the nurses were sent out into the homes of the rich and poor alike, offering instruction in the care of babies and children.

The Board of Health put the inspectors of the

summer corps in the Nineteenth ward as soon as the garbage strike was over, and they visited families according to the plan of the department's summer corps work. The visits of the Junior Sea Breeze nurses were also confined to the Nineteenth ward. The Nineteenth ward is bounded on the south by the south side of Thirty-ninth street, on the east by the East River, on the north by the south side of Eighty-sixth street, and on the west by the east side of Sixth avenue and Central Park.

The nurses visited every dwelling in this ward, interviewing all who would be interviewed, recommending hospitals, dispensaries, and doctors, parks, piers, and shady streets, fresh air, cleanliness, and careful feeding, leaving printed circulars on the care and feeding of children.

Special cards were filled out for all the sick children, and frequent revisits were made.

The care of milk was insisted upon, and instructions given as to its care, as well as the care of the baby, its clothing, feeding, and so on. Every effort was made not to help the mother and her family, but to make the mother help herself.

Table of Visits.

Number of tenements visited, .....	17,261;
" " miscellaneous dwellings visited, .....	8,495;
" " families (visits), .....	116,601;
" " children under two years, .....	34,453;
" " revisits, .....	2,342;
" " sick treated, .....	1,062;
" " sick placed in hospital or dispensary, ..	90;
" " sick referred to hospital or dispensary, ..	781;
" " individual families seen, .....	101,208.
Instruction given:	
In bathing, .....	20,837;
In feeding, .....	21,218;
In cooking, .....	14,350;
In clothing, .....	19,716;
In fresh air, .....	35,738;
In nursing sick babies, .....	2,877;
In general care, .....	35,697.

With this enormous number of visits it may seem that the work was casual and valueless. The work of the individual nurse varied considerably, and the results looked for, while not conclusive, proved strikingly suggestive.

It was hoped that there would be a reduction of the infantile mortality in this ward. The Department of Health gave the Association for Improving the Condition of the Poor the privilege of going over the records at the department where Dr. W. H. Guilfoyle, registrar of records, gave much assistance to a skilled worker. The following table shows the diminution in mortality:

Manhattan and Bronx, July 1 to September 14, 1907, as compared with preceding year:

	1906	1907	%
Total deaths, all causes, .....	9,746	9,079	— 6.83
Total deaths from diarrheal diseases, .....	2,050	2,084	+ .16
Total deaths from diarrheal diseases, ..			
under five, .....	1,943	1,980	+ 1.90

Nineteenth Ward, July 1 to September 14, 1907, as compared with preceding year:

	1906	1907	%
Total deaths, all causes, .....	1,022	904	— 11.8
Total deaths from diarrheal diseases, .....	274	236	— 13.8
Total deaths from diarrheal diseases, ..			
two years and under, .....	253	221	— 12.6
Total deaths from diarrheal diseases, ..			
under five, .....	254	222	— 12.6

It cannot be said that this visiting nursing was the cause of this reduction, but it is certainly suggestive.

There were also three nurses at work, visiting mothers living in tenement houses, before confinement, teaching them how to care for themselves before and after confinement, and visiting them afterward and teaching them how to care for the baby. This was done where the mother could not afford a doctor except for the actual confinement, or where a midwife was in attendance. In no case did the nurses deliver any of these patients.

Opportunities for visiting nursing in New York are enormous, especially on account of their educational value and their value in the field of preventive medicine. Cooperation is necessary, and endeavors are being made to bring the various nursing associations closer together. The cooperation between the tuberculosis clinics has been a splendid object lesson which will bear good fruit.

Arrangements have recently been made with the Nurses' Settlement so that patients from the Vanderbilt Clinic who live south of Fourteenth street and east of Broadway who are in need of nursing may be referred to the Nurses' Settlement. Cases referred to the settlement, living north of Seventieth street and west of Eighth avenue may be referred to the Department of Visiting Nursing at the Vanderbilt Clinic when nurses of the Nurses' Settlement are unable to care for them. Patients applying for treatment at the Vanderbilt Clinic, living north of Fifty-ninth street, south of Ninety-sixth street, and east of the Park, who are in need of nursing, will be referred to the Presbyterian Hospital Visiting Nursing Association. And if patients living in the Vanderbilt Clinic Tuberculosis District north of Fiftieth street and west of Eighth avenue should apply to the Presbyterian Hospital Dispensary will be referred to the Vanderbilt Clinic Department of Visiting Nursing. At the Roosevelt Hospital Surgical Out Patient Department a visiting nurse has recently begun work, and it is hoped that her work will ultimately be confined to the same area covered by the Vanderbilt Clinic, and that both this nurse and the nurses from the Vanderbilt Clinic will work more closely together.

A thorough description of all the agencies in this city maintaining visiting nurses and social workers has recently been made by Dr. S. S. Goldwater, of Mt. Sinai Hospital, in an article entitled *Dispensary Ideals*. The visiting nurse and the social worker will not reach their highest state of efficiency until some of these ideals are reached. Such ideals as the districting of the city for dispensaries, the districting of the city for visiting nursing consist in:

The doctrine of small numbers.

No medical relief without previous application, except in cases of emergency, and more frequent and thorough financial investigation.

The accomplishment of these ideals will result in smaller classes at the more popular, large, and over-worked dispensaries, a more equal division of labor, less imposition by patients who can afford to pay, and infinitely better care of the outdoor sick poor.

830 MADISON AVENUE



## CHOLELITHIASIS.

*A Study of Twenty-five Operative Cases.\**

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In considering the question of diagnosis and especially the indications for treatment, each clinical group presents certain characteristics and problems of its own.

Certain cases of undoubted cholelithiasis still belong in the domain of internal medicine, e. g., the cases of biliary colic with the passage of one or more stones, characterized by paroxysmal pain, vomiting, and transient icterus, with immediate relief of all symptoms after the passage of the stone.

Recurrent attacks of pain in the upper abdomen, without fever, jaundice, presence of a mass or rigidity, and in which tenderness is moderate, slight, or absent, are typical of another group of cases which may be said to occupy the border line between medicine and surgery. Many are treated for years by the general practitioner, bearing the exacerbations of pain as best they may, with varying disability and interference with the routine duties of life, according to the frequency, severity, and duration of the attacks. Some become morphine habitues, as in Case VI of my series. That the operation is not entirely free from danger even in this simplest of gallbladder conditions is well known, and is illustrated by Case III with the patient who died of cerebral embolism four days after operation, and this fact deters many physicians from advising and many patients from consenting to operation in a condition which may exist for years without actual menace to life. Such cases usually have stones in the gallbladder too large to pass the cystic duct, which from time to time become temporarily lodged in a dilated ampulla or at the entrance to the duct, which is often strictured, causing painful spasm or temporary obstruction.

Complete obstruction of the cystic duct, with the development of hydrops, empyema, or gangrene of the gallbladder, may occur, but is often escaped for years.

The age, the general condition of the patient, the frequency and severity of the attacks of pain, the amount of disability and the effect on the general health, together with the necessity for the use of opiates, are all factors which must be carefully weighed in the balance in determining as to whether or not an operation should be advised.

Of the series presented six were of this type (Cases I to VI), and illustrate some of the indications for operative treatment, the attacks having extended over periods varying from three months to twenty years. Case II, a hard working cobbler with a large family to support, bore his repeated attacks of pain for about three months, when the suffering and especially the interference with his occupation rendered him only too glad to consent to an operation, since which he has been perfectly well. His history in brief was as follows:

CASE II.—Patient was forty years of age and had always been well up to about three months before operation.

Since that time he had suffered from frequent attacks of severe pain in the region of the gallbladder. No jaundice, chills, nor fever, but pain had been so frequent and severe as to interfere seriously with his work, though not ill in bed. Examination was negative, except for moderate tenderness on deep pressure over gallbladder. Cholecystectomy was performed August 18, 1906. The gallbladder was moderately thickened and the ampulla dilated. It contained a single ovoid stone of a peculiar white crystalline appearance, and a rough mulberrylike surface. The cystic duct was patent. The patient made an uneventful recovery, and has remained entirely free from symptoms ever since.

Many such cases are treated for gastric troubles for considerable periods of time, as illustrated by Cases I, III, and IV, all three having undergone prolonged medical treatment, including gastric lavage, under the impression that the pain was of gastric origin.

CASE III.—A woman, forty-five years of age, had had repeated attacks of pain in gallbladder region for more than two years, without jaundice, chills, or fever. The attacks had been more frequent and severe for the six months prior to operation, requiring morphine hypodermatically for their relief, but she felt perfectly well between the attacks. Gastric lavage was employed for a prolonged period without benefit, a diagnosis of gastritis having been made. Recently the intervals between the attacks had varied from a few hours to two or three days, and she had become very nervous and run down. Examination was negative, except for tenderness on deep pressure over the gallbladder. Cholecystectomy was performed on November 8, 1906. The gallbladder was found to be thickened and distended with grumous bile stained mucus; the cystic duct was rigid and its orifice minute. There was a single rounded, nonfaceted stone of moderate size, and two fragments which appeared to have been flaked off from a larger stone. The patient bore the operation, which lasted fifty minutes, well; had a moderate reaction temperature and little vomiting. Bowels moved freely on the second and third days in response to calomel and enemata. The wound was dressed on the third day; there was no distension; no apparent wound infection; the drain was not disturbed. Temperature and pulse were practically normal, and patient seemed in excellent condition. That night (fourth day after operation), while asleep, her breathing suddenly became stertorous, she frothed at the mouth, and became completely comatose. The pupils were contracted and equal. The coma continued, and she died within twelve hours, four days after the operation, probably from cerebral embolism, though no autopsy could be obtained.

In Case IV both gastric and gallbladder lesions had undoubtedly been present, the extensive perigastric adhesions indicating the previous existence of gastric ulcer.

CASE IV.—The patient, a woman thirty years of age, had suffered from attacks of pain in the upper abdomen for about three years. Had had occasional vomiting, but no jaundice, chills, or fever. She had received prolonged treatment for gastric disorders, including lavage, at a dispensary. Examination was negative, except for slight tenderness on deep pressure over gallbladder. Operation performed at Roosevelt Hospital on June 21, 1907. The upper abdomen was filled with a mass of weblike adhesions. The stomach, colon, liver, and gallbladder were adherent to each other, and to the anterior parietes. The gallbladder was removed; it contained three good sized stones; the cystic duct was not occluded. No stones found in hepatic or common ducts. Adhesions binding stomach to anterior abdominal wall were separated, several bands being ligated and divided. The anterior wall of the stomach showed old cicatrices, evidently the sequelae of ulceration. The patient made an uneventful recovery and left the hospital well on July 10, 1907, nineteen days after operation.

Patients suffering from this type of cholelithiasis seldom come to the surgeon until medical means have been thoroughly tried over a period of months or years, the mere lapse of time without improvement being often sufficient to determine the neces-

\* From the report of the Nurses of the City (Charity) Hospital, New York.

sity for operation. Case VI, the widow of a physician, finally sought operation after having had attacks of pain for more than twenty years, in the hope of ridding herself of the morphine habit. Her history was as follows:

CASE VI.—She was fifty-eight years of age, and had had an illness lasting two years, thirty years ago, characterized by severe attacks of epigastric pain and the passage of gallstones. Had had repeated attacks of pain in the region of the gallbladder for about twenty years, without jaundice, chills, or fever, resulting in the development of the morphine habit. The patient was extremely stout, and this, in connection with her age, morphine habit, and poor general condition, caused much hesitation and careful study of the case in all its aspects before the decision to operate was finally reached. Operation was performed on August 19, 1904. The gallbladder was shrunken to such an extent that it was hardly recognizable. It was surrounded by adhesions which had drawn the pylorus over to the right. Cholecystectomy was performed, adhesions were freed, and the ducts explored; no stone was found. Recovery was slow, but finally complete, with relief of pain, and cure (for the time under observation at least, up to October 26, 1906) of the morphine habit. A large ventral hernia developed in the wound, necessitating operation on March 16, 1905.

To summarize the six cases of this type, in three, single nonfaceted stones were found; one (Case IV) had three good sized calculi, and extensive perigastric adhesions; one (Case V) had twenty or more small, jet black, mulberry like stones composed of bile pigment, of the variety frequently found at autopsy but which rarely give symptoms, and Case VI, the history of which included attacks of colic followed by the passage of calculi, presented a diminutive, shrunken gallbladder, with adhesions to the pylorus, but no stone.

#### *Cholelithiasis with Acute or Chronic Cholecystitis or Empyema of the Gallbladder.*

There were nine cases of this type in the series, and one, Case XII, of acute cholecystitis without stone.

The symptoms, in addition to pain and vomiting in the attacks, were fever, sometimes chills, well marked localized tenderness and rigidity, and greater disability, the patients always being ill enough to remain in bed. Jaundice, usually very slight had occurred at some time during the illness in six of the ten cases. Attacks of acute inflammation of the gallbladder are always accompanied by more or less obstruction of the cystic duct. Resolution, with reestablishment of the patency of the duct and natural drainage, may occur, but is seldom complete. The gallbladder wall remains somewhat thickened and rigid, the duct narrowed, and sooner or later the symptoms recur. That patients may pass through a number of such attacks, however, with comparatively long intervals of freedom from symptoms, is a well known clinical fact. Case IX gave such a history, having had an interval of fifteen years free from symptoms, followed by the sudden onset of acute suppuration.

CASE IX.—The patient was a woman fifty-nine years of age, who began to have attacks of colicky pain and vomiting when about thirty years of age. About fifteen years ago she had a severe illness, with pain, tenderness, fever, and the passage of gallstones, and was ill in bed for about six months, and not well for more than a year. Since that time, except for occasional pain and indigestion, there was no return of the trouble until the onset of the present attack two days ago, with exacerbating pain, vomiting,

fever, and prostration; no jaundice. There was extreme tenderness over the gallbladder and an ovoid mass was palpated. Temperature on admission, 103° F. Cholecystostomy was performed; about six ounces of mucopus and fifty-eight white, faceted stones were removed. Reaction temperature reached 105° F., but in a few days fell to normal. Slight pocketing of pus in Morison's pouch at end of second week. Convalescence was slow, but finally complete. Superficial abscess in wound opened and drained about three months later.

Instead of resolving, however, many such cases terminate in perforation or gangrene of the gallbladder. Perforation may occur into the colon or duodenum, with spontaneous subsidence of the symptoms. It may take place on the liver surface, forming a localized abscess, or into the peritoneal cavity, causing local or general peritonitis. Acute cholecystitis should always be regarded with suspicion, and early operation is the safest rule. A damaged gallbladder more or less buried in adhesions, a strictured cystic duct and almost certain recurrence of the attack is the most favorable outcome one may expect, while perforation or gangrene are possibilities to be considered in every beginning case.

In close relation to the cases of acute cholecystitis with partial or temporary obstruction of the cystic duct are those in which such obstruction is complete and empyema of the gallbladder results, the course depending largely on the virulence of the infection and the relative resistance of the patient. My most recent case, XVI, illustrates an extremely sluggish type, and the enormous distension of the gallbladder which may occur without rupture.

CASE XVI.—The patient, a woman thirty-four years of age, was sent to Roosevelt Hospital for treatment of a large abdominal tumor which was thought to be an ovarian cyst. The mass was as large as a child's head and occupied the right side of the abdomen, its greatest prominence being about opposite the umbilicus. It was spheroidal in shape, not movable, nor sensitive; no fluctuation could be made out. There was no fever, and the leucocyte count was normal. There was a history of an attack of abdominal pain about three years ago, without fever, jaundice, or development of a mass; a similar attack eight months ago, after which a lump was felt which never entirely disappeared, and a third attack about six weeks ago, after which the mass rapidly enlarged until it reached its present size. Some pain persisted, but there was no fever, chills, nor sweating, and no jaundice, the chief complaint being the presence of the tumor. The clinical picture suggested hydronephrosis, but catheterization of the right ureter drew normal urine. Operation was performed at Roosevelt Hospital on September 20, 1907. The right kidney was exposed by an oblique incision, found normal, and the wound at once closed. The manipulation of the patient in the kidney position dislodged the tumor so that it became more movable and shifted toward the median line. The patient was turned on her back and laparotomy performed. The tumor was an enormous gallbladder, surrounded by dense adhesions. After partially freeing it from adhesions it was tapped with a large trocar and canula and about three pints of thick, greenish pus evacuated. It was then gradually freed from surrounding adhesions and from the liver and removed. After cutting away tags of liver tissue the large, raw surface on the under surface of liver was partially closed by a continuous suture of heavy catgut. Two large cigarette drains were inserted, and the wound closed in the usual manner. The gallbladder walls were greatly thickened, nearly ulcerated through along the right border of its liver attachment, but not necrotic elsewhere. It contained one small non-faceted stone; the cystic duct was occluded. The patient's condition was critical for about forty-eight hours, after which improvement was rapid. There was a profuse discharge of gelatinous material, probably necrotic liver substance, from the drainage tubes. The patient recovered

healed promptly, and convalescence has been uninterrupted.

I have reported this case in detail because of its unusual interest in respect to the size of the gallbladder, the absence of the usual symptoms and signs of suppuration, the extremely sluggish course, and the failure of any of the dozen or more surgeons who examined the case to even suspect that the tumor was of gallbladder origin.

In contrast to this, Case XV presented the typical symptoms and signs of acute empyema of the gallbladder, i. e., localized pain and tenderness, tumor, fever, elevation of pulse, leucocytosis, and absence of jaundice, the symptoms having steadily increased from the onset to the time of operation. The gallbladder was distended with mucus and contained many stones. The cystic duct was occluded and surrounding adhesions were numerous and dense. Cholecystectomy was followed by a prompt and uneventful recovery.

CASE XII.—Acute cholecystitis without stone was a rather unusual one occurring in a young girl seventeen years of age, who gave no history of typhoid fever or any other previous acute illness. The gallbladder was inflamed, thickened, and contained mucus; the cystic duct was so strictured that cholecystostomy, which was first performed, had to be followed by cholecystectomy fifteen days later on account of recurrence of gallbladder distention as soon as the drainage opening closed.

#### *Cholelithiasis with Acute Gangrene of the Gallbladder.*

It is only a step from empyema to acute gangrene of the gallbladder, partial or complete, with ultimate rupture and local abscess, as in Case XVII, or diffuse peritonitis and fatal sepsis, as in Case XX. Complete occlusion of the cystic duct is followed by a distention of the gallbladder with the mucus secreted by its mucous membrane. Without exit, the tension in certain cases becomes so great that the blood supply is cut off and gangrene results, just as it does in the overdilated appendix, from purely mechanical causes. In other cases it may be due directly to the virulence of the infecting organism, or lowered resistance, but it is my belief that it is more often due to the actual occlusion of the nutrient vessels from intracystic tension. Once perforation occurs and the contents of the gallbladder escape into the peritoneal cavity, a dangerous and often fatal peritonitis results. Case XX admitted in such an advanced stage of peritonitis that the exciting cause could not be determined, illustrates the neglected case, allowed to take its own course until past hope of relief. Case XIX is typical of the condition operated upon just before perforation had occurred. An area the size of a silver quarter near the fundus was completely gangrenous and in a few hours would surely have ruptured, pouring the contents of the gallbladder into the peritoneal cavity. This case also illustrates the danger signs in acute cholecystitis, i. e., at the time of operation, sixty hours after the onset of the attack, the temperature and pulse were steadily rising and the tenderness and rigidity were becoming diffused over a wider area. Any attack of acute cholecystitis in which at the end of forty-eight hours there is no abatement of the tenderness, or of the elevation of temperature or pulse, should be

regarded with suspicion. Diminution of the pain may be an unfavorable symptom, indicating perforation and relief of tension. In such cases, however, the tenderness and rigidity show no abatement.

There were four cases of acute gangrene of the gallbladder in my series, with one death; one had perforated on the liver aspect and the process was localized to the immediate region of the gallbladder. Her history was as follows:

CASE XVII.—A Swedish woman, twenty-nine years of age, had had numerous attacks of pain in the region of the gallbladder during the past five days, without jaundice or fever. Present attack began five days ago with severe pain, tenderness over the region of gallbladder, and fever, all symptoms having increased steadily since onset. On admission to Roosevelt Hospital temperature was 101.8° F.; leucocytes 16,000. Operation was performed on June 16, 1905. The gallbladder was found buried in a mass of adhesions, gangrenous and perforated on the liver aspect; secondary abscesses among adhesions to the inner side. It contained pus, eighteen stones, and was completely gangrenous, except for a portion of its peritoneal coat. Cholecystectomy was performed with difficulty on account of the great friability of the tissues. Febrile reaction was sharp after the operation, the temperature reaching 104.4° F., but convalescence was satisfactory. Patient was allowed out of bed on the nineteenth day and left the hospital well on July 8, 1905, twenty-two days after operation.

Two patients were operated upon before perforation had occurred, one, Case XIX, being fairly typical of the condition prior to perforation.

CASE XIX.—A woman, forty years of age, had had attacks of gallstone colic without jaundice twelve years ago, with occasional pain and discomfort in region of gallbladder from time to time ever since. Onset of severe pain and tenderness over gallbladder about sixty hours before operation; steady increase of symptoms, with rise of temperature to 103° F., pulse to 120. Diffusion of tenderness and rigidity in right upper quadrant; some abdominal distension. Very faint icterus of conjunctivæ. Operation July 31, 1906, cholecystectomy performed. The gallbladder was tensely distended with mucus, and contained thirteen stones. The inner coats were gangrenous throughout, and at the fundus the gangrene had extended to all the coats, and rupture was imminent. The infection had extended to the surrounding peritonæum, free turbid serum escaping on opening the peritonæum, and recent lymph and adhesions filled the entire region. The usual drainage and wound closure were adapted. Convalescence was uneventful, except for the development of an abscess at the lower angle of the wound on the fifth day. Symptoms of sepsis and peritonitis rapidly subsided, and by the end of the third week wound was healed and the patient up and about. This case was on the verge of rupture into the peritoneal cavity, and twenty-four hours later would have undoubtedly had fatal peritonitis.

The fourth case of acute gangrene had ruptured some time prior to operation and had a generalized septic peritonitis at the time of his admission to the hospital. Delay in operating until perforation has occurred is almost sure to be followed by a fatal result.

CASE XX.—The patient, a man thirty-six years of age, was brought to Roosevelt Hospital in the ambulance on August 14, 1906, suffering from symptoms of acute general peritonitis. There was marked distension; general tenderness and rigidity; small, thready pulse. Temperature 101° F., pulse 116, leucocytes 28,500. No history was obtained by the house staff, except that illness had lasted three or four days. Appendicitis was suspected, and an incision in the iliac fossa made. Abdomen was full of seropurulent fluid, but the appendix was not diseased. It was removed and a soft catheter inserted in stump, allowing quantities of gas and fecal matter to escape to relieve distention; stump then inverted with pursestring suture. Palpation revealed a diseased gallbladder and a second in-



cision was made. The gallbladder was completely gangrenous, contained three large and many small stones. It was excised in the usual way, area cleansed, and cigarette drains placed down to stump. Abdomen thoroughly flushed with saline solution through Blake tube before closing. Purulent fluid washed from pelvis and all parts of abdomen. Patient reacted surprisingly well and for about twenty-four hours recovery was hoped for. Signs of peritonitis then increased, and he died at end of forty-eight hours.

#### *Calculi in the Common Bile Duct.*

Movable stone in the common duct presents quite a different picture, characterized by pain varying in severity, duration, and frequency of attacks; jaundice, which, as a rule, is moderate in degree, intermittent, but never entirely disappears; ague like attacks of chills, fever, and sweating; and absence of a tumor. The course is subacute, or chronic, as the obstruction is of a ball valve character and intermittent, the common duct becoming dilated and thickened as the stone increases in size, so that at the time of operation it will often admit the index finger. Case XXI presented a typical picture of this condition.

CASE XXI.—The patient, a man fifty years of age, had been ill for about three years with intermittent pain in the upper abdomen, chills, fever, sweating, slight icterus, and loss of flesh and strength. The attacks occurred frequently but irregularly, the intervals between attacks varying from a day or two to a week. The chills were often severe, lasting twenty or thirty minutes. There was increased resistance and tenderness over the gallbladder, but no tumor. He was operated upon March 30, 1904, at the French Hospital. The gallbladder was shrunken and buried in adhesions. A perforation on its under surface had been sealed by adhesions to the transverse colon. Cholecystectomy was performed, and the greatly dilated common duct laid freely open by incision through the stump of the cystic duct. Two movable ball valve stones were removed, and the duct explored with the index finger and probes. A catheter was passed into the hepatic duct and secured, and the remainder of the incision in the duct closed with fine chromic gut sutures. Bile drained freely, through the tube for three days, when it was removed. All bile leakage ceased on the twenty-second day, the wound healed kindly, and he left the hospital well on May 3d, thirty-five days after the operation. He reported in October, 1906, two and a half years after his operation, that he had remained perfectly well, and had gained about forty pounds in weight.

Such cases should invariably be operated on as soon as the diagnosis is made, as septic cholangitis is sooner or later sure to occur. The four cases of this type in the series all recovered promptly after operation.

#### *Primary Carcinoma of the Gallbladder.*

The one case of this type in the series was associated with acute empyema of the gallbladder, which also contained two large stones. The growth was confined to the region of the fundus, did not involve the liver, and while very large was not exceptionally difficult to remove by the usual cholecystectomy. The patient made a good operative recovery and left the hospital apparently well twenty-three days after the operation. Some months later friends reported at the hospital that she was ill with symptoms which probably meant recurrence in the liver.

Cases of primary carcinoma of the gallbladder amenable to surgical treatment must be extremely rare, and recurrence in the liver is almost certain to follow within a short time. The case presented, in which life was prolonged for a few months in

comparative comfort, is the most favorable one that has come under my observation.

#### *Treatment.*

When operation has been determined upon, the character of the procedure must, as a rule, be decided upon after the abdomen is opened, and except in cases of stone in the common duct, resolves itself into a choice between cholecystectomy or drainage of the gallbladder after removal of stones, and cholecystectomy or its complete excision. Ideal cholecystotomy, i. e., removal of stones, suture of the gallbladder, and closure without drainage, is unsafe, and has been practically abandoned. Of my twenty-five cases, primary cholecystectomy was performed in twenty-one, with two deaths—Case III, where the patient died of cerebral embolism on the fourth day after operation, and Case XX, with death from general peritonitis, due to acute gangrene of the gallbladder and present at the time of operation. Secondary cholecystectomy was performed in Case XI, the primary cholecystotomy having been performed by another surgeon two years before and followed by persistent suppurative in the gallbladder and adjacent regions. In the remaining three cases (IX, X, and XII) in which I performed cholecystotomy, one, Case IX, made a good recovery after rather prolonged discharge from the fistula, but in the other two I was obliged to perform secondary cholecystectomy a few weeks after the cholecystotomy, on account of occlusion of the cystic duct, and recurring distension of the gallbladder as soon as the fistula healed.

In the series of twenty-five cases, therefore, I am able to report only one successful cholecystotomy, while twenty-two cases of cholecystectomy resulted in recovery. Undoubtedly other cases of the series might have been successfully treated by cholecystotomy, but in the majority of the cases the gallbladder or cystic duct were so damaged that cholecystectomy seemed the preferable procedure. That cholecystectomy is attended by somewhat greater immediate operative mortality is probably true, but if the condition present seems likely to demand removal of the gallbladder ultimately to obtain a cure, it is my belief that usually the risk will be less if the cholecystectomy is made the primary procedure. Secondary cholecystectomy has seemed to me an infinitely more difficult and dangerous operation.

I do not question, however, the value and efficiency of the simpler operation in certain cases of the type of my first group, and also in some of the cases of acute cholecystitis, without distinct stricture or occlusion of the cystic duct.

Cases of stone in the common duct require, in addition to the removal of the shrunken gallbladder, incision into the common duct, removal of stones and thorough exploration of common and hepatic ducts to be sure that none are left behind. Hepatic drainage by means of a tube passed into the hepatic duct, around which the incision into the common duct is sutured, should be employed as a rule. Such a tube is removed in from three to seven days, the discharge of bile usually ceasing spontaneously at about the end of the third week.

TABLE OF CASES

No.	Date of operation	Age	Sex	Operation	Result	History	Description of cysts	Remarks
I	June 19, 1926	51	R	Cholecystectomy	Recovery	Repeated attacks of pain for two or three years; prolonged treatment for gallstones. No stones, cysts, or concretions.	Single stone, 2.5 cm. in diameter, gallbladder thickened, cystic duct dilated and strictured.	Uneventful recovery with complete relief of symptoms.
II	June 18, 1926	41	F	Cholecystectomy	Recovery	Repeated attacks of pain for three months. Unable to tolerate fatty food.	Single stone, rough, mulberry like, size 1.5 cm. Gallbladder moderately thickened, cystic duct patent.	Unsuccessful recovery. In period between when sent to hospital after operation.
III	Nov. 15, 1926	38	M	Cholecystectomy and cholecystostomy	Death in hospital	Severe attacks of pain for two years. Prolonged treatment by gastric lavage. No mulberry, chills, or fever.	Single stone of moderate size, two fragments when taken out and gallbladder and cystic duct strictured and thickened.	Unsuccessful recovery. In period between when sent to hospital after operation.
IV	Nov. 15, 1926	41	F	Cholecystectomy	Recovery	Repeated attacks of pain, with occasional vomiting, and times when prolonged treatment by gastric lavage.	Three good sized calculi. A mass of white adhesions filling upper half of gallbladder and extending into cystic duct. Anterior stomach wall.	Unsuccessful recovery. Patient had probably had gastric ulcer.
V	Nov. 15, 1926	41	F	Cholecystectomy	Recovery	Calculus came twice, weeks ago. Repeated attacks for past eight years. Pain every day for the weeks. No chills, chills, or fever.	Few my black mulberry like stones, gallbladder distended, thickened, cystic duct strictured.	Unsuccessful recovery.
VI	Nov. 15, 1926	41	F	Cholecystectomy	Recovery	Two years' illness, with passage of gall stones. Repeated attacks of pain without vomiting, chills, or fever for fifteen years. Pain habit for several years.	Repeated, gallbladder distended and dilated, adhesions drawing as far as to the neck. No calculi.	Recovery, slow but complete, and patient returned to work. Gallstones, chills, and fever, no gastric ulcer.
VII	Nov. 15, 1926	41	F	Cholecystectomy	Recovery	Adhesions in region of gallbladder in 1924, and in 1925, with chills, and other attack five weeks ago.	Gallbladder thickened and contracted, about two good sized calculi.	Unsuccessful recovery.
VIII	Nov. 15, 1926	41	F	Cholecystectomy	Recovery	Attacks of gallstone colic with vomiting and passage of calculi for several years.	Gallbladder thickened and shrunken around lower extremity.	Unsuccessful recovery.
IX	Nov. 15, 1926	41	F	Cholecystectomy	Recovery	Severe illness, fifteen years ago with chills, fever, and vomiting. Gallstone habit for many years at that time. First attack of gallstone colic when thirty years of age. Acute onset forty-eight hours before operation. Brought to hospital in automobile with Exploratory, found stones and cholecystostomy under gastric lavage. Admitted with acute gallbladder inflammation. Cholecystectomy July 1926.	About 1 cm. of mucous and fifty small stones removed from gallbladder.	Recovery, slow but complete. Six months later, patient returned to work three months later. No gastric ulcer.
X	Nov. 15, 1926	41	F	Cholecystectomy and cholecystostomy	Recovery	Cholecystectomy performed five years ago, by another surgeon. Repeated adhesions formation with spontaneous rupture about every two months ever since.	Gallbladder contained thick pus and about fifteen calculi, secondary abscesses in surrounding adhesions. Operation very difficult.	Recovery, slow, from cholecystostomy and left basal cholecystectomy. Reoperation after four months with removal of adhesions from gallbladder and cholecystostomy.
XI	Nov. 15, 1926	41	F	Cholecystectomy and cholecystostomy	Recovery	Three attacks of pain, with fever and pain in the back week preceding operation. No history of attack of other illness.	Gallbladder distended, contained mucous pus, no calculi. Nontoxic complex, cholecystitis, that found at cholecystostomy.	Unsuccessful recovery, followed by cholecystectomy, but not returned to work. In 1926, cholecystectomy performed August 1926.
XII	Nov. 15, 1926	41	F	Cholecystectomy and cholecystostomy	Recovery	First attack of pain, fever, and pain in the back week preceding operation. No history of attack of other illness.	Gallbladder distended about twenty stones, and contained about twenty stones, that of which were lodged in cystic duct.	Unsuccessful recovery.
XIII	Nov. 15, 1926	41	F	Cholecystectomy and cholecystostomy	Recovery	No symptoms until onset of present attack, five days before operation. Slightly increasing pain, tenderness, fever. No jaundice. Mass present.	Gallbladder greatly thickened, tonsil distended with mucopus, tonsil distended with mucopus. Complete stricture of cystic duct.	Unsuccessful recovery.

TABLE OF CASES. *Continued.*

NO.	DATE OF OPERATION	AGE	SEX	LOCALITY	OPERATION	RESULT	HISTORY	DESCRIPTION OF LESION	REMARKS
100	September 1, 1907; General Hospital, St. Louis	37	F	Mo.	Cholecystectomy.	Recovery.	Attacks of pain and vomiting without jaundice for two years. Sudden onsets of inflammatory symptoms three days before operation. Patient had gained weight and about six weeks pregnant. Very large, fat woman.	Gallbladder, lacerated in dense adhesions, contained purulent material. Cystic duct occluded.	Recovery.
101	September 26, 1907; General Hospital, St. Louis	37	F	Mo.	Cholecystectomy.	Recovery.	Chief symptom the presence of a large mass, which was first noticed eight months ago and had increased greatly in size. Attacks of jaundice taken for an ovarian cyst.	Gallbladder enormously distended; contained three pints of pus; one stone visible in the duct. Many adhesions.	Recovery slow but complete.
102	June 16, 1905; General Hospital, St. Louis	39	F	Mo.	Cholecystectomy.	Recovery.	Frequent attacks of pain for five years. Acute pain, tenderness and fever five days prior to operation. No jaundice.	Gallbladder completely engorged, except peritoneal coat, perforated on liver aspect, contained eighteen pints of pus, surrounded adhesions in surrounding adhesions.	Sharp febrile reaction; discharge of bile from wound up to fifteenth day. Recovery complete.
103	June 26, 1905; General Hospital, St. Louis	42	F	Mo.	Cholecystectomy.	Recovery.	No history of previous attacks. Acute onset of pain, fever, and development of a mass five days before operation.	Gallbladder tensely distended with bile-stained pus. Liver coats completely engorged; cystic duct occluded. Contained many stones.	Recovery prompt and complete. Reported in good health two and a half years later.
104	July 31, 1906; Residence	40	F	Mo.	Cholecystectomy.	Recovery.	Gallstone colic without jaundice twelve years ago; occasional pain at intercostal space. Acute onset of pain, tenderness and fever, and rigidity sixteen hours before operation.	Gallbladder tensely distended with pus; contained many stones, many of them gangrenous at fundus and on the point of perforation. Five straws in peritoneum.	Recovery uneventful except for an abscess in abdominal incision which healed promptly.
105	August 14, 1906; General Hospital, St. Louis	41	F	Mo.	Cholecystectomy.	Death from peritonitis.	Brought to hospital in ambulance with advanced generalized peritonitis of three days' duration. Diagnosed as appendicitis and first incision made over appendix.	Gallbladder gangrenous and perforated; contained three large, small stones. Extensive generalized peritonitis.	Slight improvement after operation (which included free flushing of abdomen with salt solution) for about twenty days. Died forty-eight hours after operation of peritonitis.
106	March 11, 1904; General Hospital, St. Louis	41	F	Mo.	Cholecystectomy; cholecystotomy; hepatic drainage.	Recovery.	Ill for three years with intermittent pain, chills, fever, sweating, variable icterus, and loss of flesh and strength.	Gallbladder shrunken, lacerated in all places, common duct greatly dilated and thickened; contained two half valve stones.	Tube in hepatic duct removed on third day. Bile leakage ceased on second day. Patient perfectly well two and a half years after operation, had gained 40 lbs. in weight.
107	June 16, 1906; General Hospital, St. Louis	42	F	Mo.	Cholecystectomy; cholecystotomy; hepatic drainage.	Recovery.	Attacks of pain, vomiting and jaundice for about one year. No fever, no chills. Pain present every day and jaundice deepening for a month prior to operation.	Gallbladder shrunken around one large stone. Cystic duct in common duct. A large, conical stone in common duct which had nearly obliterated through.	Tube in hepatic duct removed on seventh day. Bile leakage ceased on third day. Recovery prompt and complete.
108	June 25, 1906; General Hospital, St. Louis	43	F	Mo.	Cholecystectomy; cholecystotomy; hepatic drainage.	Recovery.	Operated upon for supposed appendicitis. Jaundice developed after operation and continued, with chills and fever. Refused second operation until June 25, 1906.	Common duct contained a large stone, a perforation was present, sealed by adhesions. Gallbladder shrunken.	Tube in hepatic duct removed on eighth day. Bile leakage ceased on eighth day. Recovery prompt and complete.
109	August 9, 1907; General Hospital, St. Louis	44	F	Mo.	Cholecystectomy.	Recovery.	Violent gallstone colic without jaundice two and a half months ago. Recovery of pain two weeks ago with steadily increasing jaundice, even more.	Gallbladder thickened; perforated on stones. Tissue contained many loculated abscesses. Common duct was milked back into gallbladder before its removal.	Common duct not incised, no bile leakage. Jaundice cleared up rapidly and recovery was uneventful.
110	September 26, 1906; General Hospital, St. Louis	45	F	Mo.	Cholecystectomy.	Recovery.	History of pain, jaundice, and fever in attacks for past eight months. Symptoms more continuous for past year. Weight lost, and loss of flesh and strength.	Gallbladder not incised, no bile leakage. Common duct was milked back into gallbladder before its removal.	Patient made a good recovery from the cholecystectomy and kept the gallbladder intact. All symptoms cleared after several days. Report of some months later was promising to have a relapse.



## POSTDELIRIOUS ALCOHOLIC STUPOR.

*(Alcoholic Cerebral Œdema, "Wet Brain.")*BY CHARLES K. STILLMAN, M. D.,  
New York.

The peculiar stupor that sometimes follows alcoholic delirium has been little studied and less frequently described. In this country it has received attention from scarcely anybody except Dana<sup>1</sup> and Lambert<sup>2</sup>, and although occasionally met with in private practice, is generally unrecognized by the profession at large.

Of late there has been manifested an increased desire for information upon this subject, but the difficulty of obtaining a sufficient number of cases for comparative study has operated against the fulfillment of this desire.

This article, while not pretending to solve the many pathological problems involved, nor to answer in sweeping statements all clinical questions that may be asked, nevertheless represents a certain amount of first hand study under fairly favorable conditions and should have a certain value, if for no other reason than that its rather limited series of cases and observations may serve as a basis of comparison for more complete investigations.

The association of stupor with œdema of the meninges has led many in the past to regard the transudate as the central, if not the causative, factor in this interesting postdelirious state, yet it seems an indisputable truth that the symptoms accompanying are merely those of a certain type of cerebral irritability, for they not infrequently occur in conditions where no traces of œdema are found at autopsy. Thus, in the low muttering delirium of typhoid fever and in the last stages of chronic uræmia is often seen a clinical picture closely resembling alcoholic postdelirious stupor. There are the same evidences of muscular unrest, the same vacuous facial expression, the same pupillary changes, the same hyperæsthesias—all pointing to some profound irritative influence acting upon brain tissue, but œdema of the meninges is not always present in the nonalcoholic cases.

It is worthy of note that these cases are in a low physical state and suffering from cerebral toxæmia.

Conversely, it is interesting to note that considerable degrees of serous effusion of the meninges are found post mortem in cases that during life have given no special symptoms referable to this condition.

The presence or absence of the œdema apparently has little to do in the production of the clinical picture, yet it occurs with surprising regularity in the alcoholic cases; its causation had probably better be looked for among the general conditions underlying the stupor.

The occurrence of marked œdema of the meninges in advanced alcoholics has been generally recognized by pathologists the world over. It may be conceived as beginning in a small way in the simple chronic alcoholic, and rising with successive degrees of intensity throughout the various stages of alcoholism to culminate at last in that condition of which its own presence pathologically is the most striking feature.

It is a matter of a good deal of difficulty to arrive at any just estimate of the causes that contribute to the production of the stupor. Perhaps in view of the undeveloped condition of our knowledge along these lines it may be as well not to theorize at all, but merely to lay emphasis on the probability of a toxic factor and to point out the symptomatic resemblances of this condition to others in which toxæmia and exhaustion undoubtedly play a large part.

The type usually considered in speaking of "alcoholic wet brain" is a transudate pure and simple, and not included under the category of the low grade meningitides. However, there is in alcoholic œdema a tendency to low grade inflammatory changes about the bloodvessels and meninges that is far more marked than in wet brain of other types. Transudation takes place from the piaarachnoid and occasionally from the small bloodvessels penetrating the brain substance. About these latter a small watery zone may sometimes be made out. The changes in the brain substance and meninges are those so often described under chronic alcoholism.

The pathologist should not be too ready to diagnose wet brain in cases where the œdema may well have been post mortem. In true œdema the effusion will be found well distributed, whereas in post mortem œdema the fluid will be found only in the dependent areas.

*Ætiology.*

At the very outset it seems well to lay emphasis on the fact that the symptoms of this type of stupor are almost invariably preceded by a greater or less degree of alcoholic delirium. Dr. Lambert records a few cases where preceding delirium was not noticed, but in the vast majority of instances the previous statement will undoubtedly hold true. The finest examples, naturally, are those in which the symptoms develop following a simple delirium, and it is of these that this paper treats. A second class, in which the wet brain develops following a delirium tremens brought on by pneumonia or some other acute condition, should be worthy of a separate article.

A study of ninety-eight patients admitted to the male and female alcoholic wards of Bellevue Hospital shows some rather interesting results.

From September 1, 1905, to September 1, 1906, there were admitted to the female alcoholic wards of the hospital 2,133 patients; of these but twenty-two were attacked with wet brain, which, after deducting a relatively small number of nonalcoholics from the general total, represents a percentage of approximately 1.

*Nationality.*—Irish, 10; American, 8; English, 2; Canadian, 1; Scotch, 1.

*Age.*—The youngest was twenty-three years of age, the oldest sixty, while the majority ran variously between thirty and forty. There were three between fifty and sixty.

*Mortality.*—Of the twenty-two patients, eighteen died, a mortality of approximately 81 per cent.

*Duration.*—Among those patients who died, the duration of life in uncomplicated cases ranged from one to forty-five days. Of these the three of longest duration, i. e., twenty-four, twenty-nine,

and forty-five days respectively, died apparently of exhaustion. Nine other patients, the balance of the uncomplicated cases, ran variously from two to nine days.

Of the complicated cases where the patients died, the durations were variable. Two contracted lobar pneumonia, one had lobar pneumonia and morphinism, another was attacked with bronchopneumonia. One died with symptoms of postdelirious stupor and pulmonary tuberculosis, but, as there was no autopsy in this case, the diagnosis might well have been tuberculous meningitis.

Of those patients that "recovered," one was taken home unimproved after twenty-eight days. Two were sent to the Department of Public Charities as improved, after sixteen and eighty-nine days respectively, and a third was completely cured after ninety-four days. This young woman, thirty-four years old, now strong and healthy, presented the condition in its most aggravated form.

During the same period, that is, from September 1, 1905, to September 1, 1906, there were 5,017 admissions to the male alcoholic ward. Among this number, seventy-six were attacked with symptoms of postdelirious stupor, or approximately 1.5 per cent. After deducting a small fraction for non-alcoholic admissions, we note that there is still a relative preponderance of the condition among the males.

*Nationality.*—Irish, 24; American, 30; German, 6; English, 3; Swedish, 3; French, 1; Italian, 1; Scotch, 1; Bohemian, 1; Hebrew, 1.

*Age.*—The oldest was seventy years of age, three were between sixty and seventy, fourteen between fifty and sixty, twenty-three between thirty and forty, and four between twenty-two and thirty. Ages of eight others unknown.

*Mortality.*—Of the seventy-six, sixty-three died, a mortality of 79 per cent.

*Duration of illness.*—Among those that died, in the uncomplicated cases, the duration was from less than one day to twenty-two days. The average duration was a trifle under a week, but this does not give a correct idea of the condition. As a matter of fact, out of forty-eight uncomplicated cases, only fourteen patients were over nine days in duration, the longest being twenty-two, twenty-one, seventeen, and fifteen respectively. But twelve were between five and nine days in duration, while the greatest number (twenty-two) was less than five days in duration.

When it is considered that these figures in many instances represent a considerable portion of the preceding active delirium as well, a still further reduction must be allowed for.

Of the complicated cases where the patients died, six succumbed to lobar and three to bronchopneumonia, either coincident or complicating; of these none lived longer than twelve days. One died of decubital gangrene on the fifteenth day, and two who were suffering with simple fractures of the femur on admission died after about a week. In a case with a fractured tibia, the patient survived twelve days.

The thirteen patients who recovered did so in periods of from two to forty-five days. Five of these were of long duration, nineteen, twenty-eight,

thirty-four, thirty-nine, and forty days respectively; eight recovered in periods of from two to thirteen days.

The individual mentioned before who recovered in thirty-nine days exhibited remarkable vitality, as he had two fractured ribs on admission, and was attacked with pneumonia while in the ward. The patient who was discharged after forty days, together with one other where edema was of slightly shorter duration, was committed shortly after as insane.

Of the others, two were sent to the Department of Public Charities as improved, while the remainder were actual or apparent cures.

*Summary.*—In studying statistics, particularly of a small series like the one I have given, great care should be taken not to be led into erroneous conclusions. However, a number of very interesting points are apparent.

It would probably be unfair to cite the slight relative preponderance in males as conclusive, owing to the rather limited number of cases studied. The mortality figures for either sex are not far enough apart to suggest that one sex succumbs more readily than another. Dr. Lambert's records give a considerably lower mortality than these figures would indicate, and I am inclined to believe that the final figures will be found considerably below rather than above the 80 per cent. mark.

The relatively earlier age at which females are subject is borne out also by Dr. Lambert's figures. But there is one peculiar difference that is perhaps a direct consequence of the drinking habits of the two sexes. Men unquestionably survive the shorter attacks better than women, while they succumb with greater frequency to the longer ones. The majority of drinking men punctuate their steady tipping with occasional debauches, which probably have a tendency to bring on delirium tremens earlier than it would have occurred if their efforts had been less spasmodic in character. As a result the attack is more acute but less fatal, because precipitated before their vital powers was entirely used up.

Women, on the other hand, tipple steadily, but debauch less, and this, together with their more sheltered life, staves off the delirium until it results as a direct sequence of physical exhaustion. On these stupor descends with terrible effect, for their vital processes are very low, and resistance almost nil.

In this connection I should like to state that I have seen in men many cases which for lack of a better term I will call *transitory wet brain*, in which the symptoms, manifesting themselves for only a few hours or during the night, almost escape notice. In the majority of cases these have occurred in delirium during a pneumonia, although occasionally in the simple noncomplicated form.

The most interesting feature of these statistics is the tendency which they show toward a separation into two distinct types, the short and the protracted. The short considerably outnumber the protracted. Women, by the way, who last long enough to become protracted cases, show remarkable powers of resistance.

### Symptomatology.

There is no set rule as to the time of onset of stupor in the course of delirium tremens. When the delirium tremens complicates pneumonia, the period of greatest susceptibility is about the crisis, but in general it may be set down that "wet brain" is likely to make itself manifest at about the third or fourth day of delirium tremens, and so insidious and stealthy is its approach that it is hard to determine where one condition terminates and the other begins.

Perhaps the first symptom to attract the physician's attention is the distinct alteration in facial expression. The marked restlessness and noisy activity that characterized the delirium tremens have departed, and his heightened color and exaggerated play of expression have given place to a gray pallor and almost cadaveric immobility of countenance. At this time the pupils are observed to be equally contracted, and there is a moderate degree of stiff neck present. Soon the picture becomes more complete, as the characteristic symptoms unfold themselves. Usually the patient lies flat upon the back with legs extended, head thrown slightly back and unobserving glance directed toward the ceiling, toward which the hands reach in a rather characteristic manner, suggestive of rope climbing. They are seldom still for more than a few seconds at a time, and exhibit the weak, wide tremor of cerebral irritation. The facial expression, aside from its gray pallor, is rather distinctive, and unique in the almost total obliteration of the lines of expression. Dr. Gregory mentions the following points as especially indicative of wet brain: "Line of thought sharply accentuated, yet face totally devoid of expression. Eyes dead, fishy, and lacklustre. Mumbling mouthing articulation in contradistinction to the muttering of other low deliriums in which the spoken words are more sharply defined and clear cut."

Generally the stuporous patients say nothing that is audible. When they talk, as some of the milder cases do, the *labials* are absent, and they appear to suffer from inability to initiate muscular movements of the lips. When irritated or hurt, the accompanying facial contortion involves the least mobility of expression consistent with the recognition of pain. In the majority the eyelids are closed, while flies gather in numbers unheeded about the eyes, nostrils, and corners of the mouth. The pupils in the early stages are often reduced to pin point size and later dilate, remaining so to the end, but this is by no means the invariable rule. Some patients exhibit no pupillary changes whatever, while in one, a case observed in ward 6 in March, 1906, they underwent frequent alterations in size. At times it was even possible to see the slow reactionary changes taking place.

Two, rather constant, early symptoms are muscular rigidity, which is seldom extreme, and hyperaesthesia, the latter particularly marked when circulation to any part is cut off. In time both these symptoms are likely to attract little attention.

Stiff neck, however, is very persistent. In women the writer has many times noticed an ulnar deflection of the fingers, but it is quite possible that this may have been due to the multiple neuritis, so common in alcoholics.

The pulse maintains much the same general features throughout, being small, frequent, feeble, intermittent, of low tension, and very variable in its quality and rate from hour to hour and day to day; indeed, it may run 90 to 100 one hour and 120 to 130 the next, the general average being somewhere between these two figures.

Respirations, on the other hand, are not much disturbed.

Temperature is typically low, 99° to 101° F., and not seldom it drops to subnormal—in general a low, irregular temperature curve.

The stupor is typically a quiet one, except for the muttering movements of the mouth, and the peculiar and continual activity of the hands.

The coma is a very variable quantity; certain cases never become comatose until just before death, when, according to Dana, the filling of the ventricles induces this result. Cases of this sort may remain perfectly rational, talking in mouthy articulation or answering questions until the last.

A second class, passively delirious or comatose, will comprehend if directly addressed, or even obey directions, but relapse with closed eyes into incoherent muttering, if left alone.

A third class remain oblivious to all external stimuli.

As to the course of the illness, there is nothing very definite in the patient's symptoms on which to base a prognosis; perhaps all that can be safely said on this subject is that the cases of short duration greatly outnumber the protracted ones, but do not differ from them so far as the clinical picture is concerned, except in the matter of muscular wasting.

The hold on life which some of the protracted cases seem to have is nothing short of astounding. Under intelligent care they worry along indefinitely, with occasional periods in which life seems completely to be despaired of, periods of weakness and constitutional depression alternating with periods of comparative lucidity and apparent gain in strength until the disease reaches a definite termination.

It is interesting and worthy of note that in these cases gain in strength is sometimes the signal for a new outburst of delirium.

The termination is by death in the majority of all cases. Our investigations, already quoted, placed the mortality at 81 per cent. in females and about 79 per cent. in males.

Exhaustion determines the end of many, while a large number die of complicating pneumonias, both lobar and broncho, and bedsores, the latter a most alarming complication, owing to the patient's almost negative vitality and lowered bodily resistance.

Of those that outlast the edema, a certain proportion develop permanent insanity, while others, actually cured, suffer for a time from mental or bodily enfeeblement.

### Diagnosis.

This is by no means so simple a matter as might at first glance seem evident; unless directly following an attack of delirium tremens, the physician should hesitate about committing himself.

The writer was once so far led astray by appearances as to diagnosticate a case of pernicious malarial fever with meningeal involvement as "wet



brain," the picture for a few hours being identically similar. It is well to remember that any condition where there is cerebral oedema, or any condition in which cortical irritability is the same in degree as in wet brain, may produce a picture that will puzzle the expert. Perhaps the most fruitful source of error among those who have charge of the alcoholic service is tuberculous meningitis, which, while a classic picture in children, may assume in adults more protean forms than almost any disease except syphilis.

I know personally of three successive cases of tuberculous meningitis which came to the alcoholic wards and were diagnosed "wet brain" by competent and experienced men, who discovered their mistake only at the autopsy table.

In general, it cannot be disassociated from tuberculous meningitis in atypical form, except by the presence of a preceding delirium or through finding tubercle bacilli in the fluid drawn off by spinal puncture.

Paretics compensate partially for the reduction in size of their brain tissue by effusion of fluid into the unoccupied cranial space, giving rise to a pathological condition in many respects similar to that in alcoholic wet brain. They, however, die rather typically by going into a convulsion, with subsequent coma, a terminal event which I have never seen in a simple alcoholic.

#### *Treatment.*

Possibly better results are obtained from a system of forced feeding, combined with judicious stimulation, than through any other course.

The whole problem seems to be largely one of vitality and elimination, and happily the stomach accepts large amounts of nourishment and medicine without protest. Unfortunately, it is unlikely that much of this is converted into tissue, owing to the depressed condition of the body functions.

Enormous amounts of food are required, including eggs, egg noggs, liquid peptonoids, and broths, together with powerful stimulation, when the pulse flags and the vital processes get low. The patients do not react to normal stimulating doses; it is surprising to see how much stimulation they can take care of with apparent benefit. The writer has frequently used

B	Whiskey, . . . . .	gr 67
	Camphor, . . . . .	gr. iii
M.	Stychnine, . . . . .	gr 1.30

every three hours for considerable periods, with fairly gratifying results.

Of all the drugs, caffeine is perhaps the most suitable for this class of cases; it may be given as citrated caffeine in five grain doses, or, if so desired, as the sodium benzoate in similar amount.

Very good effects are reported as a result of sitting patients up in bed, it is said to lessen the oedema. Dr. J. D. Peters, late house physician of the first division, reports considerable success with this method.

Tapping the cord produces results for a short time, say a day or so. The relief of pressure or the change in circulation incident to the removal of the fluid seems to cause a temporary accession of

energy, so that a stuporous case may rouse up and assume for a short time the active movements and facies of an earlier stage of the disease. Indeed, there is not infrequently a resumption of active delirium until the fluid reaccumulates.

No permanent results are noted. The fluid removed is usually in increased amount and under increased pressure. Otherwise, it differs in no respect from normal fluid either in appearance or in the distinctive count.

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119 EAST TWENTY-SEVENTH STREET.

#### GENERAL PARALYSIS IN THE SENILE PERIOD, WITH A REPORT OF TWO CASES, INCLUDING POST MORTEM EXAMINATION.\*

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#### *Introduction.*

It is generally conceded by such eminent authorities as Kraepelin, Mendel, Ziehen, Wernicke, Kraft-Ebing, Oppenheim, Strumpell, and others that general paralysis is very rare at the extremes of life. The usual run of cases occur from thirty to fifty, and after the fifth decennium it gradually diminishes in frequency. Magnau and Serieux consider the majority of their cases between thirty and forty-five; after sixty this malady becomes rare, and after sixty-five it is exceptional. Arnaud maintains that paresis after fifty-five is infrequent, and a case of that kind at this age needs careful and repeated examinations before the diagnosis as such can be accepted. Christian is very skeptical about senile paresis, and he even rejects the idea of the possible occurrence at this period. M. Dupré is also of the same opinion.

The statistical data bearing on this subject are extremely interesting. Of J. A. Hirschl's 202 cases, 7 were between fifty-six and sixty, and only 2 between sixty-one and sixty-five. Greidenberg found in his 300 paretics 13 over the age of sixty. Rodrigues describes 3 cases of general paralysis which became manifest at seventy. Neamnois speaks in one of his clinical lectures of one subject of general paralysis at the age of sixty-five. Marce analyzed 300 cases with the following results: 3 between sixty and sixty-five, and 4 were from sixty-six to seventy. Bouchereau and Magnau have seen in two years (1870-1871, 1871-1872) 24 women between fifty and sixty, and 15 men between sixty and seventy. Christian and Ritti found in 106 cases of paresis 23 whose ages varied from fifty to sixty.

Magnau and Serieux observed at Sainte Anne Hospital, Paris, 100 cases of general paralysis, 17 of which were over sixty years of age.

from 1886 to 1892, 2,058 general paralytics, and furnished these results:

Age.	Women.	Men.
100	6	199
60-70	8	17
71-80	1	2

In the asylum of Comte de Clamorgan, 700 paralytics were admitted from 1867 to 1896; 14 women and 51 men were between fifty and fifty-nine, and 1 woman and 8 men above sixty. Serge Soukhanoff and Peter Gamouchkin at the psychiatric clinic of Moscow have seen 673 paralytics; among them were 1.93 per cent. between fifty-five and sixty, and 0.45 per cent. above sixty.

Vigoraux and Laignal Lavastine state that of 259 deaths of general paralysis, 12 occurred between sixty and sixty-five. Olivier's investigation in the asylum of Blois showed that out of 139 paralytics only 3 were between sixty and seventy. L. Mongeri in his studies of paresis at Constantinople also furnished analogous results in his 144 cases, 8 at fifty-five, 2 at fifty-seven, and 1 at sixty.

Picket found 2 males and 1 female at the age of sixty out of 113 and 36 general paralytics respectively. Only 2 per cent. of Kraepelin's cases appeared at or beyond sixty.

In Mickel's 2,456 male and 668 female general paralytics, the ages in the senile period ranged as follows:

Age.	Male.	Female.
60-70	3	26
71-80	1	8

Prina observed 23 cases of general paralysis in advanced age. Only in 2 of them did the micro-scope show parietic changes which were suggestive, but *not conclusive*. Merzbacher, in reviewing the article of Prina, questions the diagnosis of general paralysis, and is inclined to regard dementia senilis as more plausible and probable. Alsheimer's analysis of 173 cases of general paralysis gave these data: Eight between sixty and sixty-five years old; 1 at sixty-nine; 1 at seventy. Obersteiner noticed 4.5 per cent. of his cases of paresis between sixty-six and sixty-three.

Olivier collected a number of cases from literature in addition to his own, and he tabulated them under three headings:

I.—Clinical observations without autopsies, 7 cases from sixty to sixty-three.

II.—Clinical observation with autopsies which were limited to macroscopical examination only, 8 cases from sixty to sixty-six, and 2 from seventy to seventy-two.

III.—Clinical observations with autopsies embracing microscopical examination, 4 cases from sixty to sixty-five, and 1 at seventy-two.

The following are complete records of two interesting cases of paresis which came directly under my observation:

CASE I.—Anna H., admitted to the Manhattan State Hospital on May 14, 1904, at the age of fifty-five years; was Assistant Janitor, and died by profession.

Family history: No vesanic or neurotic taint could be established in her consanguineous relations. One son died from alcoholic excess. Daughter in law is an inmate of this hospital and suffering from paresis. Patient presents

Personal history: The patient was born in Austria in 1830. Nothing was known of the development of infancy, childhood, or youth. She was an accomplished la-

profession for forty years. Her diploma was granted by the University of Graz. In Austria she held a position as district midwife. No specific infection could be ascertained or excluded. In 1901 (three years before admission) the first evidences of mental alienation became manifested when she could not attend to her work properly, began to use alcoholic beverages to excess, stated that the neighbors wanted to rob her, would wander at night aimlessly, and complained of insomnia and fatigue. She gradually grew more restless, delusional, and her commitment to Bellevue Hospital was necessary.

At the psychopathic ward patient was described as agitated, restless, and confused. She gave expression to the following: "God keep me. I am dying. I will give you twenty dollars to get me out of here. Let me out to see my son. Oh, oh, oh, oh, I carried him in my arms. You want my death. Let me out. Let me out. Oh, my! Oh, my!"

When admitted here physical examination showed fair nutrition; dilated pupils which sluggishly reacted to light and accommodation; no sensory disturbances; knee jerks somewhat diminished; patellar reflexes normal, tremor of tongue; no tremor of hands; lungs emphysematous; heart was apparently normal; varicose veins. A thorough examination was impossible because patient was too restless and excited.

Mental status on admission: Patient was resistive, restless, excited, pulled her hair, tore her clothing, talked in a loud tone of voice, and showed marked prolixity of speech. The following is a sample of her spontaneous production: Oh, dear! I am doing to die! Send for my son! I am a good midwife—I have the diploma—Oh, give me my clothes—Oh, dear! Oh, dear! I am going to die—they took all my money! Oh, Adolph, what have you done to your mother. Oh, give me a rope—I will hang myself—Adolph, I had only \$500, and they took it from me—I will give you lots of money if you send for my son—I am going to write to the Kaiser—he knows me well."

Occurrences in the ward attracted her attention. The orientation was deficient; she knew the month, but did not know the day or year. She called this place a hospital. She recognized the physician and nurses as such. The integrity of her memory was doubtful, although some statements regarding her life were correct. Mood was that of irritability with frequent outbursts of uncontrollable temper. She spoke of people who tried to rob her and that they wanted to send her away on a farm for the rest of her days. No hallucinations or systematized delusions were ascertained.

For about a year her condition showed, practically little or no change. She was restless, voluble in speech, boasted of her great ability as midwife, asserted that her diploma was signed by Dr. Lorenz, and that she was the most skillful accoucheuse in the United States of America. She stated that she was worth \$50,000. Memory was poor and judgment much enfeebled. Her sleep was disturbed. Her general motor unrest was controlled by hydrotherapeutical measures.

August 21, 1905. She became weak, showed slight ataxia in gait and station (which was attributed to her general weakness and poor sight), and vision was much impaired on account of a double cataract.

August 23, 1905. She became totally blind. Examination at that time revealed marked senile changes, emaciation, dilated pupils which did not react to light and accommodation, tremor of both hands, exaggerated knee jerks, but no speech defect. Mentally, she was restless, tossed herself on the floor, screamed, and shouted at the top of her voice, answered questions irrelevantly, alleged that she had lost her purse, gold earrings, etc., and was in constant search for them. Memory and orientation were very defective. Dr. Ward A. Holden (visiting ophthalmologist to the hospital) examined the patient and found left advanced cataract and right incipient cataract with chorioidal changes about the disk, but the latter was normal.

In October, 1905, patient was quiet, lay in bed, was confused, could not recognize her son's voice, misinterpreted her surroundings, and talked to herself in a low tone of voice.

On November 5, 1905, signs of bronchopneumonia developed, and she died six days later.

After great difficulty an autopsy on encephalon only was obtained. Post mortem examination was performed by Dr. G. Y. Rusk, and showed the following: Increase of cere-

brosipal fluid; pia baggy, cedematous, and diffusely infiltrated and thickened in the frontal and parietal regions, and to a much less extent over the temporal tips; the frontal lobes were moderately adherent; the membranes of the sylvian fossæ were thick and toughened; the pia over the base was slightly infiltrated; convolutions moderately shrunken, and the corresponding sulci widened; the vessels at the base were athrematous; calcarine areas on both sides were normal.

Microscopical examination: Sections from paracentral and second frontal and gasserian ganglia showed definite changes, consisting of pial, cortical, and subcortical perivascular infiltration with plasma cells, among which were relatively few lymphocytes. There was a moderate perivascular pigment accumulation and moderate pigmentation of cells. Rod cells occurred in frontal sections. Glia hypertrophy subpially and in depths of tissue was marked, and particularly in the regions of the second frontal convolution.

CASE II.—This patient was also under the observation of Dr. L. C. Pettit, Dr. J. R. Knapp, and Dr. J. L. Pomeroy. The patient, Sarah C., was admitted to the Manhattan State Hospital on June 1, 1906, at the age of seventy. She was a widow, born in the United States.

Family history: Family history was negative for psychopathic and neuropathic traits. Maternal uncle died from apoplexy.

Personal history: Patient was born in New York in 1836. Little was known of her early life. She was always considered bright, cheerful, intelligent, and suffered from no physical ailments except that she was subject to rheumatism. She was married; gave birth to nine children; three died and six were living and enjoying good health. Her husband died from pulmonary tuberculosis in 1881. She did not indulge in alcoholic beverages, led a moral life, and luetic infection could not be demonstrated. For the past five years she worried a great deal over domestic troubles.

There were no manifestations of a mental disorder until the latter part of November, 1905, when it was noticed that patient made peculiar motions with her mouth; would put kittens into the oven, thinking she was roasting turkey; would talk in a rambling manner; imagined she had lots of money; later developed a mania for borrowing a dollar from her friends, relatives and strangers; was particularly fond of counting her money. On one occasion she fell at Crotona Park; she was then unconscious and was taken to Bellevue, where she remained a few days, and subsequently discharged to the care of her daughter. In February, 1906, she had an attack of cerebral apoplexy; she was unconscious for two hours. Since then and till the time of her death she remained a bedridden invalid. The mental symptoms remained unchanged until her removal to Bellevue Hospital.

At the psychopathic ward patient was described as confused, talked in a disjointed manner, reacted to auditory and visual hallucinations, asserted that she owned elephants and horses and that an elephant was in her stomach. She said: "I am too old to work—I have no money—I can lay my hands on fifty thousand dollars—I played the races and made lots of money—I paid a thousand dollars for a white elephant. He goes out every day and I keep him in Central Park. I paid a thousand dollars for a horse. I have three elephants in my stomach; they are all in gold. I own ten horses uptown—I bought them—I made the money on the horses. Every time I get short I raffle off a horse."

Upon admission her physical examination revealed poor nutrition; unequal, irregular pupils which did not react to light and accommodation; anosmia, knee jerks not elicited; ankle jerks diminished; other reflexes not established; drawing speech; enlargement of the heads of both tibias with grating sounds and stiffening of both knee joints; umbilical hernia; chronic myocarditis; arteriosclerosis; pulmonary emphysema.

Mentally patient was quiet, well behaved, appeared happy and contented, and talked in an incoherent strain. The following is a sample: "Since I was a girl I have seen this policeman. I married him, he owned a house on Central Park, and I was a very handsome woman. If you knew how sister looks then you know how I look. I have got my train which I wore in the theatre when I was a young girl. I was a school teacher all my life. I get my

pension every year, one hundred and twenty-five dollars, all in gold."

The answers to questions will fully illustrate her peculiar trend of thought:

How do people treat you? "First rate—I can't complain."

Anybody annoy you or talk about you? "Nobody ever talks about me now; my son-in-law was a drunken bum and always licked me."

Did you ever hear voices? "No. Sometimes I scolded her for living with this man."

Do you ever see strange things? "Yes, I see him often. He appears to me because I killed him. He was so old he sat in a chair. I often see him at night time. His name was Phil Lee. I cut his head off and his belly off, and I threw him in the river."

Does he ever talk to you? "What I ate to-day was sturgeon. He ate him up. I get his interest."

Have you any money or property? "Oh, my goodness, yes. Didn't I tell you I was worth a hundred thousand dollars? I own the underground railroad from New York to Albany, from Albany to Boston and to Buffalo, and all around New York and around the west side. I own Central Park. I own Bedford Park. I own that house there where that policeman is. I will get twenty dollars to-morrow; I am going to give you forty out of it for taking care of me all this winter."

Mood showed no variability; she expressed the feeling of well being. Orientation was very deficient; she called the place New York Hospital; gave the date as 150; year 90; the month May. Data of personal identification and the memory for the remote and recent events were very much impaired. Judgment exhibited marked enfeeblement.

June 19, 1906. Lumbar puncture performed; cerebrospinal fluid showed chemically serum, albumin in abundance, and microscopical examination revealed a marked lymphocytosis (100 to 150 in a field). Another examination of the cerebrospinal fluid was made, and similar results were obtained.

The patient was examined several times by the writer, and she practically presented no change in her general mental attitude. She spoke in a rambling manner, expressed ideas of grandeur, asserted that she was worth millions of dollars, owned property, parks, etc. Orientation and memory were very defective, and in general she appeared to be simple and childish. Physically she showed diminished knee jerks, articular hypertrophy of both knees, small, irregular, and unequal pupils which did not react to light and accommodation, drawing speech, marked arteriosclerosis, and slight residuals of hemiplegia dextra.

Her physical condition gradually declined. On November 8th, patient had a general convulsion which lasted several minutes. After this she remained unconscious and expired four hours later.

Great effort was exerted to obtain a necropsy, and fortunately a consent was granted, but restricted to the calvarium only. Autopsy, performed by G. Y. Rusk, revealed the following: Increase of cerebrospinal fluid; examination of the pia negative throughout except for slight milkiness over the vermis of the cerebellum and closely following the principal ramification of the sylvian artery, and slight diffuse thickening over the mesial aspect of the frontal lobes; moderate degree of diffuse atrophy of the convolutions with slight accentuation in the frontoparietal and temporal regions; atrophy was more marked on the left than on the right hemisphere; the orbital surfaces of the frontal lobes also showed atrophy; two small subpial cysts occurred at the beginning of the interparietal fissure between frontal, second, and third, just above Broca's convolution; frontal and temporal tips were slightly adherent; the floor of the fourth ventricle showed a diffuse granular appearance; the basal artery at its bifurcation was athrematous; carotids and middle cerebral arteries were large and moderately athrematous. Sections examined from anterior and posterior central, first frontal, angular regions, and cerebellum showed pial and perivascular infiltration with lymphocytes, plasma cells, and an occasional mast cell. In all these areas a fair amount of elia overgrowth with few cells possessing prominent nucleoli, and the nerve cells were not excessively pigmented, but there was an abundant accumulation in the perivascular sheaths. The walls of the arterioles were thickened and hyaline deposition occurred. Rod cells were numerous in the frontal and temporal regions, especially in the latter.



## Remarks.

The mental picture of paresis in the advanced period bears a striking resemblance to dementia senilis. The onset of the psychosis is marked with intellectual enfeeblement, and the delusions are relatively rare. The grandiose ideas are not prominent (Olivier and Obersteiner). In both of my patients delusions of grandeur were present, and especially in Case II they were markedly accentuated. It is to be remembered that in the latter the usual boastfulness, which is so common to paretics of that type, was wanting. Some of the morbid ideas in patient Anna H. were analogous to those of senile dementia. For instance, she asserted that she was robbed of her property, and was in constant search of her lost purse and jewels. Each of my patients presented many stigmata of senile dementia.

Illusions and hallucinations are seldom manifested, and in my cases these symptoms were not observed.

There are no special somatic signs which stand out prominently in the disease picture, but they may be obscured by the usual physical changes common to senility. Convulsive seizures are not common (Olivier). In one of Hirschl's cases optic atrophy was present. My patients manifested no atypical features except in Case I the speech was fairly well preserved through the disease.

The duration of the mental malady is relatively rapid (Obersteiner). However, in my first case the course was rather exceptionally long, five years.

The diagnosis of general paralysis in the senile period is very difficult. Quite often such cases are mistaken for senile dementia, and, indeed, in some instances the differential diagnosis between these two maladies is impossible without the aid of the cytological examination and necropsy.

My hearty thanks are due to Dr. William Mabon, superintendent of the Manhattan State Hospital, for the permission he has given me to publish these two cases.

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SECONDARY HÆMORRHAGE NINE DAYS AFTER  
HÆMORRHOIDAL OPERATION. SCIATICA  
' COMPLICATIONS.\*

By D. H. MURRAY, M. D.,  
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CASE: The patient was an American, 48 years of age, 6 feet, 2 inches high, weight 185 pounds. Previous history was negative.

Present complaint: Bleeding internal hæmorrhoids which had given him trouble for more than ten years. For the past two years he had been troubled from time to time with sciatica, for which he had received various kinds of treatment, including stretching of the nerve, but he grew gradually worse, the attacks came on without apparent cause and were worse in the morning on arising.

Six weeks previous to his consulting me, a physician in his home town gave him special treatment for sciatica. This was given during three sittings, two days apart. At the first sitting he was given six hypodermatic injections, of atropine 1/150 gr. each, into the sheath of the sciatic nerve. Two days later he was given seven hypodermatic injections of atropine, the same amount, which caused intense nervousness. Two days later than this he was given nine hypodermatic injections of atropine, same amount, eight of these being into the sheath of the nerve, and one of these injections was given, or attempted to be given, into the nerve before it leaves the pelvis. Following this third sitting he became unconscious and remained so for fourteen hours; since the completion of the last sitting he had been especially nervous, and said his heart had been very weak. He experienced a little relief at the time, but occasionally had severe attacks of pain.

On November 24, 1906, he began bleeding profusely, which had kept up until his visit to me. Examination showed very large internal hæmorrhoids all around the pile bearing area, from one of which a large stream of blood of arterial origin was emitted. Inasmuch as he, owing to business reasons, could not be operated upon at once, I tied this vessel. The next day he called at the office and felt somewhat better, had no pain, slept well.

On December 11, 1906, he entered the Hospital of the Good Shepherd, where I operated upon him on the 12th. I dilated the sphincter carefully and removed all internal hæmorrhoids by the clamp and cautery combined method, which consisted in dissecting the hæmorrhoidal tumor out as though it were to be ligated, but instead of ligating, used the clamp and cautery to complete the removal of the tumors. Two bleeding vessels were ligated at the time of the operation. I packed the anal canal with iodoform gauze and put the patient to bed in good condition, except that his pulse was slightly weaker than normal. He had no vomiting, but some discomfort until 6 p. m., after that he rested quite comfortably. The patient was making a good recovery with no complications until the ninth day after the operation.

December 21st, at 10:30, I was called, being told that the patient had a hæmorrhage which had begun at 8:45. The internes at the hospital had done what they could to check the hæmorrhage without avail.

I went immediately to the hospital and found the patient almost pulseless, gave a small amount of ether, inspected the parts, and found that a branch of the superior hæmorrhoidal artery was pouring a stream of blood into the rectum. The artery was secured, the patient stimulated, to which he responded promptly. The quantity of blood lost was, by measure, forty-five ounces. The blood count two days later was 3,270,000 red corpuscles, 7,000 white corpuscles, hæmoglobin 70 per cent.

On January 1, 1907, he was allowed to sit up, and a week later to go home.

Since the operation the patient has never had a twinge of his sciatic pain, which leads me to remark that, as is well known, many cases of sciatica are symptomatic.

The hypodermatic treatment which this patient received may have been a good treatment for some cases. It is quite evident, however, that in this case the rectal conditions were paramount.

It is very important that physicians, whether doing surgical work or not, should note all rectal and

pelvic diseases. It is well known that such conditions often produce symptomatic sciatica and should be considered in distinctive diagnosis.

To me, it is quite a serious matter that injections of atropine, in the amount used in this case, should be given to any patient, when there is a palpable rectal or pelvic disease existing, that may be the cause of sciatica, as in this case.

I am not able to explain the cause of so severe a secondary arterial hæmorrhage as late as the ninth day after the operation, unless a thrombus or eschar became dislodged. I have had, three years ago, one patient with a moderate secondary hæmorrhage on the eleventh day, but in that case pressure controlled it without trouble. In a speculative way I have wondered whether the atropine, with its paralyzing effect on the vasomotors, could have been in any way responsible for the secondary hæmorrhage.

800 UNIVERSITY BLOCK.

#### DELAYED LABOR.\*

By WALTER B. JENNINGS, PH. B., M. D.,  
New York.

The length of normal labor varies within wide limits, and, while different authorities differ in regard to time, the average duration of normal labor may be taken as eight hours in multiparæ, while in primiparæ the time is usually double that or longer.

Table of average duration of stages of labor (Spiegelberg):

	First stage.	Second stage.	Third stage.
Primipara . . . .	15 hours,	2 hours,	1½ hour;
Multipara . . . .	8 hours,	1 hour,	½ hour.

Normal labor is longer, as a rule, in the very young and in old primipara, i. e., extremes of child bearing life.

What, then, is meant by delayed labor?

**Definition.**—Delayed labor may be defined as one in which the frequency, strength, duration, and expulsive character of the uterine pain has been so changed as to prolong the second stage of labor, so that either the life of the mother or that of the child is endangered.

In considering this question, Dr. J. F. Moran, of Georgetown University, Washington, D. C., says that "It is impossible to separate the cases dependent upon uterine inertia from those due to many different pathological states." In the first stage of labor one of the most common causes of delayed labor is a rigid cervix due to old inflammatory conditions, malignant disease, or cicatrix. These cases, however, would not be classed with those of delayed labor in the true sense of that term, but are due to some abnormality of the soft parts. Consequently, there is reason for classifying delayed labor by itself, whether complete or partial, as due to some perversion of the normal power concerned in expelling the fœtus. It is the writer's intention to consider briefly uterine inertia, consequently the many varieties of pelvic deformities are excluded. While his condition might possibly occur in contracted pelvis, tetanic uterine contractions are more liable to be encountered.

**Ætiology.**—The causes of uterine inertia are local and general.

**Local Causes.**—It is generally admitted that the uterine muscles possess a certain amount of intrinsic contraction, and any condition causing a disturbance of the uterine muscle would tend to bring about this condition. Multiple pregnancy causing a loss of tonicity, uterine tumors, excess of liquor amnii causing overdistention, are among the local causes generally given, as well as overdistended bladder or rectum. Occasionally a soft sagging uterus markedly bent forward, together with a pendulous abdomen, will interfere with the action of the uterus.

**General Causes.**—Among these are general lowered condition of the system—rapid child bearing, anæmias, and wasting disease. Certain psychic and emotional disturbances may also have some effect upon uterine contraction reflexly through sympathetic nervous system. Fatty changes and atrophy of the abdominal muscles or separation of the recti often lessen the expelling forces and so delay delivery.

Very frequently defective abdominal contractions are due to fear of increased pain on the part of the patient, and in this way the patient does not bring her abdominal muscles into full play. In such a case the administration of chloroform dulls the sensation of pain, and the patient, unconsciously or semiconsciously, uses her abdominal muscles, with a very happy and gratifying result. Uterine inertia sufficient to cause delayed labor is of comparatively frequent occurrence. Acconci, from a study of over 2,000 cases, says that it occurs in 6 per cent. of cases. It has been suggested that uterine inertia might be the cause of prolonged gestation.

Uterine inertia may be characterized by feeble and infrequent contractions, or there may be a marked disproportion between the pain and contractions. Unfortunately, there is no standard by which the character of labor pains can be measured.

Clinically, however, the efficiency of uterine contractions may be measured by their effect upon the progress of labor. In normal labor, the contractions of the uterus occur infrequently in the early stages and gradually increase in frequency, intensity, and duration until labor is terminated.

Many cases of labor begin in the regular way and give every promise of an early termination. The cervix is fully dilated and obliterated when the pains stop and labor comes to a standstill. In many cases prolonged labor is commonly said to be due to the undilated cervix, when, as a matter of fact, it is due to a faulty uterine contraction (primiparæ over thirty-five are exceptions). In other words, the majority of cases of delayed labor are not due to the resistance of the soft parts, but to a lack of the *vis à tergo*.

Delayed labor is of little importance in the first stage, if the membranes have not ruptured, but during the second stage the life of the child is endangered, and if it occurs toward the end of labor, post partum hæmorrhage may take place. There is no fixed and firm rule regarding the duration of labor in cases of inertia. Cases have been reported when the liquor amnii has escaped thirty-nine days before labor began, but during the second stage of labor, with a dilated cervix and the head engaged, delayed labor is not usually allowed to take a natural course, two thirds of the cases being instrumental.

\*Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, November 26, 1907.

The writer has collected a series of forty-five selected cases of primiparae, in which twenty-five cases were instrumental, fourteen cases were in labor from twenty-four to forty-eight hours, one case labor was induced, the patient being three weeks over time, and two cases were breech presentation. Among the remaining cases, one was in labor eighteen hours, five fifteen hours, four thirteen hours, and eleven ten hours or less. Of the fourteen cases that were in labor twenty-four hours or longer, ten were instrumental.

Omitting for the moment the question of uterine inertia, the writer wishes to call attention to another class of cases, in which labor pains continue for several hours, progress is comparatively slow, and the woman is on the verge of exhaustion. These cases generally occur in the hands of the general practitioners. The fetal heart becomes very rapid, and the life of both mother and child are endangered.

*Treatment.*—The value of manual dilatation of the cervix in cases of uterine inertia has been disputed. Playfair recommends sweeping the finger around within the cervix to separate any adhesion. Some obstetricians use instrumental dilatation.

During the first stage, quinine, strychnine, and sugar have been used with varying results. In regard to the latter (sugar), the writer has had no experience, but that this idea is not a new one is certain. In looking over an old English translation, taken from the Latin, Rhodion's *De Partu Hominis* (translated as early as 1538), he can hardly refrain from referring to an old superstition. To quote: "Eating sowre fruites, quinces, crab apples, chestenuts, as well as things of great odour, smel or savor, hinder byrth."

In regard to quinine, differences of opinion have long existed among obstetricians as to the value of this drug as an oxytocic. A comprehensive summary of these conflicting views is found in the *Deutsche medizinische Wochenschrift* (January 31, 1907), by Mäurer, who reports his experience with quinine in sixty-three cases during labor and fifteen times in the treatment of abortion. He found that in 78 per cent. quinine gave results, while in 21.8 per cent. there was no effect. It was found that the nature of the quinine preparation was of no importance, and that it might be given by mouth or hypodermatically.

Pressure upon the fundus of the uterus, as suggested by Krishaber, is of benefit in certain cases. In the second stage of labor, after full dilatation and the head in the pelvis, forceps should be applied, as many hours of suffering to the mother, as well as danger to the child, will be avoided.

While the writer is a firm believer in conservation in all things, particularly in obstetrics, and of the great need in giving Nature a chance, however, in selected cases (and each case must be studied separately), he believes in early application of forceps in the second stage of labor.

*Conclusion.*—In conclusion the writer wishes to state that he believes the woman about to become a mother has the right to demand every alleviation from suffering which medical science has provided, such as anaesthesia, asepsis, and rapid delivery.

Given a case of labor with the os uteri fully dilated and obliterated, ruptured membranes, empty bladder and rectum, and asepsis, no abuse is possible.

The time at which forceps should be applied depends upon the conditions that arise in each case. It is the writer's rule to use instruments when no progress has been made for two hours. Dr. D. M. Aitkins, of London, said that cerebral hemorrhage was more likely to be obviated than caused by the early use of forceps.

The old idea, and one rather common among general practitioners, to wait until signs of danger to the mother or child were present, was decidedly erroneous.

157 LEXINGTON AVENUE.

#### A UNIQUE CASE OF INFECTIOUS ORCHITIS.

By JOHN GILLESPIE BEARDSLEY, M. D.,  
Philadelphia.

It is well known that, during or following certain infectious diseases, orchitis or orchitis complicated by epididymitis sometimes occurs. The most frequent diseases in which these conditions are seen are parotitis, variola, typhoid and paratyphoid fevers, Rocky Mountain or tick fever, and in Mediterranean fever, which latter disease is also known under the names Malta fever, Gibraltar or Rock fever, or when seen in Italy as Neapolitan fever.

Before the septicæmic condition of the blood in these diseases was discovered, many different theories were advanced to explain the occurrence of orchitis in them, and the favorite explanation of the condition was that because of the lessened resistance of the individual by the presence of primary disease there had been a recurrence of a former gonorrhœal infection. Other cases were explained by slight trauma, such as would be brought about by a careless orderly in aiding the patient to use a urinal or bed pan, and still other cases were said to have been "rheumatic" in origin.

When careful researches and investigations were conducted to ascertain the condition of the blood in some of these conditions, notably typhoid and paratyphoid fever, it was found that in the great majority of the cases a bacteriæmia existed. Not only was this true, but study of the excretions revealed the fact that the germs were being eliminated by the urinary tract as well as by the intestine, and thus it became much more reasonable to believe that the orchitis was caused by the germs of the primary disease, which were carried to the testicle in the blood stream, and that because of some lowered condition of resistance in a focus in the testicle inflammation was brought about. In certain cases, also, there seems at least a likelihood that the infection may have been brought about by the presence of bacilluria, with infection of the testicle by way of the vas deferens.

The case to be reported was so unusual that it seemed of interest to report it.

*CASE.*—A girl, nine years of age, was under my care for a well marked case of bilateral parotitis. There was considerable constitutional disturbance but no complications, and the patient soon recovered. During the time of the girl's illness her mother remarked that a brother of the patient,



who had been in the country, was on his way home, and requested me to give him medicine to prevent the disease. I did not see the boy at this time, but left a prescription for an antiseptic mouth wash, with directions to use several times a day and to stay as far removed from the sister as possible, but as the house was small and the opportunity for isolation poor, I had little doubt that the youth would contract the disease. Eight days after the boy's return home I was called to see him and found a boy, eleven years of age, with a temperature of 102° F., no pain or swelling in either the parotid or submaxillary glands, but a marked swelling of the left testicle, which was extremely tender to the touch, and the skin of the scrotum over which was decidedly reddened. The boy recovered completely in four days, and there was no difference in the size of the testicles. There had been no urethral discharge or no history of trauma, and as far as could be learned, no exposure to parotitis until his return home eight days before.

Cases of parotitis have at times been reported, especially in epidemics, in which the swelling of the gland was very slight, and among them a few cases in which the parotiditis became visible only shortly after the patient was allowed to take fluid, but, as far as I have been able to find in the literature (if we grant the possibility of the orchitis being caused by the infectious principle which causes parotiditis), this case is unique, although Osler mentions the fact that such a condition has been seen.<sup>1</sup>

2030 CHESTNUT STREET.

# REPORT OF A CASE OF HYSTERICAL RETENTION OF URINE, COMPLICATED BY FOREIGN BODY.

BY FREDERIC BIERHOFF, M. D.,  
New York,

Attending Physician, German Dispensary, Dermatological Department; Corresponding Member, l'Association Française d'Urologie; attending Genitourinary Surgeon, West Side German Dispensary, etc.

While pollakiuria is not at all an unusual condition to be met with in either neurasthenic or hysterical patients, retention of urine of nervous origin is comparatively rare. Von Frankl-Hochwart states that in an experience with hysterical cases, covering a period of eighteen years, he has only seen this anomaly four times, and reports several interesting cases of this condition. He further states that, in cases of this character, he has received the impression that masturbatory tendencies frequently form the basis of the wish to be catheterized, and that, as a result, the rule should be to delay the use of the catheter as long as it is possible. Furthermore, that one can do this so much more easily than in cases of retention of urine due to other causes, since the unpleasant symptoms which usually accompany retention of urine are usually wanting in hysterical retention.

The following case belongs, I believe, to the class of hysterical retention, even though it was complicated by the presence of calculi, for these I believe to have exerted an influence only of recent date, and then not toward retention, while the history of the nervous disturbance dates back over a number of years—in other words, I believe the calculi to have simply complicated the condition, but not to have been a factor in causing the retention. Un-

fortunately, it was impossible for us to have the patient's nervous system more carefully examined. The history of the case is as follows:

The patient, Miss C., aged twenty-six, was sent to me for examination, by Dr. Greeff, with the statement that, during the two weeks previous to his sending her to me, she had been unable to void urine at all spontaneously. She had, at one time, passed two days without urinating, at the end of which time she was catheterized. Following this, she was catheterized daily, large quantities of turbid urine being withdrawn. Upon one occasion catheterization was accompanied by the passage of a slight amount of blood. She stated to me at the time of examination that she had, since several years, had similar attacks of inability to void any urine at all. These attacks were recurrent at intervals of about three months. She further stated that at times three to four days would elapse without her being able to void any urine, at the end of which time she was forced to seek medical aid for catheterization. Only once or twice in all had these attacks occurred about the time of menstruation. In June, 1906, following an operation for appendicitis, retention again occurred, requiring regular catheterization for a period of two weeks.

The patient was a well grown female, although of slender build. While in my waiting room she had several attacks of weeping, and even simulated unconsciousness. The pupils were rather dilated, and the face considerably flushed. As soon as she recognized the fact that I knew her to be shamming-unconsciousness, she sat up and did not attempt the deception again during the entire time that she was in my office. She stated, upon questioning, that she was subject to frequent attacks of crying, and her brother, whom I questioned, stated that this had been the case ever since her childhood; also that she frequently "fainted." She also complained of pain in the abdomen, particularly in the region of the umbilicus, and that she had not been able to pass any urine whatever, in spite of repeated attempts, during the twenty-four hours preceding her visit.

Examination revealed a markedly distended bladder. The labia minora were decidedly hypertrophied, which condition led me to decide that the patient was a masturbator. There were no evidences of discharge, or of inflammation about the vaginal or urethral orifices, and the hymen was intact. A catheter was passed, and 1,600 c.c. of turbid urine of an alkaline reaction were removed. The bladder was thoroughly cleansed, and a cystoscopic examination made, which revealed a generalized cystitis of moderate grade, also the presence of a whitish, foreign body, diagnosed as being of calculous character, situated in the left lateral bladder pocket.

The patient was referred to Dr. Ewald, at the German Hospital. Through his kindness I was permitted to examine and operate on the woman at the hospital. A second cystoscopy was made under general anesthesia. During the process of cleansing the bladder and subsequent thereto, but previous to the beginning of narcosis, in all during a period of about thirty minutes, the patient repeatedly went through movements which were clearly masturbatory in character, terminating, apparently in each instance, in an orgasm. The insertion of the cystoscope made it possible to recognize the presence of two foreign bodies, the larger of which could be easily recognized to be a button, encrusted with saline deposits, the thread holes being plainly recognizable. This larger foreign body was seized with a lith-trite and easily removed. It was a bone button 1½ cm. in diameter. An attempt was then made to remove the smaller body by means of the evacuator. It was at first found that the foreign body, or calculus, engaged in the mouth of the evacuator, but would not enter the bottle. Fragments of calculous nature, however, broke away. Attempts to seize it with the lithotrite were then made, but did not succeed. The cystoscope was then again inserted, and the foreign body was found to be floating upon the surface of the filling fluid. Being unable to recognize the character of a calculus which would float, and recognizing my inability to manage it with the lithotrite under those circumstances, I determined to attempt to remove the body by engaging it in the mouth of the evacuator. This was again attempted, and upon passing the evacuator with the foreign body it was found that the latter consisted of a piece of cork, 1 cm. long by 1 cm.

<sup>1</sup>After writing this article I find that Mr. T. J. C. of Boston, reported in the *Lancet* of January 10, 1908, that three cases of orchitis occurred in a troop of boys, and that the boys had been exposed to parotitis during a period of four days, in epidemic of this disease, the orchitis being from fourteen to twenty-one days.

thick, encrusted with saline deposit. The concretion upon the button and the piece of cork was found to be of phosphatic character.

The patient was placed upon urotropin, internally, and the bladder was washed out with a solution of boric acid, followed by a silver nitrate solution, increasing gradually in strength from 1 in 2,000 to 1 in 1,000. For the subsequent report of the case I am indebted to Dr. Ewald.

He states that twenty-four hours after the operation the patient had no further vesical symptoms; that she could pass urines; furthermore, without any pain whatsoever. That upon the fifth day following the operation the urine, which had previous to the operation been very turbid, and which had contained large numbers of pus corpuscles, a moderate number of vesical epithelia, and large numbers of bacteria, now showed only a few vesical epithelia and pus corpuscles. On the sixth day following the operation the patient left the hospital, having been able to pass her urine normally during this time. Five days later she presented herself for control to Dr. Ewald and stated that she had experienced no further symptoms whatever. Upon inquiry, she absolutely denied masturbation. Informed of the character of the foreign bodies discovered in her bladder, she denied having inserted them, and stated that her only knowledge of the matter was that, one time, quite a while ago, she had *swallowed a button*.

51-53 EAST FIFTY-EIGHTH STREET.

### Our Readers' Discussions.

#### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXX.—How do you distinguish alcoholic stupor from other conditions resembling it? (Closed January 15, 1908.)

LXXI.—How do you treat gallstone colic? (Answers due not later than February 15, 1908.)

LXXII.—How do you treat fracture of the patella? (Answers not later than March 16, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXIX has been awarded to Dr. Maurice A. Walker, of Dillon, Montana, whose article appears below.

#### PRIZE QUESTION NO. LXIX.

##### THE TREATMENT OF POST PARTUM HÆMORRHIAGE.

BY MAURICE A. WALKER, M. D.,  
Dillon, Montana.

In the preventive treatment of post partum hæmorrhage, there are several measures which are of value. One of the most important is the avoidance of protracted labor, which by wearing out the patient and the uterus tends markedly toward uterine inertia. If there are weak and ineffectual, but real, pains, chloral hydrate, gr. xv, repeated, if necessary, in an hour, will often give the patient a good rest, and so strengthen the force and add to the effect of the uterine contractions.

Use the forceps in such a case as soon as the os is completely dilated, giving as little chloroform as possible, even none at all, if, as in most multiparæ, the

parts are easily distensible, so as to make an easy median or low forceps operation.

Avoid the use of quinine to stimulate contractions, as it seems to predispose to inertia after the birth of the child. Avoid chloroform in slow labors, no matter how painful. This valuable agent should not be used simply for the comfort of the patient, but only in normal or rapid labors.

In very rapid—precipitate—labors, with forcible contractions, the use of an anæsthetic will tend to prevent that form of post partum hæmorrhage which comes from a lacerated cervix, vagina, or perinæum.

After the birth of the child, the physician should keep his left hand constantly applied to the fundus uteri to maintain the contraction of the organ and to discover if there is relaxation, which tends to allow hæmorrhage into the uterus itself, concealed hæmorrhage.

If hæmorrhage begins during the period between the birth of the child and the expulsion of the placenta, and without evident relaxation of the uterus, it may be due to partial separation of the placenta, or to the fact that the placenta is separated, but still within the uterus. Slow, rotary kneading or the more active Crêdè method of expression of the placenta will usually stop the flow by removing the obstacle to perfect contraction and directly stimulating the uterus to contract.

Failing to thus remove the placenta, and the bleeding continuing, place the woman across the bed in the lithotomy position, with hips at the edge of the bed and a Kelly pad in place. You now have easy access to the source of trouble. Introduce the sterile right hand into the uterus and remove the placenta by peeling it off. In any case, normal or otherwise, I give a full dose of ergot as soon as the placenta is delivered, either by the mouth or by the hypodermatic use of one of the preparations made for that purpose.

If there is hæmorrhage from inertia of an empty uterus I give a rapid douche of hot sterile water or weak creolin solution, and for this purpose always have prepared, hanging up and ready for use, with sterile douche tube attached, a four quart fountain syringe with a solution hotter than can be borne by the hand, about 120° F.

Bleeding continuing from a contracted uterus may be due to the presence of portions of placenta or membranes or of clots, which prevent closure of the uterine sinuses in some comparatively small area. Remove clots by expression and large pieces of placenta or membranes by the internally placed hand.

All other available methods of treatment failing, introduce a speculum and pack the uterus and vagina with sterile gauze, which should be in readiness for immediate use at all confinements.

Hæmorrhage immediately following the birth of the child may be from the circular artery of the cervix, from a lacerated vagina, or a lacerated perinæum. If this form of hæmorrhage occurs, the speculum should be used, and with a stream from the douche bag constantly washing away the flowing blood, apply such local treatment as may be necessary, this meaning, usually, immediate repair of these lacerations, placing stitches in such a way as to constrict the bleeding points, which are usually easily found.

*Dr. Henry B. Bryan, of Philadelphia, remarks:*

When in attendance on a labor case, I always prepare for a post partum hæmorrhage, having in readiness beforehand a good syringe, either a Davidson or gravity bag syringe, brandy, sulphuric ether or chloroform, carbolie acid, ergot, a solution or morphine, a jar of iodoform gauze, a hypodermatic syringe filled with fluidextract of ergot, a uterine dressing, forceps, and dilating uterine douche, also bichlorid of mercury tablets,  $7\frac{1}{2}$  gr.

These articles I carry with me. All pitchers, basins, bowls, slop jars, bed pan, etc., having been sterilized, plenty of hot water ordered and at hand, we have practically begun the preliminary treatment.

Of course I always look to the prophylactic measures during gestation, meeting and treating any abnormal condition by proper medical, dietetic, and hygienic measures.

When the hæmorrhage occurs I immediately grasp the fundus uteri through the abdominal wall, after the method of Crêdè for expressing the placenta to secure contraction, while an assistant injects hypodermatically a drachm of fluidextract of ergot.

Let the nurse give a dose of ergot by the mouth and put the child to the breast, all of which will tend to contract the bleeding uterus.

The foot of the bed may now be raised by putting anything which may be at hand under the legs; it will tend to carry the blood by gravity to the upper extremities.

Should the uterus not contract and the hæmorrhage continue slightly, give a vaginal douche of hot water or sterile salt solution,  $115^{\circ}$  to  $120^{\circ}$  F. If the bleeding still continues, put the uterine douche on the syringe and allow a similar solution to flow into the interior of the uterus, holding on to the uterus all the time; if necessary the assistant may use both hands and strong pressure.

If the hæmorrhage still continues, especially if it is profuse, I grasp the fundus uteri on the outside with one hand; the other hand, without hesitation, I pass quickly and gently into the vagina and uterus and press the sides of the uterus between my two hands, gently twisting the hand inside so as to irritate the womb and produce contraction, feeling at the same time for clots, pieces of membrane, or the placenta, and remove them.

Failing still to stop the hæmorrhage, I perform the "bimanual manipulation" described in all books on obstetrics, and usually accomplished by passing the two fingers of the right hand high up along the posterior wall, pressing the lower segment and cervix forward toward the symphysis pubis, at the same time pressing the fingers of the left hand deep in between the umbilicus and uterus, so that the hand on the outside, the fundus resting in the palm of this hand, may be pushed downward and forward against the pubes, thus forming a sort of temporary antelexion, whereby the canal of the neck is closed, and no blood can escape.

Still failing so far, I next proceed to pack the uterus with iodoform gauze by means of the uterine packer, which does not require the use of volsella forceps, but may be guided by a finger into the

uterus. If the hæmorrhage was profuse I would pack the uterus at once after manual compression and the use of ergot had failed to work—packing it completely from fundus to external os.

Having packed the uterus and the hæmorrhage having ceased, the patient should be given plenty of fresh air from open windows to restore the circulation. To prevent fatal impending syncope during the continuance of the bleeding, stimulants, nutrients, and opiates are required.

*Dr. W. P. McIntosh, of Portland, Me., observes:*

The proper way to prevent hæmorrhage after childbirth, or during the third stage of labor, or to arrest it when it occurs, is to cause uterine contraction. Good, firm contraction will prevent post partum hæmorrhage, if, as is generally understood, the blood comes from the uterine sinuses. In some cases, however, the hæmorrhage is from a lacerated cervix or rupture of other soft parts, in which case remedies appropriate to the cause should be applied.

In uterine hæmorrhage, as in all other abnormal or pathological conditions, we have first the cause and then the effect; remove the cause and the effect will cease. To properly get at the cause of a relaxed or flaccid uterus, we must take the case into consideration during the months of pregnancy. Labor at term without disproportion between the canal and the body which has to pass through it (dystocia, maternal or foetal) is generally regarded as a physiological act. Normal labor in itself is a physiological process. But the woman having undergone the strains of pregnancy is not herself, or, rather, her organs are not in a condition to perform their physiological functions in a thoroughly normal manner. The foetal circulation causes an increased pressure in the maternal vessels (as is shown by the sphygmomanometer), and puts an added load upon the heart throughout pregnancy. During the last months of pregnancy the increased weight and size cause difficulty in taking proper exercise, at a time, too, when exercise would aid in the elimination of effete products or toxins. It also throws an additional burden on the respiratory and muscular systems, and these added burdens cause the expenditure of nervous energy. "Should one organ or part of the system flag, an additional load is thrown upon all the others." "When the maternal eliminative system fails to dispose of all of the products of increased metabolism, the resulting toxæmia in itself decreases the efficiency of the muscular system, and through the heart muscles the efficiency of circulation, which latter of itself impairs anew the efficiency of the eliminative organs, and so creates a vicious circle." (Reynolds, *Cæsarean Section*, *Boston Medical and Surgical Journal*.) There is considerable muscular exertion during labor, and this naturally throws more strain upon the heart and nervous system. If the labor is prolonged the woman is exhausted, her muscular endurance is lessened, and with it the contractile power of the uterus, and when its contents are expelled, and there is no longer the irritating or stimulating effects of the child's body to cause contraction, the uterus is likely to become flabby and relaxed, and if the placenta has become partially or wholly detached, leaving the mouth of the vessels



open, a serious hæmorrhage is apt to occur. Violent labor with rapid expulsion of the uterine contents is also likely to cause muscular exhaustion, and as such labors are attended with great pain, nervous coordination and control are lessened, the uterus fails to contract, the mouths of the vessels remain patulous, and hæmorrhage follows.

The causes of post partum hæmorrhage are, therefore, those which interfere with uterine contraction or cause relaxation of the uterine muscles (or laceration of the birth canal). The causes may be systemic, there may be weakness from existing disease, weakness from undeveloped uterine muscular fibres, and fatigue from overstretching, as in twin pregnancies. "Exhaustion from many previous labors or when too suddenly called upon to contract by a rapid labor (especially if instrumental). There may also be mechanical obstacles to firm contraction, as a retained placenta or clots within the womb; old adhesions or a distended bladder may interfere."

To offset to some extent the untoward conditions enumerated, Nature makes certain provisions. In the latter weeks of pregnancy, leucocytes begin to block the uterine sinuses. There is an excess of fibrin making elements in the blood of pregnant women, and this, together with the sluggish blood current in the sinuses, favors the formation of blood clots in orifices of torn vessels. As soon as the uterus is emptied, it contracts so that the blood channels running through the uterine walls are closed by the contracting muscular fibres. "What is thus gained by contraction is held by retraction." In case this does not occur we have hæmorrhage.

*Symptoms.*—Post partum hæmorrhage may occur during the third stage of labor or during the first twenty-four hours thereafter from relaxation of the uterus. It can usually be readily recognized. Of course, when there is a gush of blood, or, as Hirst puts it, "when the blood soaks through the mattress and runs across the floor in a stream," it is easily recognized. But the bleeding should be detected and arrested long before anything of this kind can occur. Usually the first gush of blood is followed in a few seconds by a further flow of fluid blood and clots. It is my usual custom to form my hand into a sort of a cup and hold it at the vaginal outlet. In this way I catch the blood in the hand and at the same time I can feel the warm fluid. The other hand is placed upon the abdomen, and if this hand fails to find the contracted uterus, there is an absence of the croquet ball which represents the contracted uterus and which should fill the hypogastrium. The presence of blood in any quantity is all the symptom that is required in acute hæmorrhage. Later the ordinary constitutional symptoms of hæmorrhage, such as a rapid, feeble pulse, blanched face, dilated pupils, sighing respiration, restlessness, and failing vision may be present.

*Treatment.*—The only rational thing to do is to cause the uterus to contract, close the vessels, and stop the bleeding. My own practice is, as soon as the child is born, to inject a hypodermatic syringe of a good fluidextract of ergot into the woman's thigh. It will cause less pain and prevent any tendency to inflammatory reaction if the ergot be injected deep into the muscles. If I have special reasons to fear hæmorrhage, I inject the ergot as soon as the

presenting part emerges from the vulva, and I place one hand on the anterior abdominal wall and grasp the uterus firmly, the fingers being applied to the posterior uterine wall, the palm to the fundus, and the thumb in front. I then compress, knead, and rub the uterus vigorously. If this does not effect the desired result it is probable that the hæmorrhage is caused by a partially detached placenta. I therefore grasp the uterus very firmly, force it down, and express the placenta by Credé's method. Then, keeping the hand on the fundus, should the hæmorrhage persist, I introduce the other hand into the vagina, grasp the cervix and lower uterine segment with the fingers, and push upward, and at the same time push down on the fundus with hand on the outside (bimanual compression of the uterus). In this way the uterine cavity will be partially obliterated, closing the sinuses and stopping the hæmorrhage. Should this not succeed, pass the hand into the uterine cavity, remove all blood clots or shreds of membrane there, double the hand up into a fist, and press down on it with the hand outside of uterus. While I am doing this the nurse, who has already received instructions and has everything ready, passes me the nozzle of an irrigating syringe. The syringe itself is filled with sterile hot water—that is, water that has been boiled and cooled by the addition of cold sterile water to 130° F. No time is wasted, however, in taking the temperature; water about as hot as the hand can bear comfortably is used. The nozzle of the syringe is introduced into the uterus and the water allowed to flow; this will wash out the clots, and in nearly every instance will cause the uterus to contract firmly and the hæmorrhage to cease.

In several years' service in a maternity hospital, where I delivered hundreds of women, I met with only one or two cases in which this failed to stop the hæmorrhage, and in those cases packing of the uterus was necessary.

Another excellent plan is to saturate a piece of sterile gauze in vinegar, carry it up to the fundus of the uterine cavity, and squeeze it out. Vinegar irritates the uterine muscles to contraction at the same time that it acts as an astringent. I prefer to use the hot water first, as it washes out the cavity and generally stops the flow of blood; if not, the gauze soaked in vinegar can be introduced at once and squeezed. Hot water and vinegar can be obtained in any household, and both are safe and reliable. Should these means fail, I prepare to pack the uterine cavity, and in making these preparations, *without losing any time*, I try two other procedures which often succeed. First, I grasp the cervix with a volsella and forcibly pull the uterus down. This will often stop the flow of blood. Then I either elevate the woman's buttocks with pillows or place the woman in Trendelenburg's position over the back of a chair. The use of pillows is much more convenient and does not interfere with other manipulations. During this time the woman has been lying, by preference, across the bed. The uterus is already drawn down. The nurse is standing at my side with the box of gauze and a long placental forceps. Let the nurse with one hand grasp the volsella and place the other hand on the fundus uteri. This gives the operator the use of both hands. Or it may be better, if only one assistant is available, to allow

the handles of the volsella to hang down, and thus by their weight assist in holding the uterus down. This allows the nurse to hold the box of gauze near the vulva. The operator passes the fingers of his left hand into the cervix, and, having grasped one end of the piece of gauze in the forceps, proceeds to pack the whole uterine cavity firmly from the fundus down. This absolutely stops the bleeding, but the external pressure must be kept up for a time by the hand upon the abdomen.

Before leaving this subject I wish to say something more in regard to the placenta. In cases of retained placenta, or those which cannot be expressed by Credé's method, I introduce my hand into the vagina, pass it into the uterine cavity, slip the fingers under the edge of the placenta, and by a to and fro movement of the fingers gradually peel the placenta off; at the same time the hand on the outside of the uterus, on abdominal wall, is holding the organ firmly, and as soon as the afterbirth is detached the uterus is tightly squeezed and forced down and the placenta is expelled.

It is not well to hurry the third stage of labor in every case; generally fifteen or twenty minutes should be allowed to elapse before the placenta is expressed. But in case of hæmorrhage it is necessary to empty the uterus in order to get contraction. Therefore, one cannot wait. Besides, the placenta is partially detached or there would be no hæmorrhage.

I do not regard use of the stronger chemicals, such as Monsel's solution, iodine, or oil of turpentine, as ever justifiable, used inside of the uterus, and, furthermore, they are not necessary, as packing the uterus in severe cases of hæmorrhage stops the blood and is cleanly. There is no objection to the use of the faradic current, though the same is seldom available, and I have found it of little use. If the woman has lost much blood I always give 1,000 c.c. normal salt solution by hypodermoclysis. This is to be given only after the hæmorrhage is under control, but should never be omitted, for the acute anæmia following hæmorrhage is often as dangerous to life as a continuance of the hæmorrhage. And, as I have shown elsewhere (*New York Medical Journal*, June 10, 1905, p. 1147), the use of the saline solution by hypodermoclysis causes a decided increase in both the erythrocytes and the leucocytes, or, in other words, it causes a rapid increase in the solid constituents of the blood, while it largely takes the place of serum itself. It is therefore rational to replace the blood in as rapid a manner as possible, as, aside from the acute anæmia, a woman who has suffered from a serious depletion of the system is in the worst possible condition to resist the incursion of disease.

The salt solution should be given warm and may be given by intravenous injection or injected into the loose cellular tissue under the breasts or between the shoulders. It is not alone for desperate cases that I use this remedy, but in any case where there has been any considerable loss of blood. I also repeat it once or twice during the first forty-eight hours. An aspirating needle, a piece of rubber tubing, and a small funnel are all the apparatus needed, or, as I often do, fix the needle on the rubber tubing of an irrigating syringe. A teaspoonful—about 50

grains—of salt to a quart of warm sterile water, and all is ready. The needle should be in every obstetrical case along with irrigator or tube, and should be boiled when other instruments, such as scissors, needles, etc., are boiled.

A hypodermatic injection of strychnine is also given at once. This stimulates the whole muscular system through the spinal cord; 1,000 c.c. hot salt solution may be given by the rectum also, and hot bottles placed around the patient's body. While these things have been going on, either the nurse or the obstetrician has given attention to the uterus, keeping one hand on the abdomen and a clean napkin over the vulva, in order that any relaxation of the uterus may be prevented. However, the ergot is having effect by this time, and the packing, if it has been used, prevents any further hæmorrhage. Then a large abdominal pad should be laid above the umbilicus and a snug abdominal binder applied. The nurse should be instructed to feel occasionally to see that the uterus remains firm and contracted, also to count the pulse and to occasionally look and see if any hæmorrhage is taking place.

"Laceration of the cervix may cause hæmorrhage after delivery, and occasionally dangerous bleeding may occur from this cause. The diagnosis may be made by a careful digital examination of the vagina and cervix immediately after the expression of the placenta." The hæmorrhage may be arrested either by ligation or tampon. The readiest and safest way is to pack the lateral vault of the vagina with iodoform gauze. This, inserted in form of a half ring, will always control hæmorrhage from a torn cervix. After forty-eight hours the cervix should be properly repaired. Lacerations of the vulva, of the vestibule, and of the vaginal entrance may occur. In this case the hæmorrhage is in plain sight and can be easily controlled by ligation and sutures. Lacerations of the perinæum should be sutured at once. All that is needed is a curved needle and some silk-worm gut. Both should be boiled and be ready in case of need.

*Dr. C. L. Sigler, of Pinckney, Mich., states:*

A description of the treatment of puerperal hæmorrhage would not be complete without mentioning preventive measures, and this cannot be done without a word as to the ætiology, which, in general, may be said to consist of either imperfect contraction of the uterus, retention of part of the secundines, lacerations, or hemophilia.

I have found it a wise plan to follow down the uterus with one hand as the child is expelled, assisting contractions with friction or pressure over fundus if necessary. After the expulsion of the child the uterus is first seen to be contracted firmly on the placenta, then the cord is tied.

I do not immediately express the placenta, but unless contractions soon follow the birth of the child I administer a full dose of some reliable fluid-extract of ergot, and then if expulsive contractions do not supervene in fifteen or twenty minutes the uterus is stimulated by friction over the epigastrium or gently kneading the uterus. As it is felt to contract under the hand, pressure is made, and the placenta is usually expelled without other assistance. After the expulsion of the placenta the

uterus is assisted to contract, if necessary, by gentle manipulation through the abdominal wall.

At no time from the birth of the child until the uterus is seen to be firmly and permanently contracted after the birth of the placenta does my hand leave the abdomen for more than a minute or two at a time. Too rapid emptying of the uterus is apt to be followed by poor contractions and hæmorrhage, as after instrumental delivery or removal of placenta by traction. An atonic condition of the uterine wall may also follow prolonged labor, especially when chloroform has been used through the third stage. In case of the actual occurrence of postpartum hæmorrhage, an examination should be immediately made to ascertain whether the uterus is well contracted, and to obtain this result we always have means which, in the great majority of cases, is efficient, namely, manipulation of the uterus either through the abdominal wall or bimanually. If contraction does not follow, or if the contraction does not control the hæmorrhage, the interior of the uterus should be explored to ascertain the presence of clots or placental fragments.

If these are present they should be brought away by the examining finger, the fingers of the other hand at the same time grasping the uterus through the abdomen. While some good hypodermatic preparation of ergot should be immediately given in these cases, no time should be lost in waiting for it to act, as time is precious.

Ice is usually obtainable in most households, and when applied to the epigastrium or a fragment introduced into the uterus, contraction usually follows.

Hot sterile water, which should invariably be at hand, may be introduced into the uterus through the nozzle of an ordinary syringe. If used as hot as can be borne by the back of the hand it will usually stimulate contraction.

Vinegar may be introduced by the same means, or squeezed from a wad of gauze or pledget of cotton, or, as I prefer, a 2 per cent. solution of acetic acid, a small bottle of which should be found in the obstetrical kit, as should either a Davidson or fountain syringe. If necessary to temporarily control the hæmorrhage while an assistant is preparing the solutions or other material, the cervix may be grasped through the vagina with one hand, while the other grasps the fundus, which can generally be easily done between the separated recti. By now approximating the two hands, bringing the fundus downward and forward, the cavity of the uterus is mechanically obliterated, and the hæmorrhage temporarily stopped.

The vagina should never be tamponed for post partum hæmorrhage, but when other measures fail the uterus may be packed with iodoform or salicylated gauze.

The small gauze packers are entirely too small for this purpose, and it may be best done by pulling down a lip of the cervix with a volsella and applying the gauze with a long uterine forceps. This procedure will need be resorted to but rarely, as the other measures mentioned will almost invariably be successful.

If the blood is found to come from a lacerated cervix or perinæum, appropriate surgical measures should, of course, be promptly instituted.

*Dr. St. Clair-Jones, of Jersey City, N. J., says:*

Post partum hæmorrhage is generally the sequel of a long and tedious labor.

There is no condition more alarming and, indeed, more often fatal to the puerperal woman, at the same time taxing the energy and the practical resources of the experienced physician, to say nothing of the juvenile.

Occurring as it does toward the end of the third stage of labor, a period which is usually considered as the end of the woman's pains and trials, everything having hitherto progressed favorably, but often it proves to be the turning point of imminent and unforeseen danger.

Post partum hæmorrhage offers one of the best opportunities of making or marring a reputation.

Treatment resolves itself into prophylactic and actual.

In the first place, too much care and precaution cannot be exercised in the earlier stages of labor. Discretion must be used in promoting or retarding labor, as occasion should arise. Whenever possible nature should be allowed to take its course; rapid delivery is very reprehensible, and in itself is inductive to uterine inertia and atony, with its sequelæ, especially in women with Bright's disease and other constitutional dyscrasia.

I have seen the pernicious habit practised by physicians, everything being normal and favorable, of "hurrying up labor," i. e., of dilating the partly dilated os, rupturing the membranes, and delivering under anæsthesia. Such a habit cannot be too strongly denounced.

Inspection of the vagina and cervix for lacerations, which, if present, should be immediately repaired, is the first step, to be followed by removal of all clots, which act as a mechanical obstruction.

It is of paramount importance that there should exist an efficient and proper contraction of the uterus after delivery of the placenta. It is Nature's safeguard. Hence fluidextract of ergot,  $\mathfrak{z}$ i every hour, the removal of the pillow, and Credé for one half to one hour until proper contraction occurs.

In multiparæ, obtaining a history of previous labors will serve to prepare one for the emergency should hæmorrhage usually exist.

The early application of the child to the breast serves the twofold purpose of promoting uterine contraction by reflex action and at the same time the colostrum acts on the child's bowels.

Lastly, the proper application of an abdominal binder.

In the actual presence of the contingency, all practical resources must be brought to bear promptly and decisively.

Credé's method, previously referred to, must be vigorously applied, in addition to manual pressure on the fundus and attempting to grasp the flaccid organ laterally.

An intravaginal examination should at once be made to ascertain the existing condition, for, apart from the removal of any existing blood clots, the hand acts as a stimulus to the cervix, promoting contraction. If the os is wide and patulous, pass the hand within the uterus.



Combined manipulation by introducing one hand with a lump of ice into the vagina, sometimes the rectum, as far as Douglas's cul-de-sac, having the thighs flexed on the abdomen, and make strong pressure with the other hand on the uterus. More often, however, better results are obtained by alternating with hot water, the nozzle of the syringe being carried into the uterus. Give a hypodermatic injection of ergot,  $\mathcal{M}$  30 to 60, into the nates, repeated if necessary.

The intrauterine application of vinegar, or the squeezing of lemon juice, often proves beneficial.

Syncope must be guarded against; give strychnine sulphate; I prefer the nitrate, up to gr. 1/30, every hour, with whiskey by mouth, meanwhile elevating the pelvis, lowering the head, and applying hot water bottles to the feet. Hypodermoclysis, one quart of a normal salt solution. Cotarine hydrochlorate, gr.  $\frac{3}{4}$ , given hypodermatically, repeated every two or three hours, often proves serviceable, producing decided stypitic effects with none of the evils of opium. Tamponing with sterile gauze is also of service, but great precaution must be taken lest an external hæmorrhage be converted to an internal.

The patient at all times should receive the benefit of every known remedy; especially is this true in cases which seem hopeless and desperate. Hence pressure on the aorta can be practised, but whether productive of great benefit is doubtful, since the great volume of blood undoubtedly issues from the dilated uterine sinuses.

The stypitic salts of iron are attended with too much danger to justify their use, except as a last resort, all others having failed.

Transfusion of blood in those delicate women who afterward suffer a protracted convalescence is advised.

After treatment.—Absolute quiet and rest in the recumbent position. Precautions must still be taken against any recurrence of hæmorrhage. The depleted system must be aided by good, nutritious, and easily assimilated diet, gradually introducing stimulants, good port wine, and tonics, with hygienic surroundings.

(To be continued.)

### Correspondence.

#### LETTER FROM KINGSTON, ONTARIO.

*The Medical Laboratory Building of Queen's University.*

KINGSTON, January 20, 1908.

The new medical laboratories building of Queen's University was dedicated on the afternoon of January 14th. The ceremonies were held in the old Convocation Hall, and there were present for the event, among others, the Hon. Dr. R. A. Pyne, Minister of Education of Ontario, and formerly registrar of the Ontario College of Physicians and Surgeons; Dr. L. F. Barker, of Johns Hopkins University, Baltimore; Dean Reeve and Professor A. B. MacCallum, of Toronto University medical faculty, and Professors Wesley Mills and J. George Adams, of McGill University, Montreal. There was a large audience in attendance. The presence of representa-

tives from Toronto and McGill implied that the three universities were on terms of cordiality, which should ever be. Dean Connell made a statement regarding the history of Queen's medical department, which was established in 1854, and amid an imposing silence he called the roll of the departed members of the medical profession of Kingston by whose self sacrifice and devotion Queen's medical department had been able to exist. The dean commended the Ontario government for its wisdom in adopting the principle of State aid for medical education. In the new building will be accommodated histology, physiology, pathology, biology, and bacteriology. There will also be rooms for public health work, which has grown in a few years to be a considerable tax upon Queen's resources. During the past year 1,505 examinations have been made free of expense to the public, and specimens have come all the way from Fort William to Ottawa. Dr. Barker, the eminent Canadian, who succeeded Dr. William Osler at Johns Hopkins University, delivered an admirable address upon medical laboratories and their relation to medical research and discovery, and emphasized the fact that Canada owed the duty to science of seeing that its brightest medical students were given encouragement to take up research work for the benefit of generations to come.

The Hon. Dr. Pyne, Minister of Education, congratulated the medical faculty upon its fine new building. He scarcely knew how they had managed to erect such a magnificent stone edifice for less than \$50,000. He would inform Premier Whitney that he had never seen \$50,000 so well expended. Government aid, he said, for research work was money that could not be better spent. He assured Queen's medical faculty that it would in future have the sympathy of the government. Short addresses were also made by Dean Reeve and Professor MacCallum, F. R. S., Toronto University, as well as by Professors Adams and Mills, of McGill University, all congratulating Queen's on its advances and the work it was doing for medical science.

### --- Therapeutical Notes. ---

**Medicinal Uses of the Mistletoe.**—In olden times many virtues were ascribed to the mistletoe (*Viscum album*), it being regarded as a sacred plant. In France it is coming into use again, and several pharmaceutical preparations of it have been introduced into medicine, some under proprietary names. It is understood to be a component ingredient in a certain proprietary remedy for epilepsy. An English practitioner recommends its use in chorea. According to *The Prescriber* for January, 1908, the berries are emetic and purgative. The plant has also an ancient reputation as a cure for postpartum hæmorrhage, a property which has been more than once confirmed within recent years. Quite lately its composition and action have been investigated on the Continent, where Gaultier, in a communication to the French Society of Therapeutics, has shown it to possess the property of diminishing arterial pressure. Plants growing on the poplar and plum have been found most active, and from these several phar-

maceutical preparations have been made, including an aqueous extract, a syrup made therefrom, and a "physiological solution" for hypodermatic and intravenous injection. This last is prepared by infusing the leaves in normal saline solution and sterilizing.

**Applications for Chilblains.**—*The Prescriber* gives two useful prescriptions for the alleviation of the painful symptoms accompanying chilblains:

## I.

To form a protective skin on the surface of the chilblain apply the following:

R	Tannic acid, . . . . .	3ii;
	Alcohol, . . . . .	3iv;
	Carbolic acid, . . . . .	℥xxiv;
	Water, enough to make, . . . . .	3i.

Solve. Sig.: Paint on the chilblains night and morning.

## II.

The application of a cream of the following composition acts as an agreeable and efficient stimulant to the circulation:

R	Menthol, . . . . .	gr. xv;
	Methyl salicylate, . . . . .	3ii;
	Hydrous wool fat, . . . . .	3vi.

M. Sig.: Apply a small quantity frequently, rubbing in until absorbed.

**Potassium Permanganate as a Styptic.**—Dzirme (*Vratchebnaya Gazeta* and *The Prescriber*) has succeeded in checking capillary oozing in operating on parenchymatous organs by applying to the orifice of the bleeding vessel a small crystal of potassium permanganate held with forceps. If there is general oozing from the surface he recommends making pressure with a compress of gauze dipped in crystals of permanganate. At the point of contact an eschar is formed upon the wounded surface, and the bleeding stops. The crystals are preferred to the powdered permanganate, because a smaller quantity can be used to produce the desired effect. The author has never observed any injurious effect from the permanganate.

**Depilatory Pastes.**—An efficient substitute for the use of the razor in the removal of hairs from any part of the body, before operation, is recommended by Bilout, of the French army, who publishes the formula in the *Archives de médecine militaire*, from which it is cited by *The Practitioner*, for January, 1908, as follows:

R	Sodium monosulphide, . . . . .	1 part;
	Lime (unslaked), . . . . .	1 part;
	Powdered starch, . . . . .	2 parts;
	Sufficient water to make a paste.	

## M.

The lime and the sodium monosulphide must be finely powdered in separate mortars. The monosulphide is then well mixed with the starch, and with this the lime is carefully mixed up. Water is then added in just sufficient quantity to form a soft paste, neither a fluid, which is inert and useless, nor a grumous powder, which cannot be applied. The area which is to form the field of operation is well washed with soap and a brush in plenty of hot water, and all the longer hairs are clipped with scissors. The paste, freshly made, is then applied with a bone spatula over the area to a thickness of rather less than one-tenth of an inch. After waiting for five

minutes, and making sure that all the hairs are detached, the layer of paste is easily removed with a sterile swab and a small jet of boiled water. The surface is left completely denuded of hairs, and particular care must be taken to avoid leaving any of the paste behind, as it will set up a secondary caustic action. The area is then kept covered with a sterilized dressing until the operation begins.

In the New York City hospitals barium sulphide is preferred to sodium sulphide as in the following formulas, which are taken from *The Hospital Formulary of the Department of Public Charities*:

## I.

R	Barium sulphide, . . . . .	3 parts;
	Corn starch, . . . . .	1 part;
	Water, . . . . .	q. s.

## M.

## II.

R	Barium sulphide, . . . . .	25 parts;
	Powdered soap, . . . . .	5 parts;
	Powdered talc, . . . . .	35 parts;
	Corn starch, . . . . .	35 parts;
	Water, . . . . .	q. s.

## M.

**Method of application:** Make one teaspoonful of the powder into a paste with three teaspoonfuls of water, and apply to the parts with an ordinary shaving brush in a moderately thick and even layer. After four or five minutes the parts should be moistened with a wet sponge, when after another five minutes, the hair can be removed by washing off the mass.

**Note.**—The barium sulphide must be as fresh as possible and not have become oxidized by exposure to the air.

**Lotions for Intertrigo.**—Sabouraud (*La Quinzaine thérapeutique*) prescribes the following:

## I.

R	Tincture of iodine, freshly prepared, . . . . .	3iiss;
	Eau de Cologne, . . . . .	3vi.

## M.

## II.

R	Alkaline solution of tar, . . . . .	3iv;
	Eau de Cologne, . . . . .	3vss.

## M.

## III.

R	Ichthyol, . . . . .	3iiss;
	Distilled water, . . . . .	3iii.

## M.

**Douche in Leucorrhœa.**—An excellent douche in cases of leucorrhœa, according to *The Hospital*, is composed of a solution of quinine hydrochloride in warm boric acid solution, in the proportion of one grain of the salt to one ounce of the warm saturated solution of boric acid. The salt may also be prescribed in the form of glycogelatin pessaries, two or three grains in each.

**Treatment of Intestinal Flatulence.**—In the *Southern California Practitioner*, Dudley Felton describes the treatment adopted by Cohnheim, of Berlin. Menthol is considered the most effective medication and is prescribed in the following combination:

R	Tincture of belladonna leaves, . . . . .	3i;
	Spirit of peppermint, . . . . .	3i to 3ii;
	Tincture of valerian, . . . . .	3ss.

M. et sig.: Thirty drops in water, three times a day, after meals.

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## THE MILK QUESTION IN CHICAGO.

As we said some months ago, it is not New York alone, but every large city as well, that is vitally interested in the question of the quality of its milk supply. The matter has recently met with unusual attention in Chicago, apropos of a committee's report to the Chicago Medical Society. So far as we have been able to ascertain, not a single Chicago physician has sought to perpetuate the delusion that pasteurization is a trustworthy safeguard of the quality of a milk supply. That is more than can be said for the profession of some of our other cities. Pasteurization is at best a makeshift, for it only works some temporary improvement of bad milk, leaving even such milk less nutritious than it was to begin with and disposing it to changes that still further impair its value as an article of food for adults and as the staple aliment for infants.

The discussion in Chicago seems to have turned largely upon the apparent unwillingness of the people to pay a slightly increased price for pure milk that has been properly handled and promptly delivered in good condition. The blame has been attributed to a very great extent to the thrifty housewife, who is said to regard the exaction of an enhanced price as "robbery." We doubt if this is quite fair; it is generally the father of the household who pays the bills and does the grumbling. However this may be, we have no reason to believe that the people of Chicago will not cheerfully pay well for good milk when they are really convinced that the more expensive article is substantially superior to

the product with which they have heretofore been content. Certainly they will not be willing to endanger the health and lives of their children for the sake of saving a cent or more on a quart of milk. Our brethren of Chicago are assuredly doing effective work in bringing their fellow citizens to a realization of the fact that a good article costs more than a poor one.

It is interesting, but quite in accord with common observation, to remark that it is the wealthy who are particularly charged with parsimony in this matter of milk. The rich woman, it is said, will soundly berate her milkman for an advance from seven to eight cents a quart, and then betake herself to a fashionable club, where she will unhesitatingly pay ten dollars for a luncheon. Perhaps, however, it is the satisfaction that she takes in the denunciation itself, rather than real stinginess, that prompts her, for the domineering spirit which so soon takes possession of the rich finds less resistance among the humble than among those who are but a few rounds of the ladder lower than the one who does the scolding. But doubtless the wealthy will insist on having the best of milk, and they will certainly have to pay for it.

SUNLIGHT AND THE TUBERCLE  
BACILLUS.

There has recently been published in pamphlet form an important paper, by M. Paul Juillerat and Dr. Alfred Fillassier, dealing with the hygienic conditions found on inspection of the dwellings in certain quarters of Paris in which there has been a large mortality from tuberculous disease. The paper was presented before the Fourteenth International Congress of Hygiene and Demography, held in Berlin in 1907. The authors lay great stress upon the defective arrangements in these dwellings for exposure of the rooms to the light of day, and we cannot doubt that they are warranted in so doing.

During the year 1906 the inspectors visited 405 new houses, comprising 20,467 suites, consisting of 43,621 rooms, inhabited by 47,130 persons, an average of 1.08 to each room. This density of population the authors do not regard as excessive. Since January 1, 1894, these houses had shown a mean annual mortality from tuberculous disease of seven to each thousand inhabitants. It was found that 3,616 sleeping rooms were practically without air and light, sixty-three air shafts being so small as to be absolutely inadequate to the ventilation and lighting of the rooms opening on them. The proportion of dark rooms was found to be enormous, rooms into which the sunlight never penetrated. They were choice places for the lodgment and pre-



servation of Koch's bacillus and the almost inevitable infection of succeeding tenants.

But the municipality has set on foot measures for the methodical sanitation of these dark houses, and the authors are confident that in a few years, when these murderous rooms have been made to disappear, an improvement will be seen in the tuberculous mortality returns. They have concluded from the totality of their observations that tuberculous disease is the disease of darkness. Once introduced into dark rooms, Koch's bacillus propagates itself and maintains an extreme virulence.

It is not to urban apartment houses alone that we may apply the lesson to be drawn from these observations; many a room that the good rustic housewife carefully darkens, lest it should become a trifle warm, or troublesome insects should be admitted, or the carpet should grow faded, ought to be laid bare to fresh air and sunlight if it is ever to be occupied by a human being. It is in darkness and in stagnant air that noisome germs luxuriate; flush them with fresh air and the direct rays of the sun, and we go far toward robbing them of their maleficent power. If the "best room" of a farmhouse were systematically and persistently flooded with fresh air and sunlight, instead of being kept in sepulchral stateliness, the family and their visitors would reap the reward of vastly increased stability of health.

#### COMPULSORY SURGICAL OPERATIONS.

We ruthlessly cut out the testicles of the unconsenting bull and stallion, we dock horses' tails, and we practise other mutilations of the domestic animals. These cruelties we perpetrate for purposes of our own, and nobody calls a halt. Animated by nobler motives, we subject young children to various surgical procedures, and hardly anybody objects. But it is difficult to conceive that any person, apart from the dreamers who hope to regenerate the human race by castrating criminals, should think of decreeing and carrying out an operation on any sane adult individual of our species in defiance of his or her opposition. It seems, however, that such a notion has been broached in the United Kingdom. It is an outgrowth of the restiveness with which the new workmen's compensation law is submitted to.

The question has come up in court, as we learn, from the *British Medical Journal* for January 11th. It does not appear that any British court has yet ordered a man to be operated on against his will, for such a course is not held to be warranted by the law; but it seems that the courts have the power, and in some instances have exercised it, of reducing to a nominal amount the compensation due under the law in cases in which the pensioners refuse to sub-

mit to an operation fraught with but infinitesimal danger and holding out the prospect of substantial repair of a disability resulting from injuries incidental to their work.

There can, we think, be no question of the equity of such a procedure, whatever may be the final judicial ruling. As human nature is constituted, there will probably always be many persons who will choose a life of indolence under pay rather than resort to rational means for regaining their legitimate earning power. Surely there ought to be some way of curbing this manifestation of parasitism. We may say that the law under which it is possible ought never to have been enacted. We do say so. But there the law is, a piece of iniquitous class legislation. If its tyranny can be mitigated only by resorting to an apparent subterfuge, by all means let the recourse be had.

Apart from any question of the competency of a court to compel a man to submit to a surgical operation against his will, it may well be doubted if any self respecting surgeon would be willing to carry out such a behest. When we feel that a procedure repugnant to a patient is manifestly almost sure to prove advantageous to him, we urge it upon him with all our powers of persuasion, but we never proceed to execute it *vi et armis*. In the practice of medicine compulsion is out of place.

#### THE SERUM TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS.

We have already noticed Flexner's preliminary experiments carried out for the production of a curative antiserum for *Diplococcus intracellularis* infection (*New York Medical Journal*, May 11, 1907). The serum has since been prepared on a large scale and has been used in cases of epidemic cerebrospinal meningitis by Dr. W. S. Chase, in eleven cases, in Akron, Ohio; by Dr. L. W. Ladd, in sixteen cases, in Cleveland; by Dr. W. T. Longcope, in five cases, in Philadelphia; by Dr. Cushing, in one case, in Baltimore, and by Dr. Strain, in three cases, in New York. The serum has also been used in Edinburgh and in Belfast for the treatment of cases of cerebrospinal meningitis.

The results of these trials of serum therapy in this serious disease have been collected by Flexner and Jobling and are published in the *Journal of Experimental Medicine*, x, 1. Of the thirty-six patients treated in the United States, twenty-six, or 72.22 per cent., recovered, and ten, or 27.77 per cent., died. We leave out of consideration in this review the nature of the cases, the length of time after the onset of the disease that the injection was given, whether the case terminated by lysis or by crisis, etc., although all these facts influence one's judgment of

the value of the agent. But if a treatment can show a recovery rate of over 70 per cent. of cases irrespective of severity and of the duration of the infection, in a disease in which, by other methods of treatment, the recoveries form from 20 to 75 per cent. of the cases, depending upon the severity of the epidemic, surely it is worthy of serious consideration and of careful and extended trial.

This serum is injected directly into the subarachnoid space after the withdrawal of cerebrospinal fluid by means of lumbar puncture. The quantity injected should not at present exceed thirty cubic centimetres. It seems desirable to withdraw an amount of fluid equal to that to be injected; the injection should be made slowly and carefully, and the serum should be warmed before it is injected. Until it is wanted for use, it should be kept in the refrigerator. The injection should be repeated daily for three or four days. As in all diseases in which serum treatment is applicable, the earlier the treatment is begun the better will be the results. The reasons for this should now be so obvious to physicians that we deem it unnecessary to repeat them here.

#### THE TRANSMISSIBILITY AND HEREDITY OF MALIGNANT TUMORS.

While many observers believe that malignant tumors may be transmitted naturally from animal to animal or from man to man, the failure of many inoculation experiments to result in the growth of the transplanted tumor has given rise to well founded skepticism concerning the transmissibility of such growths in general. Other writers have maintained that malignant tumors are hereditary, and that a tendency to their production is handed down from parent to offspring. On the other hand, there are many instances in which no evidence of heredity can be obtained, in spite of diligent search.

From a study of the inoculability of tumors, Loeb and Leopold (*Journal of Medical Research*, December) conclude that tumors differ as to whether they are transplantable or nontransplantable, as to whether they are transitory or permanent in their growth, as to whether they grow rapidly or slowly, as to whether they are infiltrating or circumscribed, and as to whether or not they give rise to metastasis. The lymphosarcoma of dogs, according to these authors, possesses the widest range of inoculability, as it can be transplanted into other members of the family *Canis*. The sarcoma of white rats and the adenocarcinoma of white mice can be transplanted into animals of the same species, but not readily into those of other species or into by-

brids. The adenocarcinoma found in the Japanese mouse cannot be transplanted into other species. Other tumors, and they form the largest class, cannot be inoculated even into other animals of the same species. The majority of human tumors are uninoculable.

McConnell, however, has recently succeeded in inoculating an adult white rat with a piece of a human scirrhus carcinoma of the breast. The tumor did not grow, but became encapsulated and showed degenerative changes when examined five months later. A piece of the same tumor transplanted at the same time into a white rat about four weeks old was entirely absorbed (*Journal of Experimental Medicine*, January). As the result of a series of experiments on mice to determine the influence of heredity on the inoculability of tumors, Tyzzer (*Journal of Medical Research*, November) concludes that, though the breeding has not been sufficiently extensive to prove or disprove the influence of an inherited character on the development of malignant tumors, the data so far available appear to favor the view that there is such an influence.

#### SPONTANEOUS TUMORS IN MICE.

There are many reports on record of the occurrence of spontaneous carcinomata in mice, as well as in other animals. The original successful transplantation was made by Hanau, who, in 1889, succeeded in inoculating a carcinoma of a rat into other rats. The active work in inoculating healthy animals with pieces of tumors from other animals of the same species gives new interest to the reports of malignant tumors in all animals. It is possible that some of these tumors will be found to give better results than those already experimented with for propagation. Tyzzer (*Journal of Medical Research*, November) reports sixteen new cases of spontaneous malignant tumors in mice, giving the details of their histology. In this series there are nine cases of papillary cystic adenoma of the lung, one case of cystic adenoma of the kidney, two cases of lymphosarcoma, one in the inguinal region and one in the mediastinum, and four subcutaneous adenocarcinomata. As regards the four subcutaneous adenocarcinomata, two of the animals had additional primary tumors in their lungs; in one the primary subcutaneous growth was in the mammary gland and in the other it was in the inguinal region. Six of the tumors of this series were inoculated into fifty-four normal mice with four positive results: two each from two specimens of subcutaneous adenocarcinoma.

## News Items.

**Changes of Address.**—Dr. Charles K. Stillman, to 119 East Twenty-seventh street, New York.

**The California State Board of Medical Examiners** will hold its next examination in San Francisco on April 7th.

**The Vienna Academy of Sciences** has made an appropriation of \$300 to Dr. Robert Falta for his work on diabetes.

**Kingston, N. Y., Board of Health.**—At a recent meeting of this board, Dr. Leonard K. Stelle was appointed health officer of Kingston, to succeed Dr. J. T. Buckley, who has resigned.

**A Vaccination Bureau in Kingston, N. Y.**—A free vaccination bureau has been established in Kingston, N. Y., and Dr. Frank Keator and Dr. Elbert D. B. Loughran have been placed in charge.

**Health of the Philippine Islands.**—According to the report of Dr. Victor G. Heiser, Director of Health, health conditions in the Philippines are improving, the population is increasing, and the rate of mortality is steadily declining.

**The North St. Louis, Mo., Medical Society** has elected the following officers to serve for the year 1908: Dr. H. J. C. Sieving, president; Dr. A. A. Henske, vice president; Dr. H. J. Niebruegge, secretary; and Dr. A. F. Koetter, treasurer.

**The Buffalo Medical Clinic** held its regular monthly meeting on Thursday evening, January 9th, at the residence of Dr. Edward L. Frost. The paper of the evening, entitled Complications of the Menopause, was read by Dr. John Chalmers.

**The Sixteenth International Medical Congress.**—Dr. William P. Spratling, medical superintendent of the Craig Colony for Epileptics, Sonyea, N. Y., has been named as chairman of a Section in the Public Care of Epileptics at this congress, which will meet in Budapest on August 29 to September 4, 1908.

**The West Philadelphia Medical Association.**—The new officers of this association for the year 1908 are as follows: President, Dr. Henry D. Jump; vice president, Dr. Arthur Bogart; recording secretary, Dr. George Mills Boyd; financial secretary, Dr. Charles E. Price; and treasurer, Dr. Edmund L. Graf.

**The Obstetrical Society of Philadelphia.**—At the January meeting of this society the following officers were elected for the ensuing year: President, Dr. James M. Baldy; vice presidents, Dr. Daniel Longaker and Dr. George M. Boyd; secretary, Dr. Frank C. Hammond; and treasurer, Dr. J. W. West.

**The Franklin District, Mass., Medical Society** held its regular meeting in Greenfield, Mass., on January 14th. Sudden Deaths from Natural Causes in Medicolegal Work was the title of a paper read by Dr. Francis J. Canedy, of Shelburne Falls, and a paper on Erysipelas was read by Dr. A. L. Newton, of Northfield.

**Infectious Diseases in Chicago.**—During the week ending January 11th the following cases of infectious diseases were reported to the Department of Health: Diphtheria, 92 cases; scarlet fever, 102 cases; measles, 51 cases; chickenpox, 35 cases; typhoid fever, 22 cases; whooping cough, 16 cases; tuberculosis, 35 cases.

**The Society for the Destruction of Vermin** is the name of a society recently organized in London. The object of this society is to bring about a general crusade against rats wherever found, on the ground that these animals are dangerous to the public health, and also injurious to many agricultural and commercial interests.

**The New Haven, Conn., Medical Association** held its annual meeting on Wednesday, January 15th, and elected the following officers for the ensuing year: President, Dr. Edward M. McCabe; first vice president, Dr. A. N. Alling; second vice president, Dr. Merriman H. Steele; secretary, Dr. E. Reed Whittemore; treasurer, Dr. Robert E. Peck.

**The Hartford, Conn., Medical Society.**—The annual meeting of the Surgical Section of this society will be held on Monday, January 27th. After the election of officers for the ensuing year a paper on Surgery of the Knee-

joint will be read by Dr. J. E. Root, and a paper on Surgery of the Anklejoint and Foot will be read by Dr. P. D. Bunce.

**Medical Association of the Greater City of New York.**—At the annual meeting, held on Monday evening, January 20th, the following officers were elected: President, Dr. Robert T. Morris; corresponding secretary, Dr. Frank C. Raynor; treasurer, Dr. A. Ernest Gallant; and chairman for the Borough of Brooklyn, Dr. J. Scott Wood.

**The New Contagion Hospital in Kingston, N. Y.,** is well equipped, and is temporarily under the charge of Miss Bratton, the directress of nurses at the Benedictine Sanitarium, the Sisters very kindly coming to the relief of the city during the recent smallpox epidemic. Conditions are beginning to improve under strict quarantine regulations.

**The Harvey Society Lectures.**—The fifth lecture in the Harvey Society course will be delivered by Professor George W. Crile, of the Western Reserve University, Cleveland, Ohio, at the New York Academy of Medicine on Saturday, January 25th, at 8:30 p. m. The subject is Shock. All interested are cordially invited to be present.

**The Lewis County, N. Y., Medical Society** held its annual meeting in Lowville on Tuesday, January 14th, and elected the following officers for the ensuing year: President, Dr. F. E. Jones, of Beaver Falls; vice president, Dr. O. G. Harrington, of Constableville; secretary, Dr. H. A. Pawling, of Lowville; and treasurer, Dr. I. D. Spencer, of Croghan.

**Medical Society of Troy and Vicinity.**—At the annual meeting of this society, held in Troy, N. Y., recently, the following officers were elected: President, Dr. Hiram Elliott, of Troy; vice president, Dr. A. Y. Myers, of Buskirk; secretary and treasurer, Dr. William Kirk, Jr., of Troy. Papers were read by Dr. R. H. Irish, of Troy; Dr. Holmes C. Jackson, of Albany, and Dr. J. F. Humphrey, of Saratoga Springs.

**The Pathological Society of Philadelphia.**—At a meeting of this society, held on Thursday, January 23d, the following papers were read: Interpretation of the Appearances Seen in a Peripheral Nerve, by Dr. H. H. Donaldson; The Diagnosis of Diphtheria by Means of Stained Smears, by Dr. E. Burville-Holmes; A Study in Vitro of Liver Necrosis Produced by Intravenous Injection of Ether, by Dr. Leo Leob and Dr. M. K. Meyers.

**The Hospital Conference of the City of New York.**—The next regular meeting will be held on Wednesday, January 29th, at 8:15 p. m., at the New York Academy of Medicine. The Hospital Committee of the State Charities Aid Association will present for endorsement the report on the future hospital needs of Greater New York, and this will be followed by a general discussion of the subject of Experiences in the Purchase of Food Supplies.

**Philadelphia County Medical Society.**—The Central Branch of this society held a meeting on Wednesday, January 22d. Papers were read as follows: Wanted—A Medical Bureau of Publicity, by Dr. J. Madison Taylor; The Importance of an Ocular Examination in Pregnant Women Manifesting Constitutional Signs of Toxæmia, by Dr. William C. Posey and Dr. John C. Hirst; Gastroenterostomy in Cancer of the Stomach, by Dr. John J. Gilbride.

**Syracuse, N. Y., Academy of Medicine.**—The regular meeting of this academy was held on Tuesday evening, January 21st, when the following programme was presented: Dr. J. R. Johnson reported two cases, one of typhoid fever, and one of diabetes; Dr. G. G. Lewis read a paper on the Pupil in Health and Disease; and Dr. T. H. Halsted read a paper on Direct Examination of the Esophagus and Bronchus, reporting cases and exhibiting instruments.

**The Triprofessional Medical Society of New York.**—At a stated meeting of this society, which was held in New York on Tuesday evening, January 21st, a paper on the Psychic Phenomena of Intestinal Toxæmia and Their Treatment was read by Dr. J. Carlisle De Vries, and a paper on Acute Otitis Media in Infants and Young Children was read by Dr. Arthur J. Herzog. The officers of the society are as follows: President, Dr. J. Monroe Lieberman; first vice president, Dr. G. Morgan Muren; second vice president, Dr. J. Carlisle De Vries; secretary, Dr. Joseph Gutfreund; treasurer, Dr. Daniel E. D. Coleman.



**A Tuberculosis Exhibit in Louisville.**—The tuberculosis exhibit, which was held recently in Louisville by the Kentucky Antituberculosis Association, attracted a great deal of attention and aroused public interest in a most satisfactory manner. As is usual in connection with such exhibits there were various addresses and demonstrations. On January 14th a measure was introduced into the Senate of the State Legislature appropriating the sum of \$75,000 for the establishment of a State tuberculosis sanatorium.

**The New York State Civil Service Commission** will hold examinations on February 15, 1908, for the following positions: Physician, State Hospitals, \$900 and maintenance; Trained Nurse, State Institutions, \$420 to \$500 and maintenance; Orderly, Erie County Hospital, \$540 and maintenance. The last day for filing applications for these examinations is February 8th. Full information and application forms may be obtained by addressing the Chief Examiner of the Commission at Albany.

#### Society Meetings for the Coming Week:

**MONDAY, January 27th.**—Medical Society of the County of New York.

**TUESDAY, January 28th.**—New York Dermatological Society; New York Otolological Society; New York Medical Union; Metropolitan Medical Society of the City of New York; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology).

**THURSDAY, January 30th.**—Brooklyn Society for Neurology.

**Improvements in the Metropolitan Hospital.**—Plans have been filed with the building department for the erection of the following buildings as additions to the Metropolitan Hospital: A four story tuberculosis pavilion with roof gardens, solarium, and exterior verandas, to cost \$180,000; a two story pathological laboratory, to cost \$40,000, and a three story and attic residence for the medical staff, to cost \$80,000. It was erroneously reported in our last issue that these buildings were to be annexes to the Manhattan Hospital.

**New York Academy of Medicine.**—A stated meeting will be held on Thursday, February 6th at 8:30 p. m., under the auspices of the Section in Obstetrics and Gynecology. The evening will be devoted to a review of the recent advances in obstetrics and gynecology, and the following papers will be read: The Present Significance of Chorionic epithelioma, by Dr. James Ewing; Obstetrics, by Dr. Edwin B. Cragin; Gynecology, by Dr. Herman J. Boldt; the Practical Application of Our Recent Knowledge in Obstetrics, by Dr. Edward Reynolds, of Boston.

**The Health of Pittsburgh.**—During the week ending January 4, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chickenpox, 12 cases, 0 deaths; typhoid fever, 66 cases, 19 deaths; scarlet fever, 4 cases, 0 deaths; diphtheria, 15 cases, 1 death; measles, 96 cases, 1 death; whooping cough, 12 cases, 0 deaths; pulmonary tuberculosis, 17 cases, 10 deaths. The total deaths for the week numbered 181 in an estimated population of 403,330, corresponding to an annual death rate of 23.33 in 1,000 of population.

**Medical Society of the County of Oneida, N. Y.**—At the annual meeting of this society, which was held in Utica on January 14th, papers were read as follows: Tuberculosis in Cattle, by Dr. W. G. Hollingsworth; Extragenital Chancere, by Dr. G. M. Fisher; Empyema of the Accessory Sinuses of the Nose, by Dr. T. H. Farrell. The following officers were elected: Dr. Earl D. Fuller, president; Dr. G. M. Fisher, vice president; Dr. Frank D. Crim, treasurer; Dr. W. B. Roemer, secretary; and Dr. Smith Baker, librarian. The retiring president, Dr. Conway Frost, presided.

**To Reorganize the Navy Department.**—Two bills have been introduced into the House of Representatives providing for the reorganization of the Navy Department, one by Mr. Townsend and the other by Mr. Dawson. The latter, H. R. bill No. 12425, divides the work of the department into two divisions, placing the Bureau of Medicine and Surgery under the division of personnel, which is to be presided over by the assistant secretary, who shall be a naval officer. The other division, which is to be known as the division of material, is to be presided over by a civilian secretary.

**The Manhattan Medical Society.**—A stated meeting of this society was held on Friday evening, January 24th. Dr. S. Steiner presented a paper on Acute Appendicitis of the Gall-

bladder, Dr. R. Cronson read a paper on Septic Neuritis in the Puerperium, and Dr. Dexter D. Ashley reported a case of Rheumatism Simulating Hip Joint Disease. After the demonstration of pathological specimens by Dr. J. E. Welch, there was a clinical conference on the subject of Acute Articular Rheumatism. The officers of the society are Dr. Heinrich Stern, president; Dr. Dexter D. Ashley, vice president; Dr. Earle Conner, secretary; and Dr. Albro R. Carman, treasurer.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending January 11, 1908, there were during the week 726 deaths from all causes, as compared with 665 for the corresponding week in 1907. The annual death rate was 17.48 in 1,000 of population. The principal causes of death were: Apoplexy, 10; Bright's disease, 52; bronchitis, 25; consumption, 63; cancer, 33; convulsions, 4; diphtheria, 22; heart diseases, 54; influenza, 31; intestinal diseases, acute, 32; measles, 7; nervous diseases, 29; pneumonia, 137; scarlet fever, 13; suicide, 16; typhoid fever, 12; violence, other than suicide, 32; whooping cough, 3; all other causes, 151.

**The Scientific Temperance Federation** held its annual meeting in Boston recently and elected officers for the ensuing year. The reports of the secretaries showed that during the year over a thousand books, pamphlets, etc., had been added to the collection of data on the alcohol question. This special library is at the disposal of all who desire information on the question of alcohol and narcotics. The headquarters of the federation are at 23 Trull street, Boston. Among the corresponding members of the organization are Professor E. Kraepelin, of Munich; Professor A. Aschaffenburg, of Cologne; Dr. Max Kassowitz, of Vienna; Dr. Reid Hunt, of the United States Hygienic Laboratory, Washington, D. C.; and Mr. Walter N. Edwards, F. C. S., of London.

#### Infectious Diseases in New York:

*They are indebted to the Bureau of Records of the Health Department for the following statement of new cases and deaths reported for the two weeks ending January 18, 1908:*

	Jan. 11-18	Jan. 11-18
	Cases.	Deaths.
Dysentery	25	26
Smallpox	0	0
Scarlet fever	209	160
Measles	969	803
Scarlet fever	209	160
Whooping cough	24	14
Diphtheria	37	436
Tuberculosis, pulmonary	442	171
Cerebrospinal meningitis	15	13
<b>Totals</b>	<b>2,615</b>	<b>1,428</b>

**Examination for Physicians in the Panama Canal Service.**—The United States Civil Service Commission announces an examination on February 19 and 20, 1908, to secure eligibles from which to make certification to fill vacancies as they may occur in the position of physician, at \$150 a month, in the Panama Canal Service. It is probable that about fifteen appointments will be made, this estimate being based upon the number of appointments made during the past year. Applicants must be citizens of the United States, graduates of recognized medical schools, and have at least one year's experience as an interne in a general hospital. Men only will be admitted to this examination, and the age limit is twenty to forty-five years on the date of the examination. Applicants should apply at once to the United States Civil Service Commission, Washington, D. C., for application Form 1312.

**The State Campaign for the Prevention of Tuberculosis.**—The tuberculosis exhibit, which was held in Troy recently, was well attended, and public interest was aroused in the question of the prevention of tuberculosis. Lectures, illustrated by stereopticon views, were given each afternoon and evening by the leading physicians and ministers of the city. A permanent committee, composed of the most prominent citizens of Troy, has been appointed by the State Charities Aid Association, which will endeavor to secure compulsory notification and registration of cases, free bacteriological examination of persons believed to be dispensary and visiting nurses, similar treatment for physicians, and the keeping of a health code which will prevent contagion in homes, and the regulation of food supplies. The committee will conduct a campaign from which will be selected suitable and educational campaigns.

**Special Tuberculosis Dispensaries in Chicago.**—According to the Bulletin of the Department of Health of the City of Chicago, during the first three weeks that the six special dispensaries of the Chicago Tuberculosis Institute have been in operation 148 patients applied for treatment. The physicians and nurses attached to this great service report that it is their daily experience to find consumptives living in closest relations with their families and entirely ignorant of the means of preventing infection. In all such instances the dispensary physicians have instituted a manner of living that will be safer for the health of the family and at the same time promote the health of the patient. It is thought that the educational work of the dispensaries will be as valuable as the strictly curative function.

**Personal.**—Professor Cornil has been retired from the chair of pathological anatomy and histology in the University of Paris, having reached the age limit of seventy years.

Dr. David Hilbert, of the University of Göttingen, has been made a member of the Bavarian-Maximilian Order for Science and Art.

Professor Boeckh, of Berlin, has died at the age of eighty-three years. He was well known as a medical statistician and emeritus director of the Berlin Statistical Bureau.

Professor Neisser has returned to London from Bavaria, where he has been for three years studying syphilis in apes. A banquet will be given in his honor on February 1st.

Dr. W. W. McMellan, of Mingo Junction, Ohio; Dr. G. E. Bair, of Braddock, Pa.; Dr. A. J. Frantz, of Seneca Falls, N. Y.; Dr. H. M. Imboden, of Clifton Springs, N. Y., and Dr. J. S. Goodwin, of Spring City, Tenn., are registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

**The Health of the Canal Zone.**—During the month of November, 1907, there were in the Canal Zone 2 deaths from typhoid fever, 33 from malarial fever (clinical), 13 from æstivoautumnal malaria, 5 from hæmoglobinuric fever, 2 from dysentery, 2 from amœbic dysentery, 7 from beriberi, 3 from septiciæmia, 34 from tuberculosis of the lungs, 6 from other forms of tuberculosis, 1 from tetanus, 3 from bronchopneumonia, 22 from pneumonia, 1 from abscess of the liver, 1 from puerperal septiciæmia. The total deaths in the Zone, including Colon and Panama, numbered 267 in a population of 111,007, corresponding to an annual death rate of 28.86 in 1,000 of population. Two white employees from the United States died of æstivoautumnal malaria. The annual death rate of white employees corresponds to 15.35 in 1,000 of population; that of negro employees corresponds to 22.77 in 1,000 of population. The sick rate for employees was 20.49 in 1,000 of population. The death rate of the Canal Zone in November, 1906, was 35.76 in 1,000 of population, and in 1907 it was 28.86 in 1,000 of population—a decided improvement. Mosquito work continues unabated.

**The Health of Philadelphia.**—During the week ending December 28, 1907, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 72 cases, 6 deaths; scarlet fever, 51 cases, 3 deaths; chickenpox, 55 cases, 0 deaths; diphtheria, 65 cases, 15 deaths; cerebrospinal meningitis, 3 cases, 1 death; measles, 34 cases, 3 deaths; whooping cough, 18 cases, 8 deaths; pulmonary tuberculosis, 86 cases, 61 deaths; pneumonia, 125 cases, 100 deaths; erysipelas, 5 cases, 3 deaths; German measles, 2 cases, 0 deaths; septiciæmia, 3 cases, 1 death; mumps, 8 cases, 0 deaths; cancer, 25 cases, 33 deaths. The following deaths from other transmissible diseases were reported: Tuberculosis, other than tuberculosis of the lungs, 8; puerperal fever, 2; diarrhoea and enteritis, under two years of age, 9. The total deaths numbered 601 in an estimated population of 1,500,595, corresponding to an annual death rate of 20.8 in 1,000 of population. The total infant mortality was 12.8; under

one year of age, 10.6; between one and two years of age, 11.1; from one to two years, 10.1; and so on. The total precipitation was 1.62 inches. On the 23d the maximum temperature recorded was 62° and the same maximum was recorded on the 28th. The minimum for the week was 30° on the 22d. This high temperature at a time when the majority of the people were clad for cold weather is probably due to the high humidity and

## List of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

January 16, 1908

1. Vasomotor Relations, By W. T. PORTER.
2. The Clinical Importance of the Uneven Distribution of Hydrochloric Acid in the Gastric Contents, By ALBERT E. TAUSSIG and WILLIAM H. RUSH.
3. An Intracranial Papillary Adenofibroma from the Groin, By E. L. YOUNG.
4. The Problem of Expert Testimony, By FRANCIS WAYLAND ANTHONY.
5. Practical Applications of Opsonic Therapy, By THEODORE C. BEEBE and LEON S. MADALIA.
6. The "Optometrist." Does He Preach and Practise Medicine? By JOHN C. BOSSIDY.

1. **Vasomotor Relations.**—Porter in his Harvey lecture speaks also of shock. There has been of late renewed discussion as to the cause of the symptom complex termed shock. Concerning the symptoms themselves, there is very general agreement—the abnormal fall of blood pressure, the failing heart, the low temperature, the apparent depression of the nervous system, are frequent tokens of calamity. It is the apparent depression of the nervous system that has for many years given such favor to the idea that the low blood pressure is the result of exhaustion of the vasomotor centre. We forget that the brain is not an organ, but a region, very large in proportion to the groups of nerve cells that are scattered through it like settlements in a wilderness of fibres. It is forgotten, too, that these cell groups have the most diverse functions. Thus, as in the writer's experiments, the large hemispheres may be roughly taken away without lowering the normal blood pressure and without affecting the vasomotor reflexes, except to increase them. The depression observed in shock does not, therefore, justify any sweeping statements regarding the condition of the many separate nerve organs sheltered by the cranium and the vertebral canal. A clear distinction should be made between the symptoms of shock and shock itself. The symptoms of shock form a clinical entity about which there can be little dispute; shock, on the contrary, is a pathological state, the data of which are at present hypothetical. The hypothesis which constitutes the hitherto generally accepted definition of shock declares that the vasomotor cells are depressed, exhausted, or inhibited by excessive stimulation of afferent nerves. The fall in blood pressure and the accompanying symptoms are declared to be the result of this depression. The vasomotor nervous system seldom, if ever, dilates or constricts all the vessels at one time. The same afferent impulse will cause the vasomotor centre to dilate the vessels of the face, while it constricts those of the abdomen. The effect upon the general blood pressure depends upon the relative size of the dilating and constricting areas. Here the splanchnic nerves, which govern the vessels in the abdomen, have great importance. Shock must, therefore, be studied from a local as well as a general standpoint. The necessity of studying the parts, as well as the whole, will be more apparent when it is remembered that the vasomotor system is composed of three separate neurons—one in the bulb, a second in the spinal cord, and a third out

side the cerebrospinal axis. Experiments undertaken by the author and Dr. Clark show that the several neurons are essentially individual in their action. Were they all of one order, they would react equally to the same stimulus. In other words, the sciatic reflex and the depressor reflex should both be increased or both be diminished by the action of the same agent. We find, however, that they are affected in different way by the same drug. Curare, for example, affects the depressor reflex in one way and the sciatic reflex in another. The experiments seem to establish a specific difference between the bulbar and the spinal motor cells. The more the circulation is studied, the stronger is the conviction that it is not a fixed state, but a sensitive equilibrium, the result of the constantly varying action of a great number of factors. Hence the difficulty of the subject and the necessity of separating the complicated mass problems into simpler problems, capable of answer one by one. Such a separation can be accomplished only in the laboratory, and it is to experimentation upon animals that we must chiefly look for new knowledge in this field.

2. **The Clinical Importance of the Uneven Distribution of Hydrochloric Acid in the Gastric Contents.**—Taussig and Rush observe that, when the stomach contents are expressed and aspirated in the usual manner as completely as possible, the patient sitting erect, only a comparatively small portion of the gastric contents can be obtained. After any of the usual test meals the acidity of the portion so obtained cannot be assumed to represent the acidity of the stomach contents as a whole. If, after this portion of the stomach contents has been removed, the patient is made to lie down, it is usually possible, by means of aspiration, inflation, and the like, to obtain a further considerable quantity of stomach contents. This second portion often differs considerably in its acidity from the first portion. Even after this second portion has been removed, the stomach still contains considerable unobtainable residue. The amount of this is apparently independent of the total quantity of gastric contents, and probably varies from one to three ounces. Of its degree of acidity we can know nothing; certainly we have no ground for the assumption that it is identical with the acidity of the contents obtained for examination. The quantitative determination of the acidity of the gastric contents is thus seen to be subject to a grave source of error. This will be diminished if the contents obtainable in the prone position are also examined. It will be further lessened if the acidity of the two portions does not differ very widely, since then we may assume that the acidity of the unobtainable residue will itself not be very different. It follows that, in practice, trustworthy results can be obtained only if the following precautions are observed: The stomach contents must be obtained separately in the erect and in the prone posture; the acidity of each portion must be determined and diagnostic conclusions, based upon the degree of acidity, can be drawn only if the two acidities correspond fairly well, or if the total quantity of gastric contents obtained is so great that the unknown acidity of the unobtainable residue may be neglected.

# THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 18, 1908.

1. A Plea for Early Exploratory Laparotomy in Gastric Diseases of Doubtful Nature.  
By WILLIAM L. RODMAN
2. Arteriosclerosis,  
By GEORGE LINCOLN WALTON and WALTER EVERARD PAUL
3. The Relation of Upper Respiratory Obstruction to Oral Deformity, and Simultaneous Treatment by Expansion of the Dental Arch,  
By FRANCIS ASHLEY FAUGHT.
4. Subacute Polymyositis, with a Report of Three Cases,  
By BENJAMIN T. BURLEY.
5. A Mixed Tumor of the Parotid Gland,  
By A. H. CORDIER.
6. A Case of Systemic Blastomycosis,  
By R. A. KROST, M. J. MOES, and A. M. STOBBER.
7. Heart Block at Ninety-one.  
By CHARLES F. BEESON.
8. A Clinical Study of the Bromine Compounds, with Special Reference to Strontium Bromide,  
By WILLIAM J. ROBINSON.
9. Influence of the Ductless Glands on Metabolism.  
By LEO M. CRAFTS.
10. Acid Autointoxication and Systemic Disease, the Cause of Erosion and Abrasion,  
By EUGENE S. TALBOT.
11. Some General Reflections on the Psychology of Dementia Præcox,  
By SMITH ELY JELLIFFE.

2. **Arteriosclerosis.**—Walton and Paul conclude that, while arteriosclerosis is directly productive of apoplectic attacks and of vertigo and plays a part in the loss of memory as well as of other failing powers of involution, it does not produce headache except as the immediate result of apoplectic attacks. Arteriosclerosis naturally appears in a certain proportion of elderly neurasthenics as in any group of elderly persons, but their observations fail to establish its causative influence, and the authors feel that further study of this branch of the question is desirable. Renal degeneration is a prominent factor in the cardiac enlargement often present in cases of arteriosclerosis. Arteriosclerosis without cardiac enlargement or renal degeneration is only exceptionally accompanied by a very high blood pressure. If either cardiac enlargement or renal degeneration is present, moderately high blood pressure; if both are present, very high blood pressure, is the rule.

4. **Subacute Polymyositis.**—Burley, in speaking of the pathology of subacute polymyositis, remarks that the post mortem findings in these cases are variable, depending largely on the stage of the process. A majority of his cases had reached the later or destructive stage, the early or inflammatory stage being less in evidence except when a specimen of muscle was removed during life. The signs of inflammation, including swelling, infiltration, transudation, and hæmorrhage, were found early, affecting largely the connective tissue, in part the parenchyma. It was characteristic of the disease that certain bundles and certain fibres of a bundle were unaffected by the process. With the progress of the disease attempts at regeneration were commonly seen in the great increase of nuclei, including mitotic forms, while at the same time the anatomical picture of destruction of fibres was prominently seen. This appeared as granular, and, later, waxy degeneration of the fibres; vacuolation, a great increase of cells and fat globules, greatly thickened perimysium becoming myxomatous or fibrous in structure, in fact a tendency to the embodiment of the former specific tissue into a connective tissue structure. The nerves have been shown to be involved in a number of cases,



notably those of Senator, but from their distribution and from the considerable number of normal fibres found in the sections it seems probable that the process is not primary in the nerves. The amount of hæmorrhage between the muscle bundles is variable. It may be very great, predominating in the sections and giving rise to the name polymyositis hæmorrhagica. Of the treatment, he says that attempts to cut short the course of the disease by any specific form of treatment have heretofore been of little avail. Antipyretics and salicylates have somewhat relieved the pain and soreness of the early stages. Hot baths and fomentations had been moderately used before, but in 1903 Oppenheim came forth with glowing accounts of five cases, which led him to advocate confidently the systematic use of diaphoresis. His method was to apply hot air, then wrap in blankets, giving hot drinks and aspirin. The patient was thus sweated for an hour at least every second day. Thermomassage was used on the alternate day. Later simple massage and electricity were used. Oppenheim considered this treatment a great factor in the recovery of his cases, though it did not serve Burley as well in the one case on which he had an opportunity to try it. The test of time will alone determine its value.

**8. A Clinical Study of the Bromine Compounds, with Special Reference to Strontium Bromide.**—Robinson thinks that the bromides are valuable and sometimes indispensable agents. Potassium bromide is the worst bromide we possess, its undesirable by effects by far overbalancing its therapeutic value. Whoever administers potassium bromide in large doses for a long time is simply slowly poisoning his patient. Sodium bromide is a much milder bromide, and when chemically pure strontium bromide is not available, sodium bromide is the salt of choice. Strontium bromide is the best of all inorganic bromine compounds. It is a positive anaphrodisiac, and a positive nervous and genitourinary sedative; it does not upset the stomach, and does not produce acne, or, if it does produce a few acne pustules, they are mild and transient; it often acts as a mild intestinal antiseptic, does not irritate the kidneys—rather the contrary—and has a tendency to diminish albumin in albuminuria and sugar in glycosuria. The dose of strontium bromide ranges from 10 to 60 grains three or four times a day. Occasionally it may be given in doses of one or two drachms. It is best prescribed dissolved in distilled water with the occasional addition of essence of pepsin, tincture of cardamom, etc. Strontium bromide is incompatible and should not be prescribed with citrates or sulphates, and it is also best to avoid prescribing it with alkaloids. To obtain the good results from strontium the salt must be chemically pure. If contaminated with barium, as the commercial strontium salts not only frequently but usually are, its effects will be disappointing and its untoward by effects may be more severe than those of potassium bromide.

**11. Some General Reflections on the Psychology of Dementia Præcox.**—Jelliffe, speaking of the therapeutics, states that many præcox demented, in fact, the most, are probably doomed from the very beginning. What with bad structure on which to build, bad environment, and possibly a

toxic factor (only postulated hypothetically), there is little opportunity for some præcox demented. But a few are worth working for, particularly in the prædementia stage. When the diagnosis is more or less patent the process has been too long in the making and the opportunities for repair have usually been neglected. The eccentric, egocentric child is always a difficult problem from the standpoint of training. Too many are permitted to go their own way in the hope that all will be well when they mature. A large number of præcox demented are drawn from this class. The author believes, in the first place, in teaching the children the petty conventions of life which make so frequently the oil that reduces social friction; the help in permitting an adjustment to unpleasant situations which thus diminishes the opportunities for affective action. It is simple to say that a child should be trained to his *métier*, but extremely difficult to determine just what individual capacity is. In an interesting comparison made by Gaupp relative to the psychoses of urban and of rural communities, it appears that the stress of city existence bears particularly on the young mind and determines the hysterical and præcox reactions in the young more frequently in the city than in the country. This is a fact worth bearing seriously in mind if heredity and peculiarity are present in a child. Schooling work does not seem to make a marked difference if it is pursued in moderation. The brighter, eager brains are more often damaged than those less pushing, and each individual child's reaction to its school work is worthy of close observation. If the reaction to intellectual work is not normal—if fatigue enters as a large disturbing element—care should be exercised in so arranging studies as to obviate it. These children need schools in which outdoor pursuits are cultivated and made coordinate with or supplemental to more intense intellectual efforts. There are a large number of ideas of primary importance in the care of this particular type of breakdown. Many are not hopeless by any means; they need the proper type of education, and scientific pedagogy looks to the physician to indicate the lines of development for this class of true mental healers.

#### MEDICAL RECORD January 18, 1908.

1. Anorectal Fistula, By CHARLES B. KELSEY.
2. Schlosser's Alcohol Injections for Facial Neuralgia. Sixteen Months' Experience with Fifty-five Cases; Three Failures, By OTTO KILIANI.
3. Instruction in Hydrotherapy, By SIMON BARUCH.
4. The Treatment of Chorea Minor, with Special Reference to the Dangers of the Arsenic Therapy, By HENRY KOPLIK.
5. Medical and Scientific Work in New York State Charitable Institutions, By ANDREW MACFARLANE.
6. Prevention of Death During Anesthesia by Chloroform and Ether, By ROBERT REYBURN.
7. Writers' Cramp; What it Is and How it Can Be Treated by the Family Physician, By S. H. MONELL.
2. Schlosser's Alcohol Injections for Facial Neuralgia.—Kiliani reports his experience during sixteen months with fifty-five cases, only three of which were failures. In all cases he has made peripheral injections first, even if he expected to inject into the ganglion. All the injections were done without any narcosis or local anesthesia. The

insertion of the blunt needle into the foramen is rather painful; the slow injection of the alcohol somewhat more so, but not beyond the endurance of the patients, who are accustomed to a great deal of pain. Every successful injection must produce, within a few minutes, a burning or numbing sensation within the region of the nerve injected. This develops, sometimes after a severe period of pain for two or three hours, into a more or less pronounced anaesthesia. Any of the three peripheral injections produces a swelling, which in the first and second branch results in oedema of the eyelids, and in the third branch sometimes in a slight trismus. Nearly every injection into the second branch through the foramen infraorbitale produces a slight facial paresis, owing to the connecting branch of the ganglion sphenopalatinum with the loop of the facial nerve. This paresis disappears within a period of from three days to two weeks. To reach the part of the second branch which supplies the roof of the mouth and the roots of the rear teeth, it is sometimes necessary to inject into the ganglion sphenopalatinum, a procedure which he has ventured only lately, as he was afraid of the entrance of the alcohol through the outer fissure into the orbita, with its possible disastrous results on the eye muscles or even the optic nerve. But a carefully slow instillation has prevented any trouble so far. Injection through the foramen ovale or rotundum into the root of the second or third branch, or the ganglion itself, must at once produce, if carried out properly, a complete anaesthesia in the region of the nerve attacked. Only if gasserectomy has been done before, the effect may be delayed, owing to the scar tissue resulting from the former operation. The number of injections necessary to produce freedom from pain ranged with the first branch from two to four; with the second from four to sixteen; with the third from two to five. The time occupied to get the patients free of pain varied from three days to five weeks. The diagnosis of facial neuralgia rests, to a large degree, upon the statements of the patients, although a typical severe paroxysm cannot be mistaken for anything else. It is, therefore, only fair to pronounce a patient cured for the time being only if the patient says so himself.

7. **Writers' Cramp.**—Monell states that the main indications for treatment are, broadly, two: the elimination of the toxic products which result from high pressure muscular work and part of which gradually stagnate in the tissues, and the improvement of the nutrition of the affected tissues so that the powers of recuperation are renewed. The first of these indications is admirably met by means of the modern electric light radiant heat cabinet bath, and if this is not available for the practitioner he should advise a course of Turkish baths as the next substitute. The measures of direct treatment are comprised in the resources of electrotherapeutics. In employing these resources there are but three requisites to success: a determination of the therapeutic actions which must be set up in the tissues to promote their restoration to normal, the selection of the means of best setting up the desired actions, and the technical knowledge of how to make the selected agent do the therapeutic work

that the operator intends it to do. No special skill, apart from a general command of the resources of modern electrotherapeutics, is therefore required to enable the physician to undertake a case of writers' cramp if he will first acquire an understanding of the conditions to be treated and the indications present in the given case. The writer has variously employed with success all the currents. The galvanic current, currents from fine high grade faradic coils, the great resources of static electricity, and high frequency apparatus can all be made to do the work demanded, provided the given apparatus has efficient therapeutic resources and the means of applying them. In most cases it will be necessary to improve the quality of the blood as well as the circulation through the affected tissues, for anaemia, if present, retards the regenerative processes. A sedative tonic action is also indicated to allay irritability and remove aches and pains. Tonic contractions of the affected muscles are always needed, but must be carefully "dosed" to avoid the reactions of fatigue. The physician who is well grounded in the ordinary principles of current control, actions, and dosage can easily apply his knowledge to the relief and improvement of writers' cramp, and in early cases can rapidly restore the arm to normal endurance and comfort. The mental relief to the patient will be incalculable.

#### BRITISH MEDICAL JOURNAL.

January 4, 1908.

1. Modifications in the Movements of the Knee Joint Directly Consequent upon Injury, By SIR W. BENNETT.
2. An Operative Demonstration of the Occasional Diagnostic Accuracy of the X Ray in Urinary Stone, By E. H. FENWICK.
3. Cancer of the Ovary, By J. BLAND-SUTTON.
4. Some Recent Experiences in the Surgery of the Liver and Gallbladder, By J. L. THOMAS.
5. Some Recent Developments in Our Knowledge of Syphilis in Relation to Diseases of the Nervous System, By F. W. MOTT.
6. A Note on Excessive Patellar Reflex of Functional Nervous Origin, and Especially the "Tropidon" or "Spinal Epilepsy" Form, By F. P. WEBER.
7. Typhoid Carriers, By A. LEDINGHAM and J. C. G. LEDINGHAM.
8. The Contents of Irreducible Inguinal Hernia in Female Subjects, and True Hermaphroditism, By E. CORNER.
9. A Note on Nephropexy, By F. ERE.

1. **Knee Joint Injuries.**—Bennett discusses the various modifications of movement at the knee which occur either immediately after an injury or supervene after an interval without the intervention of any organic disease of the joint. Complete locking of the joint immediately after injury is usually due to some mechanical obstacle. The commonest cause is displacement of one or both semilunar cartilages, especially in patients under thirty-five years of age. Hypertrophied synovial fringes give rise to obstruction in older subjects. Other causes are an abnormal flap of synovial membrane, underlying and adherent to the patella, completely loose bodies ("loose cartilages"), bodies attached by a long pedicle, pieces of bone broken off from the condyles of the femur. Apparently complete locking of the knee joint, in the absence of anasthesia, may be due to synovial spaces secondary to pain. In all cases an anæsthetic should be given as soon

as possible, in order to determine how much of the limitation of movement is due to muscular spasm.

**3. Cancer of the Ovary.**—Bland-Sutton states that primary cancer of the ovary is a very rare disease. The most remarkable feature of secondary masses of cancer in the ovaries is the large size they sometimes attain, while the primary growth is so small and inconspicuous as to be overlooked unless specially sought for. The view that these large malignant bilateral tumors in the ovaries are secondary to cancer in other organs rests on the fact that the structure of the ovarian mass varies according to the situation of the primary cancer. Some of these large tumors may be explained by the fact that the cancer cells may engraft themselves on a preexisting ovarian cyst. Primary cancer of the Fallopian tube is a very fatal disease. Its bad effects are greatly modified according to the condition of the celomic ostium of the tube. When this ostium remains open the cancer cells quickly infect the pelvic peritonæum; if it becomes occluded, which is rare, the infection of the peritonæum is greatly delayed. From an operative point of view these opposite conditions are of great importance. The removal of a cancerous Fallopian tube with a patent celomic ostium is usually followed by recurrence in a few months. The lethal effects of a carcinoma are not so much due to the primary tumor as to the accidents which arise from it. When an ovary becomes infected with secondary cancer it is free for a long period from the usual liability to septic infection, and the cancerous masses may thus attain unusual size. No case can now be accepted as primary cancer of the ovary merely on a laboratory report; a primary focus elsewhere must be most painstakingly sought for.

**5. Syphilis and Locomotor Ataxia.**—Mott accepts the *Spirochæta pallida* as the specific virus of syphilis, and suggests that it may vary in its virulence and toxicity, not every variety producing the special neurotoxine. Some forms of the protozoon may be attenuated in their virulence, owing to the passage of the organism through the bodies of certain individuals. The writer holds that syphilis is the essential cause of locomotor ataxia and general paralysis. Among the facts on which he bases his belief are the following: 1. Erb's statistics. 2. The cerebrospinal fluid of tabes, general paralysis, and syphilitic meningitis invariably contains lymphocytes and no polymorphonuclears. This occurs in no other chronic affection of the nervous system, except sleeping sickness. 3. Antisyphilitic bodies exist in the serum and cerebrospinal fluid of tabes and general paralysis, the quantity increasing in amount as the disease progresses. 4. Primary chances are exceedingly rare in early paralytics, in spite of the promiscuous sexual intercourse so frequently observed among them. 5. In 80 per cent. of forty cases of juvenile general paralysis, the writer found syphilitic antecedents. 6. The Argyll Robertson pupil and the irregular pupil are practically only met with in general paralysis, tabes, and syphilis; it may be the sole sign of syphilis. Parasyphilitic disease of the nervous system depends upon two factors: intrinsic, innate, and extrinsic, acquired—the soil and the seed; the vital

resistance and the specificity of the virus. All those conditions, which may be inherited or acquired, and which tend to active metabolism of systems, communities, and groups of neurons functionally correlated, and which, owing to those conditions of stress which in one individual would cause spinal neurasthenia, will, in conjunction with the stimulating effect of the syphilitic poison, cause the nerve cells to exercise an abnormal metabolic activity in the production of the side chain molecules necessary for immunization against the toxic effects of the virus. The frequent indulgence of abnormally strong sexual desires, stimulated by many causes, especially alcohol is, after syphilis, the most important factor in the production of tabes and general paralysis. It acts in two ways: (1) Directly, by exhaustion of neuropotential; (2) indirectly, in the male by the excessive loss to the body of highly phosphorized nucleoproteids contained in the sperm. These are biochemical substances possessed of great specific energy and not easily replaced.

**6. Excessive Patellar Reflex.**—Weber holds that excess in the patella reflex in functional cases is due to a peculiar functional condition of the cerebral cortex, which, when present in greater degree, gives rise to the "trepidation" form of reflex and to "functional ankle clonus." This condition may be excited or modified by temporary emotional factors, and a similar state may be induced by toxæmias, such as uræmia. The signs of this functional cerebral condition may be imitated by organic nervous disease, such as cerebral hæmorrhage, disseminated sclerosis, etc. In "functional nervous vomiting" we probably have to deal with an analogous functional change in the brain.

**7. Typhoid Carriers.**—Ledingham and Ledingham, in investigating ninety women, found three of them to be "typhoid carriers"—i. e., while in good health themselves, they constantly excreted typhoid bacilli in their stools, and so were dangerous sources of infection. It is probable that in these cases the bacilli vegetate in the gallbladder, from which they are intermittently ejected into the intestine. No so called intestinal and urinary antiseptics seemed to have any effect. Such persons should be kept constantly under bacteriological supervision. Dehler actually performed cholecystostomy and drainage of the gallbladder on two asylum carrier cases, though in neither were there any symptoms pointing to disease of the gallbladder. In a few months the typhoid bacilli disappeared from the fæces, and the blood lost its power of agglutinating typhoid bacilli.

**9. Nephropexy.**—Ere advocates a new operation for performing nephropexy, the principles underlying which are as follows: 1. That owing to the friability of the renal tissue the capsule only should be used for its fixation. 2. That a decorated surface of the kidney should be brought into immediate relationship with the quadratus lumborum and psoas, on which it normally lies, without the intervention of any connective tissue. 3. That no suture should be affixed to the capsule of the kidney in its upper third, as when passed through the parietes they would, as a rule, fix the kidney in a position below that which is normal.



## LANCET

January 4, 1908.

1. Human Anatomy in England During the Nineteenth Century, By A. KEITH.
2. The Study of Embryology, By P. THOMPSON.
3. The Modern Treatment of Cleft Palate, By W. A. LANE.
4. A Preliminary Note on the Kinematograph in Medicine, By H. C. THOMSON.
5. Diabetes Mellitus in Two Brothers, with Necropsies, By W. C. BOSANQUET.
6. A Case of "Diphtheria of the Skin" of Three Years' Duration Treated by Antitoxine, By A. B. SLATER.
7. An Unusual Pathological Condition of Meckel's Diverticulum, By C. H. TURNER.
8. Delirium Tremens (Mania e Potu): Statistical Study of 156 Cases, By L. N. BOSTON.

5. **Diabetes Mellitus.**—Bosanquet reports two fatal cases of diabetes mellitus occurring in two brothers. Among the points of interest were the following: 1. The hereditary incidence of the disease was well shown, no less than four members of one family being affected. Alopecia areata also occurred in three of the cases. 2. In one case the onset of the disease was very rapid and accompanied by abdominal pain, suggesting an acute affection of the pancreas. In the other case the onset was insidious. 3. In one case the patient passed into a deep state of coma, and yet recovered for a time, dying comatose eventually, the kidneys showing acute inflammation. The acetonæmia did not depend on any lack of carbohydrate food. 4. In one case the amount of sugar in the urine varied independently of the diet taken, thus bearing out the author's views as to the origin of sugar in diabetes, viz., that some portion of the sugar arises from a breaking down of the cells of the body, in addition to that which may be due to some defect in the process of absorption of sugar from the alimentary canal or of its destruction in the body. 5. Secretion failed to act beneficially in either case. Its employment in diabetes can only be upheld on the principle that the formation of the internal secretion of the pancreas and that of the digestive ferments take place as a single chemical action, the lining substance breaking down simultaneously into both these substances. 6. In both cases the anatomical condition of the pancreas was striking; in each there was marked atrophy of the organ without noteworthy alteration of structure. In both there were plenty of normal looking islands of Langerhans, thus tending to support the view that the typical condition of the pancreas in diabetes is atrophy, affecting the secreting cells as a whole. In both cases there was well marked arteriosclerosis, which is the most constant feature in the pancreas in cases of diabetes.

## LA PRESSE MEDICALE.

December 31, 1907.

1. Technique of Kraske's Operation, By R. PROUST.
  2. Spontaneous Rupture of the Aorta, By MAURICE LIEBOWITZ.
  3. Technique and Value of the Microbiological Examination in Syphilis, By A. SEZARY.
  4. Method of Measurement of Shortening of the Thigh, By H. FORESTIER.
  5. Painful Points and Contracture of the Abdominal Wall, By R. ROMME.
1. **Technique of Kraske's Operation.**—Proust

gives each step of this operation for the extirpation of cancers situated high in the rectum, clearly illustrated from the exposure of the sacrum to the uniting of the divided ends of the intestinal canal to bring about its reestablishment.

2. **Spontaneous Rupture of the Aorta.**—Liebowitz says that atrophic atheroma of the aorta and arterial syphilis form the two well recognized varieties of antecedent disease favorable to spontaneous rupture of the arch, an accident almost unknown to the aorta in its thoracic abdominal portion. Chronic atrophic nephritis, acting through the hypertrophy of the left side of the heart and the arterial hypertension which ordinarily accompanies it, is the usual active agent in the production of the rupture of the internal membrane of the aorta. The commencement of the aorta, above the semilunar valves, is its weak point and the place of predilection for spontaneous ruptures. Every rupture of the arch is not necessarily fatal.

3. **Microbiological Examination in Syphilis.**—Sezary asserts that the microbiological examination for the *Spirochæta pallida* can determine accurately the diagnosis of syphilis, and if the technique is well observed the negative results will be few. Under such rare circumstances, in the absence of a method of culture and while waiting for a satisfactory method of serum diagnosis, if recourse cannot be had to experimental inoculation on an ape, reliance must be placed on the histological study, which elsewhere is always very explicit.

4. **Measurement of Shortening of the Thigh.**—Forestier places the patient lying face downward on a table, so that his thighs hang over the edge, in a vertical position, the legs flexed and supported by the toes. The pelvis is supported by the iliac spines resting on the edge of the table, which gives a fixed and precise upper point to measure from. A lower fixed point is readily obtained and exact measurement is easy.

## BERLINER KLINISCHE WOCHENSCHRIFT.

December 23, 1907.

1. Foreign Body for Two Years in the Left Bronchus. Direct Extraction. Recovery, By H. VON SCHROETTER.
2. Concerning the Development and the Present Position of the Serum Diagnosis of Syphilis, By A. WASSERMANN.
3. The Technique, Certainty, and Clinical Importance of Wassermann's Reaction in Syphilis, By G. MEIER.
4. Critical and Therapeutic Contributions to the Knowledge of the Quartz Lamp, By R. LEDERMANN.
5. Concerning Suboccipital Inflammations, By I. GREENSWALD.
6. Neuralgia of the Rectum, By A. VERR.
7. A Rare Case of Nervous Erection, By S. SAITO.
8. Epiphthalmic Gait and the Sexual Life of Women, Concluded, By K. KERN.

1. **Foreign Body in the Left Bronchus.**—Von Schroetter states that, although he has been engaged in the examination of the upper air passages for eight years and has seen a large number of foreign bodies during that time, he has never before met with a foreign body in the left bronchus. He reports the case of a man, fifty-two years of age, who inhaled a foreign body in September, 1905, which caused difficulty in breathing and cough, followed by a purulent expectoration, which persisted through

1906 and 1907 up to the time of the removal of the foreign body. The patient had repeatedly sought relief from emphysema, bronchitis, and other affections of the air passages. On August 28, 1907, the foreign body was discovered by means of bronchoscopy, and proved to be a fragment of bone, which was easily removed.

**2. Serum Diagnosis of Syphilis.**—Wassermann asserts to have proved to be diagnostic the property of the body fluids of syphilitics to unite with certain lipoids.

**3. Wassermann's Reaction in Syphilis.**—Meier gives in detail the technique of the serum diagnosis of syphilis as practised by Wassermann. His clinical results were, out of 181 positively syphilitic cases, there was a positive reaction in 148 (81.7 per cent.), doubtful reaction in five (2.7 per cent.), and a negative in twenty-eight (15.6 per cent.). The reaction was negative in all of twenty-one cases in which syphilis was positively excluded. He says that the reaction may take place in all stages, but is more marked in the later stages, a point of practical importance, as in the late stages difficulties in diagnosis are often present. In almost every case of tertiary syphilis the reaction was strong. In a certain set of syphilitic cases the reaction was negative, and this needs further investigation. Finally he holds that Wassermann's reaction is specific for syphilis, which, because of its great certainty, is a true enrichment of our means of diagnosis, but its complicated technique necessitates the employment of an experienced investigator in order to obtain unobjectionable results.

**5. Suboccipital Inflammations.**—Grünwald refers to inflammations in the region of the articulation between the atlas and the occiput and reports four cases, one of probably syphilitic, the other of otitic origin.

**6. Neuralgia of the Rectum.**—Albu describes two cases of neuralgia of the rectum. In the first case the neuralgia was occasioned by a developing carcinoma of the prostate, in the other it was an accompaniment of tabes.

**7. Nervous Eructation.**—Saito describes a case of nervous eructation of thirty-six years' standing which he met with in a woman, seventy-eight years of age, and cured by forcing her to keep her mouth open for an hour or two at a time and so preventing her from swallowing air.

**8. Exophthalmic Goitre and the Sexual Life of Women.**—Kron declares that if exophthalmic goitre comes on before or in the early part of pregnancy the disease may become worse and the development of the child will be interfered with, with a resultant miscarriage, because the thyroid gland is insufficient to furnish the needed material to the embryo, and after the birth the mother regains more nearly her normal condition because the pathologically changed gland furnishes sufficient secretion. But if the disease appears during the second half of pregnancy it has no influence on the embryo because it has its own thyroid. The mother, however, is still in danger. It is probable that in a woman sexually mature exophthalmic goitre is a disease of metabolism.

# MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 17, 1907.

1. The Technique of the Determination of the Opsonins and its Use in Tuberculosis of the Lungs, By BISE and LISSNER.
2. Comparative Studies Concerning the Diagnosis of Typhoid by Means of Bacilli Emulsion and Ficker's Diagnosticum, By SCHRUMPF.
3. Studies Concerning the Functional Behavior of the Vessels in Trophic and Vasomotor Neurosis, By CURSCHMANN.
4. The Value of the Negative Result of the Bacteriological Investigation of the Blood of the Sinus in the Distinctive Diagnosis between Otitic Sinus Thrombosis and Other Not Yet Manifest Febrile Diseases, By NÜRNBERG.
5. The Treatment of Tuberculosis of the Kidney by Means of the X Rays, By BIRCHER.
6. The Radical Operation of Diverticulum of the Oesophagus, By GEHLE.
7. The Treatment of Inoperable Cancer of the Uterus with Aceton, By GELLHORN.
8. A Serious Complication in Acute Gonorrhœa, By MÜHLIG.
9. Gangrene of the Scrotum after Application of Tincture of Iodine, By HANASIEWICZ.
10. Hypertrophy of Langerhans's Islands of the Pancreas, By HEIBERG.
11. Objects and Methods of Instruction in Gynecology, By VON FRANQUÉ.
12. The Behavior and Reform of Midwives, By HENKEL.

**2. Comparative Studies Concerning the Diagnosis of Typhoid by Means of Bacilli Emulsion and Ficker's Diagnosticum.**—Schrumpf says that in ten cases out of forty-nine in which an infection with typhoid bacilli was positively present the agglutination test with the diagnosticum was negative, while with a fresh bacilli emulsion it was positive. In six of these ten cases agglutination with the diagnosticum could not be obtained when the test was repeated on different days of the disease, in three the agglutination with the diagnosticum took place, in the later part of the course of the disease, while in one it was present at first but lost later. Hence the result obtained with paratyphus B diagnosticum were faulty, and the method unreliable.

**5. Treatment of Tuberculosis of the Kidney by Means of the X Rays.**—Bircher reports two cases in which he obtained favorable results from the methodical use of the x rays. He recommends this form of treatment for those cases which are not operative, as the patients can lose nothing thereby but may gain.

**6. The Radical Operation for Diverticulum of the Oesophagus.**—Gehle reports a case in which he successfully removed a diverticulum of the oesophagus from a man sixty-nine years of age. The condition is rare, and the results of operative removal have been altogether such as might be desired, some patients dying in from one to eight weeks after operation, a fistula remaining in others. Hence it would be better for any one who may have occasion to perform such an operation to read the details of the technique employed by this surgeon in his original language.

**8. A Serious Complication in Acute Gonorrhœa.**—Mühlig reports a case in which an acute gonorrhœa was complicated by a bilateral infarct of the lungs. He thinks that the gonorrhœa caused a deferentitis spermatica gonorrhœica which pro-

duced a thrombosis of the venæ spermaticæ internæ, whence emboli were transmitted to the lungs.

9. **Gangrene of the Scrotum After the Application of Tincture of Iodine.**—Hanasiewicz reports the case of a man, nineteen years of age, who had painted his scrotum with iodine because of a painful swelling of the testicles of unknown origin. As a result the scrotum became gangrenous and sloughed, leaving the testicles exposed. The granulating surface that was left was covered with Thiersch grafts with good result. The cause of the primary epididymitis could not be ascertained. The patient had no discharge from his urethra, denied any venereal infection, but acknowledged the possibility of a traumatism. The author believes that the gangrene was the direct result of the application of iodine and recommends that such applications should never be made in cases of acute inflammation, but should be reserved exclusively for cases of chronic or slight inflammation.

#### ARCHIVES OF PÆDIATRICS.

December, 1907.

1. On the Bacteriology of Meningitis. By F. S. CHURCHILL.
2. Proteid in Infant Feeding; the Necessity of a Standard. By T. S. ALLEN.
3. Variation in Fat Content of Cows' Milk. By E. H. BARTLEY.
4. A Case of Vomiting with Acetonuria and Fatty Metamorphosis of the Liver. By A. W. MYERS.
5. Estivoautumnal Fever in a Child Two and a Half Years Old. By R. O. CLOCK.
6. Sarcoma of the Kidney in Children, with Report of a Case. By W. SHANNON.
7. Remarks on the Exudative Diathesis of Czerny. By A. HEYMANSOHN.
8. The Report of a Case of Retropharyngeal Abscess in a Girl Eleven Years Old. By H. B. CARPENTER.

2. **Proteid in Infant Feeding; the Necessity of a Standard.**—Allen finds three ways for determining such a standard: 1. By determining the nitrogen waste in the urine of babies fed first on a proteid free diet, then the nitrogen excreted with a proteid diet varying in quantity. The difference between the proteid ingested and the proteid equivalent of the nitrogen excreted with varying amounts of proteid will be the minimum proteid necessary for cell growth. 2. The minimum proteid quotient may be fixed at 4 and the maximum at 6. 3. By studying a number of cases in which the babies' weight, the quantities of milk taken in a day, and the proteid content of this milk were all recorded. Having obtained a standard, the minimum daily proteid may be regarded as supplied by one ounce of milk for each pound of infant's weight, while the maximum daily proteid quotient, which is placed at 6, will be supplied by one and one-half ounces of milk. This application of the maximum and minimum daily standards is available either with whole milk, skim milk, buttermilk, top milk, or a mixture of cream with either whole milk or skim milk.

4. **Vomiting with Acetonuria.**—Myers records the case of a fairly healthy child of two years who, without discoverable cause, developed a severe vomiting attack, with acetone and diacetic acid in the urine. After apparent recovery lasting ten days, profound intoxication developed, though the diet had been most judicious, and death quickly re-

sulted, after severe nervous symptoms. The liver was fatty and the stomach was full of more or less decomposed blood. Conditions like this are thought to be frequent in cases in which the food is too rich or too abundant. Vomiting may also be precipitated by fatigue or over excitement. The author disagrees with the view that the acetonuria results from temporary tissue starvation due to persistent vomiting. The presence of acetone in the urine in digestive disorders is of value as a sign of liver insufficiency and may be a valuable danger signal calling for extreme watchfulness.

7. **The Exudative Diathesis of Czerny.**—Heymansohn refers to Czerny's description of certain phases of what was formerly called scrofulosis and which he now terms *exudative diathesis*. This condition rests upon a congenital anomaly of the organism, heredity being an important factor. It is common during the first year of life. Diarrhoea may be present or there may be no gastrointestinal trouble. There may be a gain in weight, but fat is excessive, muscle defective. Symptoms which are prominent are thickening of the lingual mucous membrane, seborrhoea of the scalp, strophulus, prurigo, intertrigo with severe itching and glandular enlargements. In older children the mucous membrane of the nose, throat and lungs is more or less diseased, and there are usually anorexia, constipation, fetid breath and anæmia. Tuberculosis in these cases may be excluded. In treatment Czerny recommends the following brief rules: (1) Careful feeding, (2) care of the nervous system, (3) avoidance of intercurrent infection.

#### THE MILITARY SURGEON.

January, 1908.

1. A Study of Tuberculosis in the United States Navy. By PRESLEY M. RIXEY.
2. The Psychic Phenomena of Intestinal Toxæmias and Their Treatment. By J. CARLISLE DEVRIES.
3. Ipecacuanha in Amœbic Dysentery. By HENRY I. RAYMOND.
4. The Treatment of Amœbic Dysentery. By ROBERT M. THORNBURGH.
5. The Sanitation of the Jamestown Exposition. By ROBERT L. PAYNE.

1. **Tuberculosis in the United States Navy.**—Surgeon General Rixey speaks very interestingly of the achievements and the progress made in treating tuberculosis patients in the United States navy. But the main point here, too, is the prophylaxis. In the matter of recruiting, great pains should be taken to detect tuberculosis in its incipient form before the recruits are drafted into active service; and as regards enlistment we must insist on a minimum standard of physical development and age. Until it is more fully realized that tuberculosis is a disease of nutrition and until a minimum standard of physical requirement is more consistently exacted, we will not have started in a fair way to materially reduce the tuberculosis in the service. This is particularly true of the engineer's force, which necessarily has much hard labor to perform below decks during the short stops in port as well as at sea. The duties of the engine and fireroom forces represent the extreme of the different occupations which keep men below deck and which contribute the greatest number of cases of tuberculosis. The engineer's



force is particularly subject, moreover, to pulmonary affections consequent upon sudden changes from a high to a low temperature, or even a cool one. Frequent and sudden chills from such causes may be prevented with due and possible care. The men must be made to understand the dangers in leaving overheated localities and going immediately under a ventilation shaft or on deck or into the cold storage compartments without necessary precautions such as drying the skin of perspiration and protecting the body by additional clothes, according to the season or climate. And it should be avoided as much as possible that the men in the engine and boiler rooms and other particularly warm places be called suddenly for duty on deck. In this case, unless an emergency is to be met, they should be given time to dry the body and put on the necessary additional garments. As regards recreation and exercise, it is a serious mistake to suppose that the various athletic sports, exercises, and diversions engaged in by enlisted men constitute all that is required for their physical development. As a large proportion of the enlisted force are mere boys not fully grown, their development requires outdoor life of a regular, active character in order to make them vigorous men able to withstand the hardships of warfare or prolonged physical strain of any kind. The value of the setting up drill, particularly the breathing exercise, as a prophylactic measure against pulmonary tuberculosis in the navy cannot be overestimated, but it is believed that steps should be taken to give with more certainty all the enlisted personnel a larger proportion of time out in the sun than is secured by virtue of occasional athletic exercises. Long marches in light marching order, taking half the crew at a time except those debarred by sickness, or regularly sending the men out in sailing or pulling boats are suggested procedures; indeed any such practices might meet the desired end and would not only be of immense benefit to health, but would also be welcomed by the men as a relief from the monotony of ship life. Proper rest and food of course have a very decided bearing upon the conservation of vital resistance in the prophylaxis against tuberculosis, but these latter considerations, it is believed, are well met in the United States navy. The problem of treatment largely resolves itself into dietetic and hygienic considerations, with building of sanatoria.

### Proceedings of Societies.

#### SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Twentieth Annual Session, Held in New Orleans,  
December 17, 18, and 19, 1907.*

The President, Dr. HOWARD A. KELLY, of Baltimore, in the Chair.

*(Continued from page 138.)*

**Thrombosis and Hydrocele in the Inguinal Canal.**—Dr. JOSEPH RANSOHOFF, of Cincinnati, called attention to mild cases of torsion of the cord, of which he reported three cases following severe strains. In one there had been a hernia, and the condition followed the use of an ill fitting truss. In none of the cases did thrombosis occur in the subject

of a varicocele. Under expectant treatment the thrombosis disappeared. A number of cases of hydrocele of the cord within the canal were presented as a sequence of thrombosis. One was clearly a hæmatocele with thrombus following an injury. In three other cases the operation showed the thrombosed vein and the hydrocele. One specimen presented was of the rare form of bilocular hydrocele of the canal of Nuck. The patient was twenty-eight years of age. After a strain and slight illness a hydrocele developed, part of which was in the labium majus, the other properitoneal. The operation, which consisted in total enucleation of the sac, showed a thrombosed vein.

The essayist also presented a multilocular hydrocele of the inguinal canal without any communication with the abdominal cavity and without any history of trauma. He believed that all cystic tumors within the canal resulted from thrombus and effusion into an unobliterated portion of the vaginal peritoneal process. In his paper he alluded only to cystic conditions of the canal which were secondary to hernias and resulted from the sequestration of a portion of the sac.

**Traumatic Epilepsy.**—Dr. E. DENEGRE MARTIN, of New Orleans, called attention to the importance of examining all scalp wounds immediately after an injury, to determine whether or not fractures might be present, and to the need of an operation at any time that symptoms of cortical irritation were manifested, whether due to or suspected to be of traumatic origin. He reported three interesting cases, in one of which there had been an operation sixteen years after the injury. The man at the time of the operation was in such mental condition that he was not able to transact business and was a care to his family. He was relieved by an osteoplastic resection, and was so much benefited that he was able to resume business in a short time, and, although he had had several convulsions after the operation, his mind was perfectly clear and he felt that he had been greatly benefited. The third case was one of a child who had been struck in the head by a plowshare four years previously. The case had been given up as hopeless, the child presenting the most peculiar symptoms, absolutely unmanageable, and a constant care, with frequent convulsions both day and night. Removal of a segment of bone in this case at the seat of injury had resulted in perfect relief and the mental restoration of the child, who, although operated on four years ago, had never had any return of the trouble and had continued to improve.

**The Value of Intestinal Exclusion as a Surgical Procedure.**—Dr. JOHN YOUNG BROWN, of St. Louis, after discussing the various surgical methods in common use for the restoration of intestinal continuity following artificial anus done for the relief of gangrenous hernia, reported three interesting cases in which intestinal exclusion of the afferent and efferent bowel had been done, followed by end to end anastomosis.

The first case was one of strangulated umbilical hernia in which the cæcum, the appendix, and the ascending and transverse colon were found gangrenous in the sac. At the primary operation an artificial anus was made at the umbilical ring. Ten weeks after this operation the abdomen was opened through

a median incision, and bilateral exclusion of the ileum and descending colon was done, followed by direct anastomosis of the ileum to the sigmoid, anastomosis being made with the Murphy button. The patient made an excellent recovery, and the prolapsed bowel, which remained after intestinal continuity had been restored, was removed later under cocaine anæsthesia by the clamp and cautery.

The second case was one in which artificial anus was made for a gangrenous inguinal hernia of the right side, the anus being made at the hernial site. In this case a similar procedure was undertaken. The abdomen was opened through the right rectus, the afferent and efferent loop of ileum excluded, and end to end anastomosis made with a button. The result was exceedingly satisfactory.

The third case was one in which typhlotomy was done through a gridiron incision, and at the same time the entire large bowel was excluded, except the cæcum. The operation was performed after faithful and unsuccessful efforts had been made to relieve multiple fistulæ and ischiorectal sinuses, with necrosis of the coccyx. It was deemed advisable to turn the fæcal current, and this method was resorted to. The turning of the fæcal current resulted in healing of the old sinuses. The intestinal continuity was later restored by exclusion of the cæcum and lateral anastomosis of the ileum to the ascending colon, the last operation being done through an abdominal incision through the right rectus muscle.

In each of the cases reported the various steps of the operation were carried out without difficulty, and the results were all that could be wished.

Attention was called to the fact that in cases where artificial anus was made for the relief of the gangrenous hernia, the irritation brought about by the constant fæcal leakage produced a dense contraction of the scar, which resulted in complete relief of the hernia. By opening the abdomen through an incision away from the original wound, the bowel could be excluded and end to end anastomosis performed with perfect ease, and without impairing the repair work done by Nature in relieving the hernia.

The paper concluded with a strong plea for the employment of intestinal exclusion in the treatment of this condition, the writer believing the operation to be safe, surgical, and satisfactory.

**Hæmaturia in Pregnancy.**—Dr. EDWARD A. BALLOCH, of Washington, surveyed the literature of so called idiopathic, or essential, hæmaturia, or hæmaturia without demonstrable cause. He showed that most of these cases were in the older literature, and that modern research tended toward skepticism as to the possibility of renal hæmaturia without some lesion in the kidney. The two principle theories of causation, the angioneurotic and the chronic nephritis theory, were discussed, and the conclusion was arrived at that the latter had the weight of evidence in its favor.

The influence of nephrectomy upon subsequent pregnancy was discussed. As a case reported was the second instance in the writer's experience where an uneventful pregnancy had followed nephrectomy, he did not consider that the loss of one kidney had much effect upon subsequent pregnancy.

The cystoscope and urethral catheter were essential to a proper diagnosis. The existence and func-

tional capacity of a second kidney should be demonstrated before operative measures were practised. In the matter of treatment, the author considered that an analysis of reported cases showed that equally good results had followed decapsulation and nephrotomy as had followed nephrectomy. He advised the following order of procedure: 1. Injection of adrenalin solution into the pelvis of the kidney. 2. Nephrotomy or decapsulation. 3. Nephrectomy. Nephrectomy should be resorted to only in cases intractable to other measures, as it was essential to save as much of the kidney structure as possible.

**The Sensitive Short Uterosacral Ligament; Its Clinical Significance and Treatment.**—Dr. EDWARD J. ILL, of Newark, N. J., drew attention to the sensitive short uterosacral ligament as a pathological entity. Schultz and Burrage had written of the condition long before this. Schultz gave no special advice as to treatment, while Burrage recommended incision of the ligament through an abdominal section. Ovaries had been sacrificed under a false apprehension. The condition should not be confounded with intraperitoneal adhesions or with shortening of the base of the broad ligament due to scars resulting from puerperal injuries. Outside of the acute pelvic exudate, the writer knew of no condition so painful on pressure as the short and sensitive uterosacral ligament. During the last twelve years 5 per cent. of all his operative gynecological patients had suffered with a short and sensitive uterosacral ligament. When but one ligament was diseased, it occurred in 73 per cent. on the left side. The disease might be congenital or acquired either in childhood or during active sexual life. Because of the short ligament, fixation of the uterus resulted. The circulation of the organ became impaired. Catarrhal and metritic changes resulted in menstrual disturbances. In the acquired case, when but one ligament was short and sensitive, the pain was commonly referred to the sacroiliac synchondrosis or the iliac region of that side. Menstrual pain seemed to be common to all, and was produced by metritic and endometritic changes. The neurasthenic cases offered a bad prognosis. Sterility was a frequent symptom, and abortion sometimes resulted from a very short ligament. The objective effects, when both ligaments were shortened, were to elevate the uterus and drag it into the hollow of the sacrum. Its mobility was much impaired. When one ligament was short, the uterus was elevated and displaced to the side of the short ligament and retroposed. The short ligament stood out sharply when the cervix was drawn forward and downward. Great pain resulted from such a procedure. The prognosis was bad for those who came from a neurotic family or where from long standing conditions the resulting pathological changes had become incurable. The operation suggested by the writer consisted of a most thorough stretching of the tense and sensitive uterosacral ligaments, while the patient was under profound anæsthesia, until the uterus became freely movable. A free dilatation of the uterus with graduated steel sounds, curettage, etc., should be added.

**Cyst of the Pancreas.**—Dr. RICHARD HALL, of Cincinnati, said that true cysts of the pancreas were retroperitoneal tumors, while pseudocysts were intraperitoneal accumulations of fluid. Indigestion,

the literature, the tail of the pancreas was the favorite situation for the development of these cysts. The diagnosis of pancreatic cysts should be based upon the character of the contents of the tumor rather than upon the supposed demonstration of an anatomical connection. The author reported a case of cyst of the pancreas in a woman, forty-two years of age, upon whom he had operated successfully.

**Transperitoneal Ureterotomy for Ureteral Calculus.**—Dr. GERRY R. HOLDEN, of Jacksonville, Fla., reported a case in which he had resorted to this operation for the removal of a stone in the ureter. He pointed out the reasons why an abdominal extraperitoneal operation was impossible on account of the thick abdominal walls. He did not believe that transperitoneal ureterotomy for ureteral calculus was often the operation of election. He did believe, however, that it was the best operation when the stone was impacted at or just above the uterine artery, provided one was reasonably assured that infection was either mild or else absent altogether.

**The Inconsistencies of the Gauze Pack.**—Dr. HUBERT A. ROYSTER, of Raleigh, N. C., said we drained before we knew why we drained. A strip of gauze was simply a means of applying the law of capillary attraction. Rubber tube and tissue had been substituted, because the gauze so frequently failed to drain, acting as a successful stopper to the outlet. The one thing to be desired was patency of the wound, but there could be no more efficient plug than the stereotyped gauze packing. When intended for a drain, gauze should be inserted after the manner of a lamp wick; when used for hæmorrhage, it should be packed in like wadding with a ramrod. There was a field for gauze in packing sinuses, fistulae, and granulating wounds, so that healing might take place slowly from the bottom. Some would persist in using gauze drains, and in the event of disaster would console themselves by believing that it was better to have drained and lost than never to have drained at all. The use of gauze to wall off septic matter in abdominal operations was fraught with danger and full of inconsistencies. The placing of large pads or rolls of gauze in the cavity necessitated a long incision and undue handling of the viscera, and almost always uninfected regions were in contact with pus soaked gauze. When one end of the gauze was soaked with pus, the other end would become soiled sooner or later. The common practice was to push the gauze packs through pus collections into healthy parts or to wall off around localized abscesses with pads, which soon became saturated with purulent products. Exposure of the peritoneum to gauze soaked with pus was just as dangerous as the presence of pus itself among the intestines. A glaring inconsistency was seen in the removal of the packs with contaminated hands. The surgeon should resolve, first, that he would employ gauze sensibly, if he could, and not at all, if he could not. Second, if the using of gauze "maketh our technique to offend, we will use no more gauze while the world standeth."

**Gunshot Wounds of the Abdomen.**—Dr. LE GRAND GUERRY, of Columbia, read a paper on this subject, in which he reported eight consecutive cases of gunshot wounds of the abdomen.

**Suppurative Phlegmonous Gastritis.**—Dr. J. WESLEY BOVÉE, of Washington, after going extensively into the literature of this subject, reported a case of circumscribed suppurative phlegmonous gastritis in which he had resorted to gastrostomy. The case was complicated by pregnancy of six months and abortion. Mrs. T., white, thirty-six years of age, who had had seven children, followed in 1895 by a miscarriage, was admitted to the Columbia Hospital on October 6, 1907. She had suffered from pain in the epigastric region for several years, which was usually relieved by taking food. Her last menstrual period occurred on April 13, 1907, and she considered herself pregnant. On October 3d she ate heartily of boiled cabbage for dinner and crabs late at night. In the night she was attacked by severe pain in the region of the stomach. Morphine was given for the pain. On the following day the pain continued and vomiting set in. An attempt to move the bowels by enemata and cathartics was unavailing. The temperature was elevated, ranging from 99.5° to 101.5° F. The pulse was rapid and weak. The next day croton oil was employed by the mouth, but the bowels failed to respond. The various remedies were not effective in relieving the pain, constipation, and vomiting. The vomited material was first solid and partially digested food. Later it was watery and frothy, changing to dark green. She was so enfeebled and appeared to be so ill that the attending physician secured an ambulance and took her to the hospital on Sunday night, as mentioned. No chill or sweat was experienced. Dr. Bovée saw her about 11 o'clock that night. At that time her pulse was thready and her countenance anxious in appearance. Examination under anaesthesia disclosed that the uterus extended to an inch above the umbilicus, and the epigastrium was distended, very tender, and tympanitic. A median line incision above the uterus was made. The intestinal loops were congested, but not adherent. The stomach was palpated. It was found to be fully three fourths of an inch thick at the middle of the greater curvature, gradually thinning toward the cardiac end. In the pyloric end and in front was a mass of nearly the size of a man's fist, that was soft, though not doughy, to the touch. This gradually thinned out toward the middle of the stomach. The stomach was opened at about its middle by a longitudinal incision of about three inches, and the mucosa inspected. To determine the nature of the enlargement more definitely, a separate short incision was made over it, when the nature of its contents was manifest. Gauze was passed around it and it was opened, and two to three ounces of grayish pus escaped. The long incision was closed and the pus cavity wiped out. A rubber tube was tightly sutured into it and brought out of the abdomen. A light gauze drain was packed about it. She was fed per rectum for twenty-one days. Five days after the operation liquids were given by the mouth, as salt solution by hypodermoclysis and liquids by the rectum did not quench her ravenous thirst. The following day the contents of the stomach came through the wound. A few days later solid food was given and the tube removed. Stomach contents ceased escaping in a few days.



On the eighth day with little effort she aborted, the fœtus living three hours. With the exception of infection of the abdominal incision, which required resuturing, she had made an uninterrupted recovery.

**Harmful Involution of the Appendix.**—Dr. ROBERT T. MORRIS, of New York, said that most cases of stomach and bowel trouble were not cases of stomach and bowel trouble. Normal involution of the appendix was often a harmful process and produced many of the symptoms ascribed to other organs. Bile tract adhesions, eye strain, loose kidney, and several pelvic conditions caused symptoms similar to the ones produced by involution of the appendix. The diagnosis was easily made by two features: First, a persistent or frequently recurring sense of discomfort in the appendix region. Second, supersensitiveness of the right lumbar ganglia. This latter point was of definite and constant diagnostic importance. To find the right lumbar ganglia, draw a line from the navel to the right anterior superior spine of the ilium. One inch and a half from the navel on this line would be found the diagnostic point on deep pressure. McBurney's point was six or eight inches away, at the other end of the line. McBurney's point had reference to acute inflammatory processes in the appendix itself. The point described by Dr. Morris had reference to reflex disturbances caused by the appendix. If the right lumbar ganglia alone were tender on pressure, the appendix alone was responsible for disturbances of the stomach and bowel that were ascribed to other causes. If the disturbance proceeded from some organ in the pelvis, both right and left lumbar ganglia were tender. If the disturbance proceeded from the bile tract or from eye strain or from some point above the navel, neither the right nor the left lumbar ganglia were tender.

Dr. Morris referred to the new era of physiological surgery, based upon the studies of Metchnikoff and Wright. The patient would be allowed to do most of the work in managing his infection, and the surgeon was to leave him with such a degree of normal resistance after an operation that he could elaborate his phagocytes and opsonins. He thought he stood alone in advocating the doctrine of the new era, but in a year or two more many surgeons would be upholding the doctrine. They would stop doing elaborate work in appendicitis cases with pus, for instance, and they would not fear spreading pus over the normal peritonæum, nor would they stop to remove the pus, provided they could operate quickly and with so little disturbance to the patient that he was left with his normal resistance unimpaired. The surgeon's function was merely to turn the tide of the battle between bacterium and phagocytes, and they left most of the work for the patient. That was the new principle. Instead of trying to remove the infection by surgery, the infection would be left to be removed by the patient physiologically after turning the tide of battle for him.

**The Surgery of the Heart and Pericardium.**—Dr. RUDOLPH MEYER, of New Orleans, described the recent advances in the surgery of these organs. According to statistics, the proportion of recoveries

after operations on the heart was 43.83 per cent. In 134 cases of suture there had been forty-nine recoveries. In eleven cases the heart had been exposed without suture, and five patients had recovered.

While the value of statistical conclusions must not be overrated, it might be safely concluded that heart wounds, far from being invariably fatal, gave three chances in four for survival long enough to permit of surgical intervention, one chance in ten to heal spontaneously, and one in two to be cured by surgery.

Further progress in cardiac surgery could be accomplished only by methods which would diminish three great factors in the mortality, namely, shock, hæmorrhage, and infection. The writer then discussed the most recent suggestions which gave promise of decided progress in at least these three directions: 1. The diminution of shock by simplifying the preliminary thoracotomy, which gave the operator free access to the pericardium and the heart. 2. Methods of hæmostasis which controlled the bleeding from the wounded heart itself, while the suture of the wound was accomplished. 3. Methods which would diminish the tendency to fatal postoperative infection (*a*) by proper attention to asepsis, usually neglected in emergencies; (*b*) by prophylactic drainage of the pericardium and pleura, and (*c*) by immediate or early obliteration of the pleural space and by the expanded lung to avoid the dead space left by the retracted lung in pneumothorax.

**The Present Status of Gastric Surgery.**—Dr. J. GARLAND SHERRILL, of Louisville, read a paper on this subject in which he reported three cases illustrating different conditions for which an operation might be done with the hope of materially benefiting the patient's condition.

*Case 1.*—A man, aged thirty-five years. Gastroenterostomy done for dilatation, which was causing great distress, with the result that the patient had been entirely relieved.

*Case 2.*—A man, aged fifty. He gave a history of gastric trouble extending over a period of three years and a half, with a diagnosis of ulcer of the stomach, with imperfect drainage. The operation in this case consisted of gastrectomy, or removal of the ulcer and the ulcer bearing area. The result in this case also was very good.

*Case 3.*—A woman gave a history of suffering from indigestion and various stomach disorders for a period of six years, with an interval of quiescence. She had had a number of hæmorrhages from the stomach, had lost in flesh, and began to show a cancerous cachexia. A diagnosis of ulcer of the stomach with contracture, probably beginning malignant change, was made. At the operation, which consisted of a gastroenterostomy, a cancerous nodular mass was found involving the lesser curvature of the stomach for three fourths of its length, and the central portion of the stomach, both anterior and posterior surfaces for several inches, and the left lobe of the liver, which was closely bound by the growth of the stomach. An anastomosis was made with difficulty, owing to the necessity of making it quite far to the left beyond the border of the upper

It was possible to complete the operation only after making an opening through the gastrocolic omentum in addition to the one through the transverse mesocolon, and bringing the intestine through both openings and the posterior wall of the stomach through the opening of the greater omentum and there making the anastomosis. After this was accomplished the operation was completed in the usual manner. The patient made a good recovery from the operation, obtained great relief from the gastric discomfort, and had been enabled to take nourishment by the stomach, which was not possible for some time previously. She had, however, an oedema of the feet, which made the hope of her final cure very small.

Officers were elected as follows: President, Dr. F. W. Parham, of New Orleans; vice presidents, Dr. Willis F. Westmoreland, of Atlanta, and Dr. Henry D. Fry, of Washington; treasurer, Dr. Stuart McGuire, of Richmond; secretary, Dr. William D. Haggard, of Nashville.

St. Louis was selected as the place for holding the next annual meeting, in 1908.

### Letters to the Editors.

#### VIVISECTION IN THE STATE OF NEW YORK.

*Medical Society of the State of New York, Committee on Experimental Medicine.*

64 MADISON AVENUE,  
NEW YORK, January 21, 1908.

To the Editors:

On April 8, 1907, the president of this society appointed twenty-four members thereof to be a committee on experimental medicine, in view of proposed legislation calculated to injure the progress of medicine by restricting experimentation.

As agitation in this direction has recently been renewed, in a very plausible form, the undersigned have been instructed by the said committee to send you the following copy of a preamble and resolution adopted at a meeting thereof held in New York, on January 15, 1908, and respectfully to request the publication thereof in the *New York Medical Journal*:

*Whereas*, in the State of New York a petition is being widely circulated among medical men for signature in favor of a proposed bill entitled An Act to Prevent Cruelty by Regulating Experiments on Living Animals; and

*Whereas*, the said bill contains in its provisions conditions which would probably seriously impair the progress of scientific medicine,

*Resolved*, that the Committee on Experimental Medicine of the Medical Society of the State of New York earnestly requests the members of the medical profession to refrain from signing the aforesaid petition, and urges any who may have signed the same by inadvertence to withdraw their signatures.

The present laws of this State relating to this subject have long proved adequate and satisfactory.

JOSEPH D. BERRY, M. D., chairman.  
JOHN G. CURTIS, M. D., secretary.

### Book Notices.

*Functional Nervous Disorders in Childhood.* By EDWARD G. GUTHRIE, M. A., M. D., F. R. C. P., Senior Physician to Paddington Green Children's Hospital, etc. London: Henry Frowde and Hodder & Stoughton, 1907. (Price, \$3.)

Dr. Guthrie has here collected, in a very presentable form, a series of lectures and addresses delivered by him at various times before learned societies and students at a postgraduate institution. Most of them have appeared before, but in the present volume, appearing as they do as a more coherent and controlled presentation, added weight is given to a number of papers which of themselves are full of suggestion and counsel. The neurotic child is father of the neurasthenic adult is the author's chief thesis, and it is his aim to develop a point of view with prophylaxis as its final justification.

There are twenty-one chapters, the titles of a few of which will outline the scope of the work. He speaks of the Effects of the Emotions on Health, Nervous System in Childhood, Types of Neurotic Subjects, Hypersensitiveness of Special Senses, Mental and Educational Overstrain, etc. Apart from a few chapters dealing with spasmodic asthma, tics, chorea, etc., the work is devoted entirely to a study of the nervous system in childhood in its purely functional aspects. It is a work much needed in the English tongue, and should be read by all, for all physicians are interested in building up a healthy stock. The functional disorders of the nervous system are bound to increase with the rapidly increasing complexities of social relations, and although adaptation is always at work, wear and tear and strain will claim their victims. Childhood is the time when better adjustments may be planned and dangers perhaps averted. Useful hints and suggestions are to be found in Dr. Guthrie's work.

#### BOOKS, PAMPHLETS, ETC., RECEIVED.

A Textbook on Uric Acid and its Congeners. With Special Reference to its Physical and Chemical Properties, its Metabolism, and Accumulation in the Organism. Together with the Disease Processes Arising Therefrom and Their Etiological Therapy. For Medical Students and Practitioners. By George Abner Gilbert, M. D., Member of Local, County, and State Medical Societies of Connecticut, etc. First Edition. Danbury, Conn.: The Danbury Medical Printing Company, 1907. Pp. 370.

Comparative Electrophysiology. A Physico-physiological Study. By Jagadis Chunder Bose, M. A., D. Sc., Professor, Presidency College, Calcutta. With Illustrations. New York, Bombay, and Calcutta: Longmans, Green, & Co., 1907. Pp. 760.

Medical Diagnosis. A Manual for Students and Practitioners. By Charles Lyman Greene, M. D., Professor of the Theory and Practice of Medicine in the University of Minnesota, etc. Second Edition, Revised, with Seven Colored Plates and Two Hundred and Forty-one Illustrations. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. 691.

Transactions of the Fifth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine Hospital Service, held in Washington on May 29, 1907. Washington: Government Printing Office, 1907. Pp. 47.

An Introduction to the Study of the Infant's Stool. By Paul Selter, M. D., Solingen, Germany. Translated by Herbert M. Rich, B. L., M. D., Detroit, Mich. Detroit: The Detroit Medical Journal Company, 1907. Pp. 28. (Price, 30 cents.)

Sul processo de riparazione delle perdite di sostanza nelle cartilagini e pericordio. Per il Prof. Dott. Giulio Anzilotti, aiuto e libero docente di patologia chirurgica. Pisa: Orsolini-Prosperti, 1907. Pp. 38.

Anæmia in Puerto Rico. Report of the Permanent Commission for the Suppression of Uncinariasis in Puerto Rico for the Fiscal Year 1906-1907. Respectfully submitted to the Honorable Régis H. Post, Governor of Puerto Rico, September 30, 1907.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, United States Public Health and Marine Hospital Service, during the week ending January 17, 1908:

Places.	Dates.	Cases.	Deaths.
California—San Francisco.....	Dec. 22-Jan. 10.....	6	0
Florida—Altamonte.....	Dec. 28-Jan. 10.....	1	0
Illinois—Danville.....	Dec. 28-Jan. 10.....	1	0
Illinois—Springfield.....	Dec. 28-Jan. 10.....	20	0
Indiana—Elkhart.....	Dec. 28-Jan. 10.....	1	0
Indiana—Muncie.....	Dec. 28-Jan. 10.....	1	0
Kansas—Kansas City.....	Dec. 28-Jan. 10.....	1	0
Kentucky—Covington.....	Dec. 28-Jan. 10.....	9	0
Louisiana—New Orleans.....	Dec. 28-Jan. 10.....	4	0
Massachusetts—Fall River.....	Dec. 28-Jan. 10.....	3	0
Michigan—Grand Rapids.....	Dec. 28-Jan. 10.....	1	0
Michigan—Saginaw.....	Dec. 21-28.....	3	0
Minnesota—Winona.....	Dec. 28-Jan. 10.....	4	0
Missouri—Kansas City.....	Dec. 28-Jan. 10.....	4	0
Missouri—St. Louis.....	Dec. 28-Jan. 10.....	2	0
Montana—Helena.....	Dec. 1-30.....	1	0
Nebraska—Nebraska City.....	Dec. 28-Jan. 10.....	1	0
New York—Schenectady.....	Dec. 28-Jan. 10.....	1	0
Ohio—Lorain.....	Dec. 27-Jan. 10.....	2	Imported.
Oklahoma—Oklahoma City.....	Dec. 21-28.....	1	0
South Dakota—Sioux Falls.....	Dec. 28-Jan. 10.....	4	0
Tennessee—Nashville.....	Dec. 28-Jan. 10.....	1	0
Texas—Laredo.....	Dec. 28-Jan. 10.....	1	Imported.
Texas—San Antonio.....	Dec. 28-Jan. 10.....	1	0
Washington—Spokane.....	Dec. 28-Jan. 10.....	1	0
Washington—Tacoma.....	Dec. 28-Jan. 10.....	1	0
Wisconsin—Milwaukee.....	Dec. 28-Jan. 10.....	1	0

Places.	Dates.	Cases.	Deaths.
Brazil—Pernambuco.....	Oct. 14-29.....	1	0
Canada—Winnipeg.....	Dec. 28-Jan. 10.....	1	0
China—Amoy (Kulangsu).....	Nov. 28-Jan. 10.....	1	0
China—Shanghai.....	Nov. 28-Jan. 10.....	1	0
France—Paris.....	Dec. 14-21.....	7	0
France—General.....	Dec. 14-21.....	7	0
Italy—Naples.....	Dec. 28-Jan. 10.....	149	0
Japan—Batavia.....	Nov. 28-Jan. 10.....	3	0
Japan—Yokohama.....	Nov. 28-Jan. 10.....	1	0
Mexico—Mexico.....	Dec. 28-Jan. 10.....	1	0
Peru—Lima.....	Dec. 11.....	26	15
Russia—Moscow.....	Dec. 28-Jan. 10.....	1	0
Russia—Riga.....	Dec. 28-Jan. 10.....	1	0
Russia—St. Petersburg.....	Dec. 28-Jan. 10.....	1	0
Siberia—Vladivostok.....	Dec. 28-Jan. 10.....	1	0
Spain—Seville.....	Dec. 28-Jan. 10.....	1	0
Spain—Valencia.....	Dec. 28-Jan. 10.....	1	0
South Africa—Durban.....	Dec. 28-Jan. 10.....	1	0
Thailand—Bangkok.....	Dec. 28-Jan. 10.....	1	0
Venezuela—La Guaira.....	Dec. 7-Jan. 10.....	1	0

Places.	Dates.	Cases.	Deaths.
China—Tientsin.....	Dec. 28-Jan. 10.....	1	0
China—Shanghai.....	Dec. 28-Jan. 10.....	1	0
France—Paris.....	Dec. 14-21.....	7	0
France—General.....	Dec. 14-21.....	7	0
Italy—Naples.....	Dec. 28-Jan. 10.....	149	0
Japan—Batavia.....	Nov. 28-Jan. 10.....	3	0
Japan—Yokohama.....	Nov. 28-Jan. 10.....	1	0
Mexico—Mexico.....	Dec. 28-Jan. 10.....	1	0
Peru—Lima.....	Dec. 11.....	26	15
Russia—Moscow.....	Dec. 28-Jan. 10.....	1	0
Russia—Riga.....	Dec. 28-Jan. 10.....	1	0
Russia—St. Petersburg.....	Dec. 28-Jan. 10.....	1	0
Siberia—Vladivostok.....	Dec. 28-Jan. 10.....	1	0
Spain—Seville.....	Dec. 28-Jan. 10.....	1	0
Spain—Valencia.....	Dec. 28-Jan. 10.....	1	0
South Africa—Durban.....	Dec. 28-Jan. 10.....	1	0
Thailand—Bangkok.....	Dec. 28-Jan. 10.....	1	0
Venezuela—La Guaira.....	Dec. 7-Jan. 10.....	1	0

### Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending January 18, 1908:

BERRY, T. D., Passed Assistant Surgeon. Granted leave of absence for two days from January 1, 1908.

BROOKS, S. D., Surgeon. Directed to proceed to Randburg, Cal., for special temporary duty; upon completion of which to rejoin his station at Los Angeles, Cal.

CHAPIN, C. W., Assistant Surgeon. Relieved from duty at Detroit, Mich., and directed to proceed to Seattle, Wash., reporting to Passed Assistant Surgeon Cofer for special temporary duty.

CHENEY, E. L., Acting Assistant Surgeon. Granted leave of absence for fourteen days from January 31, 1908.

EARLE, B. H., Passed Assistant Surgeon. Granted leave of absence for fifteen days from January 14, 1908.

GOODMAN, F. S., Pharmacist. Relieved from duty at Cape Charles Quarantine Station and from temporary duty at Baltimore, Md., and directed to proceed to Tampa Bay Quarantine Station, reporting to the medical officer in command for duty and assignment to quarters.

GRAHAM, EARL A., Pharmacist. Directed to proceed to Stapleton, N. Y., reporting to the medical officer in command for duty and assignment to quarters.

KEEN, W. H., Pharmacist. Relieved from duty at Tampa Bay Quarantine Station and directed to proceed to Cape Charles Quarantine Station, reporting to the medical officer in command for duty and assignment to quarters.

RANSOM, S. A., Acting Assistant Surgeon. Excused from duty, without pay, for twelve days from December 5, 1907.

ROGERS, EDWARD, Pharmacist. Relieved from duty at Stapleton, N. Y., and directed to proceed to Fort Townsend, Wash., reporting to the medical officer in command for duty and assignment to quarters.

SPRATT, R. D., Assistant Surgeon. Granted an extension of leave of absence for two days; granted leave of absence for twenty-one days from January 14, 1908.

STEVENSON, J. W., Acting Assistant Surgeon. Excused from duty, without pay, for three months from January 6, 1908.

STONER, G. W., Surgeon. Granted leave of absence for three days from January 8, 1908, under paragraph 189, Service Regulations.

STUMP, F. A., Pharmacist. Directed to proceed to Chicago, Ill., reporting to the medical officer in command for duty and assignment to quarters.

THOMAS, A. M., Pharmacist. Directed to proceed to San Francisco Quarantine Station, reporting to the medical officer in command for duty and assignment to quarters.

#### Appointments

Karl H. Graham and Frank A. Stump were appointed pharmacists of the third class, January 10, 1908.

#### Reinstatement.

Mr. A. M. Thomas was reinstated as pharmacist of the third class in this Service, January 8, 1908.

#### Appointments Revoked.

The appointments of Linn Bradley and F. J. Perusse to be pharmacists of the third class have been revoked.

#### Board of Health.

A board of medical officers was convened to meet at Seattle, Wash., January 16, 1908, for the purpose of examining aliens suspected of having trachoma. Detail for the board: Passed Assistant Surgeon I. E. Coffey, chairman; Passed Assistant Surgeon M. J. Wynn, and Acting Assistant Surgeon I. R. Underwood, members.

### Army Intelligence:

Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending January 17, 1908:

BAKER, H. H., First Lieutenant and Assistant Surgeon. Will proceed to Columbus, Pa., to accept a detachment of recruits in Fort Meade, Cal.

BANKS, W. P., First Lieutenant and Assistant Surgeon. Will proceed to report on February 4, 1908, to Fort Meade, Cal., to accept a detachment of recruits in Fort Meade, Cal.



- Presidio of San Francisco, Cal., for examination for advancement.
- BLOMBERG, H. D., Captain and Assistant Surgeon. Ordered to Jefferson Barracks, Mo., for temporary duty.
- CRAIG, C. F., First Lieutenant and Assistant Surgeon. Will report in person on February 11, 1908, to Major W. D. Crosby, surgeon, president, examining board at the Army Medical Museum Building, Washington, D. C., for examination for advancement.
- GANDY, CHARLES M., Professor of Military Hygiene. Appointed a member of a board of medical officers to meet at West Point, N. Y., February 4, 1908, for physical examination of the cadets of the first class at the U. S. Military Academy.
- HANNER, J. W., Captain and Assistant Surgeon. Appointed a member of a board of medical officers to meet at West Point, N. Y., February 4, 1908, for physical examination of the cadets of the first class at the U. S. Military Academy.
- IVES, F. J., Major and Surgeon. Retired from active service at Fort McHenry, Md., and will proceed to San Francisco, Cal., taking transport to sail on or about March 5, 1908, for Philippine Islands.
- KEEFE, F. R., Major and Surgeon. Appointed a member of a board of officers, to meet at the General Hospital, Presidio of San Francisco, Cal., February 4, 1908, for examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion or advancement.
- KENDALL, W. R., Major and Surgeon. Appointed a member of an Army retiring board, to meet at Fort Sam Houston, Texas, for examination of such officers as may be ordered before it.
- KENNEDY, J. M., Major and Surgeon. Appointed a member of a board of officers, to meet at the General Hospital, Presidio of San Francisco, Cal., February 4, 1908, for examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion or advancement.
- MASON, C. F., Major and Surgeon. Appointed a member of a board of medical officers to meet at West Point, N. Y., February 4, 1908, for physical examination of the cadets of the first class at the U. S. Military Academy.
- NELSON, KENT, Captain and Assistant Surgeon. Relieved from duty at Fort McHenry, Md.; will proceed to San Francisco, Cal., and take transport to sail on or about March 5, 1908, for Philippine Islands.
- TORNEY, G. H., Lieutenant Colonel and Deputy Surgeon General. Appointed a member of a board of officers, to meet at the General Hospital, Presidio of San Francisco, Cal., February 4, 1908, for examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion or advancement.
- WHALEY, A. M., First Lieutenant and Assistant Surgeon. Appointed a member of an Army retiring board, to meet at Fort Sam Houston, Texas, for examination of such officers as may be ordered before it.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending January 18, 1908:*

- ANGWIN, W. A., Passed Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the *Philadelphia*.
- BAGG, C. P., Surgeon. Detached from the *Philadelphia* and ordered to command the Naval Hospital, Puget Sound, Wash., and to additional duty at that yard.
- BIDDLE, C., Surgeon. Ordered to duty at the marine recruiting station, Philadelphia, Pa., and to additional duty in attendance on officers not otherwise provided with medical aid in that city.
- CATHER, D. C., Assistant Surgeon. Detached from the naval training station, San Francisco, Cal., and ordered to the *Lancaster*.
- DE LANCY, C. H., Surgeon. Detached from the naval recruiting station, Chattanooga, Tenn., and ordered to the navy yard, New York, N. Y.
- DENNIS, J. B., Surgeon. Detached from the Naval Hospital, Puget Sound, Wash., and ordered to the *South Dakota*.
- DUNBAR, A. W., Surgeon. Detached from the *California* and ordered to the *Relief*.

- JACOBSON, L. C., Acting Assistant Surgeon. Ordered to the Naval Hospital, Norfolk, Va.
- ORVIS, R. T., Surgeon. Ordered to the naval recruiting station, St. Louis, Mo.
- PARKER, E. G., Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to the *California*.
- RUSSELL, A. C. H., Surgeon. Detached from the naval torpedo station, Newport, R. I., and ordered to the naval recruiting station, Chattanooga, Tenn.
- SPEAR, J. C., Medical Director, retired. Detached from duty at the marine recruiting station, Philadelphia, Pa., and ordered home.
- VERNER, W. W., Passed Assistant Surgeon. Detached from the naval recruiting station, St. Louis, Mo., and ordered to the naval training station, San Francisco, Cal.

## Births, Marriages, and Deaths.

### Born.

- O'DONNELL.—In Detroit, Michigan, on Sunday, January 12th, to Dr. D. H. O'Donnell and Mrs. O'Donnell, twin daughters.

### Married.

- ALLEN—HASKELL.—In Savannah, Georgia, on Wednesday, January 8th, Dr. Frederick Olcott Allen, of Philadelphia, and Miss Sallie Owens Haskell.
- BASTEIN—SHECKELS.—In Washington, D. C., on Wednesday, January 8th, Dr. F. E. Bastein and Miss Edna Sheckels.
- HARRINGTON—ELIOT.—In Washington, D. C., on Thursday, January 9th, Dr. Francis Edward Harrington and Miss Maye Llewellyn Eliot.
- KIRK—LAMBERT.—In Kingston, Ontario, Canada, on Wednesday, January 15th, Dr. F. James Kirk, of Brooklyn, and Mrs. A. E. Lambert.
- PHILLIPS—HYDE.—In Boston, on Saturday, January 11th, Dr. John C. Phillips and Miss Eleanor Hyde.
- RICHMOND—RICE.—In Everett, Massachusetts, on Thursday, January 9th, Dr. Fred M. Richmond and Miss M. Marion Rice.
- WILLIAMS—FORD.—In New York, on Saturday, January 18th, Dr. Linsly R. Williams and Mrs. Grace Kidder Ford.

### Died.

- ATKINS.—In Denver, Colorado, on Wednesday, January 8th, Dr. Edward Atkins.
- BANKS.—In Columbia, Mississippi, on Thursday, January 9th, Dr. M. L. Banks, aged seventy-six years.
- BEAUCHAMP.—In Lawton, Oklahoma, on Wednesday, January 15th, Dr. F. D. Beauchamp.
- COFFEY.—In New York, on Friday, January 17th, Dr. Joseph Coffey, aged forty-eight years.
- DARRALL.—In Washington, D. C., on Wednesday, January 1st, Dr. Chester B. Darrall.
- GAHRER.—In Brooklyn, on Monday, January 13th, Dr. Robert G. Gahrer, aged sixty-three years.
- HAINES.—In Philadelphia, on Thursday, January 9th, Dr. Hannah Rodman Haines, aged sixty-four years.
- HEBB.—In Randallstown, Baltimore County, Maryland, on Friday, January 10th, Dr. Henry J. Hebb, aged sixty-six years.
- KNIGHT.—In Toronto, Ontario, Canada, on Monday, January 13th, Dr. John Alexander Knight.
- MARILL.—In Poughkeepsie, New York, on Tuesday, January 14th, Dr. Joaquim Marill, aged seventy-three years.
- MURPHY.—In Chelsea, Massachusetts, on Sunday, January 12th, Dr. Stephen N. Murphy, aged thirty-five years.
- POMEROY.—In Springfield, Massachusetts, on Saturday, January 11th, Dr. Stephen F. Pomeroy, aged eighty years.
- ROOCH.—In St. Louis, Missouri, on Monday, January 13th, Dr. August Rooch, aged eighty years.
- SPARROW.—In Baltimore, Maryland, on Tuesday, January 14th, Dr. Louis Griffith Sparrow, aged seventy-nine years.
- STONE.—In Richmond, Virginia, on Thursday, January 9th, Dr. George L. Stone, aged sixty-three years.
- VICTORIA.—In New York, on Saturday, January 11th, Dr. José Lopez de Victoria, aged forty-two years.
- WINTERS.—In Silverton, Colorado, on Tuesday, January 14th, Dr. William R. Winters, aged fifty-four years.

# New York Medical Journal

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WHOLE No. 1522.

### CARCINOMATOSIS OF THE MENINGES.

*Presentation of a Case of Carcinomatosis of the Meninges, with a Consideration of the Diagnosis of Multiple Carcinomatosis, Tuberculosis of the Nervous System, Disseminated Syphilis, and Multiple Sclerosis.*

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The case which forms the subject matter of this paper is worthy of record not only on account of the rarity of the condition present, but also because the mistake in diagnosis, made after a careful clinical study, may be of some value in the consideration of similar cases.

Multiple secondary carcinomatosis of the nervous system limited to the meninges is a rare condition. Only eleven cases were discovered after a careful search of the literature. In all of the four cases reported by Siefert (1) there was a primary tumor of the brain. In the two cases of Scanzoni (2) tumors of the brain were secondary to carcinoma elsewhere, and the meningeal infiltration took its origin from these. In the case of Lilienfeld and Benda (3) the meninges of the cord were alone affected.

In some respects our case of secondary carcinomatosis localized to the meninges is unique. Scholz (4), it is true, under the title of meningitis carcinomatosa, reports two cases diagnosed as meningitis, in one of which the clinical diagnosis was substantiated by spinal puncture. Westenhöffer (5) reports a similar case of carcinomatous meningitis (confirmed by autopsy) where colon bacilli were found in the cerebrospinal fluid during life, and after death in the bloodvessels of the pia and dura. In only one of Scholz's cases is there mention of the involvement of the spinal cord or its meninges. In the other case the spinal meninges were involved, but no mention is made of spinal roots or ganglia, and the histological report is meagre. Although Scholz does not mention specifically the presence of collections of leucocytes, the case was reported as meningitis carcinomatosa, which Siefert had previously distinguished from simple meningeal carcinomatosis, in which signs of inflammation were absent. In Scholz's and in Westenhöffer's cases, however, the membranes were tense, the bloodvessels were highly injected, and the pia infiltrated with turbid exudate

showing here and there traces of blood or clots. On post mortem examination the conditions could not be distinguished from simple meningitis.

Of Siefert's cases, one was a case of meningitis carcinomatosa. Of the others, one shows the membranes adherent to the brain substance at the site of the tumor. Very careful histological examination showed that the meninges were extensively involved. Hemorrhages and collections of leucocytes were seen. There was penetration of the brain substance by the columns of cells. In the second case the meningeal changes in the brain were not extensively studied, but those of the spinal cord showed the presence of collections of leucocytes and hemorrhages in addition to the carcinomatosis. In the case of Lilienfeld and Benda there was oedema of the membranes of the brain, infiltration of the spinal meninges, invasion of the periphery of the cord by carcinoma, and involvement of the roots and of several cranial nerves. In the cases of Scanzoni the meninges of the cord were also principally involved.

The following case reported at the May meeting, 1907, of the Association of American Physicians, by Dr. Peabody, is evidently a case very similar to the one here reported, and the only case we have been able to find at all similar to it. In reporting this case, Dr. Peabody called attention to the case here reported from an abstract of the history and clinical findings published in the transactions of the Philadelphia Neurological Society, three years ago, at which the brain was shown as a card specimen.

Dr. Peabody's case was a woman forty-three years old. Four years after the removal of the breast for carcinoma she developed pains, especially marked in the lower extremities, back, and shoulders. The pain was severe and the prostration became intense. Electrical reactions were normal. Treatment did not relieve her pains. She slept but little and gradually became mildly delirious. Lumbar puncture gave normal fluid. About a week before death she was attacked with partial ptosis of the right eye, partial paralysis of the muscles of the right side of the face, weakness of the right palate muscles, and partial deafness of the right ear. Diplopia was present in part of the field of vision. Pain in thighs and legs persisted, and pain was noted in the lumbosacral region on attempting to sit upright and on pressure. There was no other alteration of sensation. The eye grounds were normal. Urination and defecation became involuntary. The muscles of deglutition gradually became impaired, and water regurgitated through the nose. She died of asphyxia of the lungs three weeks after coming under observation.

Autopsy showed metastatic carcinoma of the thyroid, of one suprarenal gland, and of one lung.

wall of an old cyst in cerebellum, numerous small metastatic growths in the pia of pons and medulla, without lesion of the pons or the medulla. There was diffuse infiltration, with carcinoma of the perineural lymph sheaths of one trunk nerve of the

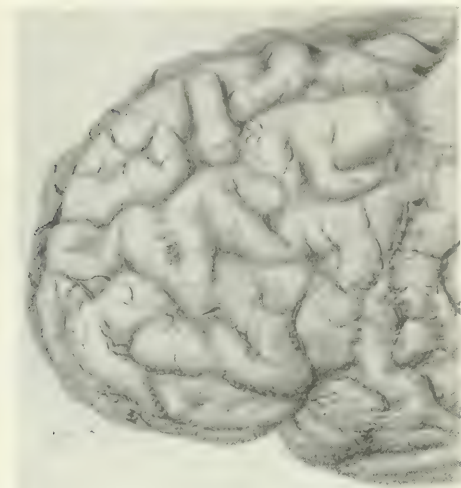


FIG. 1. Left parietal lobe, showing primary carcinomata and their relation to the cerebral veins.

cauda equina, and in one place the nerve trunk itself was similarly invaded. The pia covering the cord showed small metastatic growths. This case has since been reported in the literature (6).

In the case about to be presented it will be noticed upon reading the pathological report that the lesions were small pin point, and closely scattered like small grains of sand over the surface of the brain and cord.

**CASE.**—M. S., colored, age thirty-eight, by occupation cook, was admitted to the woman's nervous wards of the Philadelphia General Hospital, April 9, 1905. She complained of pains in both lower extremities and in the lumbar regions. At times the pains extended into the left chest.

**Family history:** Mother died at the age of eighty-one and father at the age of ninety-three, of senility. One brother died of typhoid fever at ten years of age. The cause of death of one sister at eight years was unknown to the patient. One sister died at the age of forty-six, of asthma, and one at fifty, of heart disease. There was no history of tuberculosis in the family.

**Previous history:** There was a history of the usual diseases of childhood, malaria at thirteen, nettle rash at nineteen, acute articular rheumatism at thirty; she had been subject to sick headaches for a long time, and had complained of cough throughout the winter.

**History of present illness:** Three months ago the present trouble began with pain in the right elbow and hand, and headaches in the occipital and temporal regions. Two days later the pain extended to the left hand. Several days later she complained of pain in the lumbar region and in both lower extremities. There was a persistent cough associated with pain in the chest and back.

The examination of the patient on April 9, 1905, revealed a well developed, well nourished negroess. Motion was relatively normal over the entire body.

**Cranial nerves:** Examination of the cranial nerves revealed no abnormal symptoms in their distribution, with the

exception that the right pupil reacted sluggishly to light. The right knee jerk was absent; the left knee jerk was present, but diminished. The Achilles jerk was present on both sides and decreased. There was no ankle clonus and no Babinski reflex. There was flexion of all the toes to plantar irritation. The superficial abdominal reflexes were normal. The biceps and triceps jerk of both upper extremities were exaggerated.

Examination of the chest revealed impaired resonance over the left chest posteriorly, below the angle of the scapula. Over this area there was bronchovesicular breathing and moist râles, more marked on expiration. Vocal and tactile fremitus were increased over the same area.

April 15, 1905. There was severe pain in both legs and over the lumbar region.

April 29, 1905. An ophthalmoscopic examination was made by Dr. Sweet. The left pupil reacted promptly, the right sluggishly. The eye grounds were normal, the nerves were of good color. The ocular movements were unimpaired. The visual fields, roughly tested, were normal.

May 10, 1905. The pain in the legs still persisted. There was a sixth nerve palsy on the left side, and some hyperaesthesia of the chest posteriorly. There was no Kernig's sign on either side. The muscles of the left leg were more flabby than those of the right. While there was still flexion of the toes to plantar irritation on the right side, on the left side there was a well defined Babinski reflex.

May 15, 1905. The patient was only semiconscious. There was partial ptosis of both eyes, and she was unable to completely close the right eye. Attempts to swallow milk resulted in choking spells. In addition to the physical signs, there were some moist râles at the base of the right lung.

May 17, 1905. There was almost complete facial palsy on the right side, in both the upper and lower distribution of the nerve. The right eye was held in a third nerve paralytic position with marked dilatation of the pupil. There was marked ptosis of both sides. The exit points of both nerves were sensitive to pressure on both sides, with a well defined paralysis in the distribution of the fifth nerve on the left side. There was a slight Kernig's sign on the right side, but none on the left.

The last examination of the urine, made on May 17, 1905, showed specific gravity of 1.024, an acid reaction, and a slight trace of albumin. On microscopic examination, a few red blood corpuscles, a few leucocytes, a number of hyaline casts, and cylindroids were found.

**Pathological Report (Dr. Funke):** Chronic pleurisy, hemorrhagic infarct of the lung, carcinoma of the lung

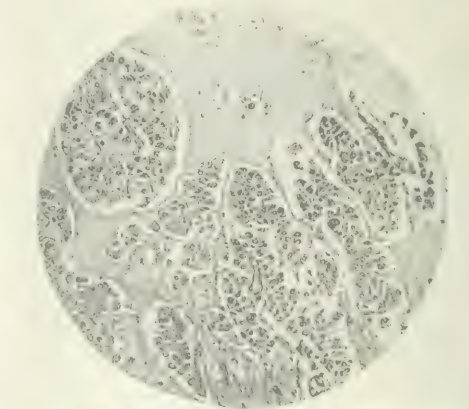


FIG. 2. Extension of primary tumor of meninges of brain, and extension into the cortex.

(primary), chronic diffuse nephritis, secondary carcinoma of the liver, primary carcinoma of the pancreas.

The heart, spleen, kidneys, suprarenal bodies, and other organs not mentioned in detail, showed nothing abnormal.

The left lung weighed 530 grammes. Its upper lobe crepitated throughout and was pinkish red in color with black mottlings on its anterior surface. Only a slight oedema



was present. At the apex of the upper lobe crepitation was still perceptible, while in the remainder of the lobe crepitation was absent, and a dull note of percussion was elicited.

On section, a cavity measuring 1.5x2 cm. in diameter was found in the centre of this lobe. Its wall was grayish white, showing a granular substance. Around the cavity was a consolidated area made up of quite firm, confluent nodules, grayish white in color.

The left lobe of the liver contained a nodule 3 cm. in diameter. This reached the external surface and projects. The centre of the nodule was yellowish gray and granular. The periphery was granular and pinkish gray in color. To the right of this was a similar nodule.

On the upper surface of the pancreas were two nodules each measuring one and a half cm. in diameter. They were firm and were cut with resistance. The cut surfaces were grayish pink in color. They were apparently associated with the pancreas, possibly having taken origin from that structure. These nodules rested directly below the

columnar type of epithelial cells arranged in cell nests, and having the appearance of a carcinoma. The nests of cells were extended in an irregular way into the brain tissues, without, however, producing any degeneration of the underlying white matter as seen by the Weigert and iron hæmatoxylin stains. The cells were of a columnar type with an irregular deeply staining nuclei, and had the appearance of epithelial origin. Sections of the cortex stained by Mallory's connective tissue stain showed the fibres of connective tissue beginning about the bloodvessels and extending between, but not into, the alveoli.

There was no degeneration of the spinal cord by the sheath stains.

Hæmatoxylin eosin method: The main changes noted by this method were seen in the meninges; the tubercles scattered here and there over the spinal cord in an irregular fashion, noted in the gross examination, did not follow any regular distribution. They were widely distributed, not only over the meninges, but were also seen on the spinal roots. The sixth cervical segment of the spinal



FIG. 3.—Carcinomatous infiltration of meninges with secondary carcinoma of spinal, posterior root.

nodules described in the liver. Similar growths were found along the course of the portal vein.

The uterus showed a large, subserous fibroid arising from the right lateral surface a few cm. from the superior border of the fundus. The left ovary showed cysts.

The brain, gross examination: The entire brain was covered with minute white areas varying in size from a pin point to a pin head. These areas were most frequent along the course of the bloodvessels, and occurred in scattered points over the entire meninges. They were most marked and occurred in the greatest numbers over the base of the brain, and especially in the interpeduncular spaces.

Spinal cord.—The same condition was present over the spinal meninges, and most marked over the cervical enlargement. There was a tumor mass the size of a split pea on the tenth dorsal root. The second and third spinal ganglia were increased to the size of a small bean (5x7 mm.), were of hard consistency, and protruded as tumor masses on the inner side of the dura. The same milky tumor formation was present on the inner surface of the dura as far down as the midthoracic area.

Microscopic examination: Cerebral cortex.—The tubercles of the cerebral meninges were composed of a reticulum of connective tissue containing large masses of a

cord, for instance, showed a tumor mass in the meninges just within the left posterior spinal root and infiltrating it and extending to the posterior median fissure. There was also a milky tumor infiltration of the anterior root of the opposite side. The axis cylinders of the roots presented a swollen appearance, caused by infiltration of the roots by irregular shaped cells about the size of polynuclear leucocytes. These cells had deeply staining nuclei. The nucleus varied greatly in size, but in the main made up a relatively small portion of the cell area. Many of the cells had a circular, clear, unstained area in the protoplasm presenting a vacuolar appearance. These cells were held in alveolar spaces between the nerve fibres, but presented nothing regular in their arrangement. In the tumor infiltration of the meninges, the same microscopic appearance was seen in the centre, but towards the periphery there was a distinct cell nest arrangement. The cells here took a distinctly columnar type, having much the appearance of cells in adenocarcinoma, composed of columnar cells.

In the sections stained by Mallory's connective tissue stain there was no infiltration of the connective tissue fibrils between the cells. The tumor tissue was surprisingly free from connective tissue. A small tumor mass the size

of a split pea noted before, on the eleventh dorsal root, completely surrounded the root, but had a well defined capsule, over which bands of connective tissue extended into the interior, somewhat after the manner of a lymph gland.

In the alveolar space formed by the connective tissue, groups of columnar cells were seen here and there, following the same arrangement as described before. The degenerated and infiltrated root occupied the centre of the tumor mass. As one approached the centre of the tumor, the columnar shape and acinus arrangement of the cells was lost. The cells were grouped in an irregular way within the connective tissue. The connective tissue fibrils did not penetrate between the cells. In the lumbar enlargement the tumor infiltration completely surrounded the spinal cord and had the same microscopic picture as that seen in the cervical enlargement. The cord was indented by the pressure of the tumor mass, but there was no true infiltration of the white substance of the cord.

Sections stained by the Van Geisen method added nothing to that described by the other methods.

Marchi method: There was a recent marked secondary degeneration in the posterior columns of root origin. There was also some degeneration of the direct pyramidal tract of the left side, and a few scattered dots here and there in the right crossed pyramidal tract. There was a degeneration in both crossed pyramidal tracts and also in the posterior column. There was a degeneration of the posterior roots and a slight degeneration in the direct pyramidal tracts. The same was true of the dorsal cord.

Nissl method: In sections from the dorsal cord and lumbar spinal cord the majority of the ganglion cells of the anterior horn were in an advanced state of chromatolysis. Only a few of the cells even approached a normal appearance. In the cervical enlargement, many of the cells were degenerated. There was a much larger proportion of normal cells than in the cervical or dorsal cord.

Spinal Ganglia.—The nerves in the ganglion cells had entirely disappeared. There was also marked degeneration of the nerve fibres. The entire ganglia had been transferred into a mass composed of a reticulum of connective tissue, between which were arranged long rows of a columnar type of cell. In many of the alveolar spaces the cells had taken a more irregular arrangement, as already noted in the meninges.

#### *Pathological Discussion.*

The gross appearance of the brain when removed at autopsy, studded closely as it was with small tubercles, gave the impression at the first glance of a syphilitic meningitis. The more careful examination and the finding of the tumor masses in the other viscera led to a correct diagnosis. The microscopical examination presented a typical picture of carcinoma (see Fig. 2). The involvement of the cortex was unquestionably an extension from the meninges, and was more a displacement of the cortex, and could, in no sense, be considered a true infiltration.

Involvement of the spinal roots is not an uncommon condition, but involvement of the spinal ganglia is relatively rare. We have not been able to find a case in which this condition has been definitely stated. The pain in the extremities was probably the result of the tumor infiltration of the spinal ganglia and involvement of the roots.

The peripheral nerves and muscles were not examined.

The involvement of the cranial nerves is explained by the presence of miliary carcinomata in the piaarachnoid, surrounding their points of exit. There are no tumor masses on the nerves themselves.

#### *Clinical Remarks.*

A diagnosis of cerebrospinal syphilis was made in this case, in spite of the fact that the patient presented no history of syphilis. This negative symp-

tom, if it can be so called, was not given its proper value. This is not a matter of surprise when there is taken into consideration the difficulty in securing a positive history of syphilis, even when the patient is aware of it, and, what is more frequently the case in the class of patients under discussion, who either never knew or had forgotten such a "trivial matter." It should be remembered, however, when the diagnosis is under discussion that too much importance cannot be given to the elements of a carefully taken history. Ten years of constant effort has not sufficed to eliminate the Blockley mental attitude as to the presumption of syphilis in the diagnosis of a doubtful case, quite irrespective of the history. As an undergraduate student, resident physician, and assistant physician in the wards of the Philadelphia General Hospital, an atmosphere of syphilis of the nervous system in the diagnosis of obscure cases with multiple manifestations always led unconsciously to a presumption in its favor.

Multiple syphilis of the nervous system is not now, nor was it then, a very frequent condition. By this is meant lesions of the nervous system presenting the histological characteristics of syphilis. Scleroses, low grade inflammatory processes, and tract degenerations are present in large numbers, but it remains to be proved how frequently these are due to syphilis. *Tabes dorsalis*, conceded to be a parasymphilitic disease, does not present the histological lesions of syphilis, and is rarely associated with syphilitic lesions elsewhere in the body. *Tabes*, however, is diagnosed as such, and not as cerebrospinal syphilis.

In an extensive collection of brains and spinal cords, obtained for the most part from the Philadelphia General Hospital, multiple cerebrospinal syphilis is present in only a very small percentage.

It should be remembered in this connection that tuberculosis presents the multiple lesions of the nervous system similar in their character and distribution to those seen in syphilis. Lesions of multiple sclerosis, being widely distributed, not only present the multiple symptom group seen in syphilis, but the reverse may also be true—i. e., disseminated syphilis may present the classic clinical picture of multiple sclerosis. Oppenheim (7), and more recently Spiller and Camp (8), have written on this subject. In a paper recently published by Dr. C. W. Burr (9), a case of disseminated syphilis presenting the clinical picture of multiple sclerosis was reported, together with a discussion of the diagnosis of the two conditions.

It is conceded that a distinctive diagnosis between some types of multiple sclerosis and disseminated syphilis is impossible. The importance, therefore, of paying attention to a history of syphilis in order to prevent a mistake in diagnosis is evident. It will be seen from the clinical history, as given, and the clinical diagnosis that tuberculosis of the lungs was diagnosed. At autopsy, a cavity surrounded by epithelial type of tumor formation was discovered. In the absence of a history of syphilis, a natural presumption should have been in favor of multiple tuberculosis of the nervous system. Had this patient presented herself at my service, at the Phipps Institute, such a diagnosis would have been undoubtedly made, but the Blockley atmosphere in-

terfered with such a simple logical conclusion. An important question in this discussion, however, is why a diagnosis of secondary carcinomatosis of the nervous system was not made. The patient was thirty-four years old and in good condition. There was no cachexia. A careful examination of the different viscera showed no other lesions than impaired resonance over the left chest posteriorly, below the angle of the scapula; expiratory râles in the right axillary regions and at the base of both lungs; in the left axillary regions, an area about three inches in diameter, over which bronchovesicular breathing could be heard; increase in the vocal and tactile fremitus over the left lung posteriorly. Urinary examination showed some albumin and hyaline casts, but no other evidence of kidney insufficiency. The primary growth in the liver and the secondary growth were too small to give physical evidence of their existence. There was therefore no evidence of the presence of carcinoma, and it is questionable whether such a diagnosis of either the hepatic or pancreatic lesions was possible.

The predominating symptom on admission was pain in the lower extremities. The knee jerks were absent. On the following day, the left knee jerk was present. The right pupil reacted sluggishly to light. On admission, there was pain in the lower extremities, with headaches from three months previous. One month after admission, and nine days previous to death of patient, she first began to show cerebral symptoms. These began with affection of the sixth nerve on the left side, and after a few days were followed by an affection of both third nerves. On the following day the seventh nerve on the right side became affected, with an almost similar affection of the fifth nerve on the left side. On the day before her death, the difficulty of swallowing indicated an involvement of the ninth or tenth nerves. One week previous to her death there was a progressively developing stupor. Such a group of symptoms, with their progress, irregular distribution and development, indicated multiple lesions affecting first the spinal cord and later the brain. For this reason and for no other was the diagnosis of syphilis of the nervous system made.

In a patient presenting symptoms with an evident carcinoma elsewhere in the body, or with a history or evidence of its removal, the diagnosis of multiple secondary carcinomatosis of the nervous system could be made. A frank, active tuberculosis elsewhere in the body would lead to the diagnosis of tuberculosis of the nervous system. The history of syphilis, or distinct evidence of syphilis elsewhere in the body, would lead to a diagnosis of cerebrospinal syphilis. The history of the case with the rapid development of cerebral symptoms such a short time before death would practically exclude multiple sclerosis.

**Optic Nerve Involvement.**—Optic neuritis is found in 80 to 90 per cent. (Oppenheim, 10) of cases of brain tumor and in 15.5 per cent. of cases of meningitis (Uhthoff, 11). The absence of any optic nerve involvement, at least within a reasonable time before death, may be considered as an indication of a lack of extensive intracranial pressure.

The presence of Kernig's symptom in this case is a matter of some interest. The general impres-

sion among clinicians, and especially among pædiatrists, is that Kernig's symptom is diagnostic of meningitis. Kernig (12) in his original contribution reports thirteen cases of cerebrospinal (infectious) meningitis, one case of tuberculous meningitis, and one case of purulent cerebral meningitis, with chronic parenchymatous nephritis, all of which showed Kernig's symptom. He regrets that he had not been able to study it in the transitory meningitis that may usher in typhoid fever, typhus fever, and recurring fever. He also reports it present in six other cases, on all of which autopsy was performed. These were edema of the pia of obscure origin; hæmorrhagic pachymeningitis with intermeningeal bleeding; circumscribed pachymeningitis and leptomeningitis, and thrombosis of the petrosal sinus, secondary to caries of the petrous bone; growth of the dura to the skull and chronic leptomeningitis accompanying carcinoma of the brain; slight hæmorrhagic meningitis with hæmorrhage into the ventricle; slight general hyperæmia of the pia (questionably tuberculous). On the first day that the last patient was observed there was no contracture of the knees; on the second, however, the sign was present, although modified. Kernig especially notes this case as affording an instance where his sign was present, even in the absence of genuine inflammation.

On the other hand, Kernig's sign may be absent in meningitis (Netter, 13, Morse, 14). Morse found it in three of twenty cases of tuberculous meningitis, but in more than three of twenty cerebrospinal cases.

It will be noticed that this symptom was not present in the first and subsequent examinations up to a short time before death, and then it occurred only on the left side and to a limited extent. Microscopical sections did not show a meningitis in a strict sense of the term. There was only a tumor formation. This could, of course, have constituted the meningeal irritation in the broader sense of the term.

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# ANÆSTHESIA BY NITROUS OXIDE, NITROUS OXIDE AND OXYGEN, NITROUS OXIDE AND ETHER, CHLOROFORM AND OXYGEN, AND ETHER ADMINISTERED PER RECTUM.

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During the past few years the writer has anesthetized over 300 private cases by the methods cited in the title of this paper for various operators. Nitrous oxide was given alone eighteen times, nitrous oxide and oxygen fifteen times, and ether by rectum six times. There was a large proportion of throat cases, 114 in all, the majority being given nitrous oxide and ether for the excision of tonsils and adenoids. In many of the cases the choice of the anæsthetic and its administration were of importance, on account of existing conditions—e. g., myocarditis, endocarditis, nephritis, diabetes, empyema, a preceding pneumonia, anemia, etc. There was one death from the anæsthetic in the series, of which the following is the history:

CASE I.—J. P. W., male, about forty-five years of age; operator, Dr. M. D. Mann; June 7, 1906.

A small irreducible hernia in the epigastric region was the condition necessitating operation. The patient had had since youth a rapid pulse, always over 100, and usually running 106 to 110. There was some increased tension. The heart sounds were apparently normal. The urine had showed some time previously albumin and casts, but nephritis at the time was absent. An asthmatic condition had existed for years, causing the patient to sleep at night in a chair until early morning, when it was possible for him to lie down. While asleep he showed Cheyne-Stokes breathing, there being in the interval a cessation of respiration for thirty seconds. Nitrous oxide and ether were chosen, and the patient was fortified by extra feeding, strychnine, and strophanthus the night, and the morning before operation. From the beginning of the anæsthesia the man did not relax well, but remained rigid and somewhat cyanotic. Eight minutes after the nitrous oxide was started and four minutes after the operation had begun, the heart suddenly stopped and deep cyanosis and dilatation of the pupils appeared. Artificial respiration, cardiac massage, and stimulants were of no avail. Ten gallons of nitrous oxide and three drachms of ether had been used.

I. *Nitrous Oxide*.—There is a class of cases in which a short period of narcosis is desirable, yet in which absolute relaxation is not required. For example, the reduction of a dislocation, excision of a small tumor, the breaking up of adhesions, etc. Nitrous oxide, continuously administered for ten to twenty minutes, controls such patients satisfactorily, and the after effects are slight. Women and children are the most favorable cases, whereas men and alcoholics are the least favorable. The administration is started in the usual way by the Goldan or Bennett apparatus until cyanosis begins to be evident; then the valve of the inhaler is closed by the finger and two breaths of pure air allowed. The valve is reopened and the inhalation immediately resumed, while a steady stream of nitrous oxide gas is allowed to escape into the rubber bag. Very shortly another breath of air is allowed, and the anæsthetic continued before the patient can recover consciousness. In about three minutes the typical picture is produced; slight constant cyanosis, contracted and not dilated pupils, snoring respiration with increased expiratory effort, and a pulse of eighty to ninety of increased tension. This condi-

tion is to be maintained by speedy regulation of the quantities of air and nitrous oxide gas inhaled. An increasing cyanosis, stertor, rigidity, and expiratory effort demand air inhalation, and the opposite condition calls for more nitrous oxide. A little experience teaches one how to appreciate the quick changes in the patient. A hypodermic of morphine, one half hour beforehand, although not essential, is of service. There are some cases that may show muscular rigidity or tremor, or they may cry out or move the extremities. One must be ready for this by having a bottle of ether at hand so that a drachm or more of this agent may be added. This changes the method to anæsthesia by nitrous oxide with a small quantity of ether.

2. *Nitrous Oxide and Oxygen for Prolonged Anæsthesia*.—The cut illustrates the apparatus, and for full details reference may be made to a former article on the subject (*New York Medical Journal*, February 13, 1904). This method is similar to the administration of gas. Instead of allowing frequent inhalations of air, an oxygen tank is connected by a T shaped tubing and a constant stream of oxygen is poured into the rubber bag along with the nitrous oxide. At first the oxygen is allowed in small quantities, but soon is increased in amount. The narcosis may often be continued for an hour or more and major operations may be performed. As with nitrous oxide alone, ether in small quantities may in some cases have to be added to insure smoothness. On account of the increased expiratory effort and the rather dark color of the blood, abdominal operations and procedures requiring fine dissection cannot well be performed. In operations on the head also, the anesthetist has too little room in which to work. This method is the most troublesome one and often an assistant is necessary to help manage the cylinders and keep the gas from freezing at the tap by wrapping about the valve and upper cylinder towels wet in hot water. If the apparatus is a closed inhaler—i. e., one that has no expiratory valve, it is essential that the patient be allowed at occasional intervals a breath or two of pure air. This method, on account of the expense, bulkiness of the apparatus, and difficulties of administration, has a limited use, and is employed in the larger cities only. A typical case is the following:

CASE II.—Boy, æt. twelve; removal of sarcoma of the knee by Dr. Gaylord. Time, forty-five minutes; no after effects. Soon afterwards an amputation at the thigh was done with the same method for anæsthesia plus one half ounce of ether. The second day after the operation there was a trace of albumin in the urine. Administration of chloroform, some weeks previously, had caused hæmaturia, which lasted three days.

3 (a). *Nitrous Oxide Given Continuously with the Addition of Small Quantities of Ether*.—In cases where a minimum of anæsthetic and a minimum of after effects are desirable, this method is of service. Small amounts of ether are added at intervals, and the disadvantages of the nitrous oxide alone are obviated. At any time nitrous oxide may be dispensed with and ether pushed for a short period by the drop method or cone, returning later to the nitrous oxide. About one quarter as much ether is given in this way as by the usual

means. It is particularly safe and the method that the writer prefers. The following is the history of a typical case:

CASE III.—Woman, æt. forty. Plastic operation on the perineum by Dr. Hendee. The son of this woman had died from the effects of chloroform administration. She herself had chronic nephritis with a high tension pulse. The urine was clear at the time of operation. The anæsthesia lasted two hours, and about sixty gallons of nitrous oxide and two ounces of ether were used. The second day after operation a trace of albumin was evident, but immediately disappeared.

3 (b). *Nitrous Oxide or Ethyl Chloride Used to Precede Straight Ether.*—This sequence is largely employed and is the method of choice in the large hospitals. It rapidly induces narcosis, saving time and material. The ether may then be given by the ordinary cone or the open drop method. Recent internes in the hospital are not successful as a rule, as they make the mistake of pushing nitrous oxide too far, and then beginning ether in full doses, which allows the patient to recover in part



Apparatus for the administration of nitrous oxide and oxygen for prolonged anæsthesia

and begin to struggle. The secret lies in overlapping broadly the administration of the two agents; a little ether should be run in on the gauze as soon as the patient begins to lose consciousness, and the nitrous oxide must be continued in small quantities until enough ether has been inhaled to hold the case while a change is made to the ordinary cone. It may take four to eight minutes to get an adult thoroughly under the influence of the anæsthetic, because during the first few minutes very little ether is inhaled.

For the removal of tonsils and adenoids this method is safe. Both agents are continued as described, the ether in increasing quantity, nitrous oxide in lessening amount, until the breathing is stertorous, the pupil contracted, and the eyeball fixed. The apparatus is removed, the mouth gag quickly inserted, and the operator begins his work. He ordinarily has time to finish before the patient moves. Sometimes a second dose of ether is required by the time the tonsils are excised, especial

ly if the punch has to be used. If the patient has a very irritable throat, coughs continuously, and refuses to breathe deeply, the nitrous oxide bag is discarded and ether is pushed by the cone. Anæsthesia is often troublesome in these throat cases because the existing conditions necessitate a deep narcosis before the throat reflexes disappear. For a few nose cases the writer has given nitrous oxide and ether satisfactorily in a semireclining position.

4. *Chloroform and Oxygen.*—For certain patients a minimum of chloroform only is indicated. A simple method is the following: Empty out the water in the bottle at the side of the oxygen tank and partly fill with chloroform. Replace the mouth-piece at the end of the rubber tubing by a small glass tubing. Pass this glass tubing through the upper end of an ether inhaler (the ordinary towel cone). Turn on the oxygen in a slow, steady stream and place the inhaler close to the patient's face, but not quite touching it. The patient at each inhalation breathes in the chloroform laden oxygen, and the quantity given is regulated by the speed of the oxygen stream and the proximity of the cone to the patient's face. The bottle holding the chloroform may be placed in a bowl of warm water, so that the vapor is warmed to blood heat as it is inhaled.

5. *Rectal Anæsthesia by Ether.*—The chief indication for this method is for cases in which extensive throat operations are to be done, so that the operator may work uninterruptedly. To Cunningham and Lahey (*Boston Medical and Surgical Journal*, April 20, 1905) belongs the credit for devising a new technique. The idea is simple. Air is forced by a hand bulb through an ether bottle and then through a rubber tubing into the rectum, which absorbs the ether vapor. No irritation is caused in this way, whereas by the old method of boiling the ether there was condensation in the rectum and great irritation. The writer has given ether in this way six times so far. In one case with perfect success, in one case with failure, and four times with practical success—i. e., in these four cases a few whiffs of chloroform on a gauze pad were essential at ten minute intervals to maintain relaxation. The rectum has a small absorbing surface when compared to the lungs, and in case the quantity of ether absorbed by the rectum is not quite enough to keep the patient quiet, then an additional agent is necessary. The writer at no time was able to drive the ether vapor beyond the rectum into the colon, because the sigmoid shuts off the ascent like a valve. Perhaps if the colon tube, used to give a high douche before operation, is left in situ until the operation, the vapor could then be absorbed in larger quantity by the colon. Any attempt to push the rectal tube up into the sigmoid caused the tube to double on itself.

The technique, in brief, is as follows: Two nights before the operation the patient takes a laxative. During the next day food is eaten sparingly, and the next evening a purgative is given. The following morning early a colon douche and an hour before operation a soap-suds enema are employed to cleanse colon and rectum. One half hour before operation a full hypodermatic injection of morphine is given. It is a convenience, but not a necessity, for

the anæsthetist to have an assistant. The apparatus consists of a rubber bulb, such as is attached to the Paquelin cautery, a wash bottle to hold the ether, rubber tubing about three feet long, a piece of glass tubing, and a large, stiff catheter or rectal tube. The wash bottle should be of a generous size, about seven inches high and four inches in diameter. It has a rubber cork perforated by two pieces of glass tubing, one of which descends to the bottom of the bottle. The bottle is more than half filled with ether and is placed in a wash bowl nearly full of warm water. The temperature of the water must not get over 90° F. or the ether will begin to boil, and yet it must be kept between 80° and 90° F. or else the ether vapor will not be concentrated. Starting the narcosis by the rectum is slow and distasteful to the patient, so the rule has been to have the rectal equipment close by on a small table in readiness, and the case is started by inhalation. A sand bag is placed under the thigh to afford working space, and the rectal tube is inserted about ten inches. The rectum is rapidly distended by compressing the hand bulb. The finger, protected by a rubber cot, is inserted for a few minutes into the rectum along the tube to empty the rectum of gas and provide for the absorption of ether vapor. Leggett, in a recent article (*Annals of Surgery*, October, 1907), suggests a Y shaped tubing fastened near the rectal tube, which, when opened on one side, affords escape for the gas in the rectum. Between the bottle and the rectal tube there is a piece of glass tubing, which is inspected at intervals to see that ether is not being forced over in a liquid form. The rectum is kept well distended by means of the hand bulb. The rectal tube needs watching, as it may slip out of the rectum. In general, from three to six ounces of ether are used in the course of an hour. When the operator has finished the rectum is emptied of gas as at the beginning. The patient recovers rapidly with little or no nausea and no proctitis. In fact, constipation is the rule, partly owing to the thorough cleansing of the alimentary tract before operation.

The chief advantage of this method lies in the fact that the operator can work steadily and finish in about half the time ordinarily consumed. A minor advantage is that there is no irritation of the respiratory tract with excess of mucus. The chief disadvantage is that if the ether absorbed by the rectum is not sufficient to hold the patient, the anæsthetic cannot push the administration any faster, but an assistant must give an extra supply by inhalation. The writer has used a little chloroform on a gauze pad, held by long forceps directly over the patient's mouth. This may have to be repeated at ten minute intervals.

In the hope of finding a medium better than air, whereby to hasten absorption, several experiments were made with nitrous oxide gas, allowing the rubber hand bulb to suck directly from a bag of gas instead of the open air. The idea was that the nitrogen of the air was disposed of very slowly, but that nitrous oxide loaded with ether vapor might be more rapidly taken up by the circulating blood. It was found that there was no practical difference in effect, although the ether was carried over in the

form of vapor just as fast by nitrous oxide as by the air.

CASE IV.—Baby, eight weeks old; preliminary operation by Dr. Eugene Smith for double hare lip and cleft palate, October 15, 1906. Castor oil, given the night before, had slight effect, and the colon wash was given too near the time of operation. Consequently, absorption was slow and fecal matter at times clogged the tube. Chloroform was necessary at intervals. Time, forty-five minutes, and one ounce of ether used.

CASE V.—The same baby, at a later date. Final operation by Dr. Smith. The preparation this time was thorough, and the child was completely anesthetized at first by inhalation. The operation lasted one hour, and three times during that period a few whiffs of chloroform had to be given. Dr. Smith was satisfied that he had worked faster and more comfortably than if inhalation had been continued throughout.

CASE VI.—Woman, æt. sixty-three years. Opening and draining of right antrum by Dr. Hinkel, October 17, 1906. Thorough preparation. Anæsthetization was started by ethyl chloride and ether. Time, thirty-five minutes, and two ounces of ether used. Complete success obtained, and the woman moved for the first time when the throat was swabbed out at the completion of the operation. Rapid recovery with no sequelæ.

CASE VII.—Girl, æt. twenty years. Opening and draining of frontal sinus by Dr. Hinkel, November 23, 1906. The preliminary inhalation was by ethyl chloride only, and she did not relax when the ether had been continued for some time. Finally chloroform had to be pushed vigorously and continuously before the third stage was reached. This patient, although slight, frail, and anæmic, belongs to that class occasionally seen who resist the influence of ether or chloroform until the anæsthetics are used most freely. She had been well prepared and had had the usual hypodermic morphine injection. Catheterization was necessary for some time following the operation.

CASE VIII.—Girl, æt. nine years, March 7, 1907. Removal of turbinate bones from each nostril and cleansing the ears of wax by Dr. Hinkel. Time, twenty-five minutes, and a few whiffs of chloroform given but once during that period. No after effects.

CASE IX.—Boy, æt. nine years, March 13, 1907. Removal of tonsils and adenoids and turbinates by Dr. Hinkel. Time, twenty-five minutes, and additional anæsthetic given once. Immediate recovery. These last two cases were well prepared and were both started by inhalation.

23 IRVING PLACE.

## SPONTANEOUS RUPTURE OF THE HEART.

*Report of a Case with Necropsy.*

By THEOPHIL KLINGMANN, M. D.,  
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This rare condition was first observed by Harvey, and later Morgagni wrote at length concerning it. Quain called attention to the fact that seventy-seven of the hundred cases collected by him showed marked fatty degeneration of the heart muscle. About two thirds of the patients were over sixty years of age.

Deverge asserts that in every forty cases of sudden death there is one by rupture of the heart. Sudden death occurred in 71 per cent. of Quain's cases. Out of fifty-five cases there were forty-three in which the rupture took place in the left ventricle, seven in the right ventricle, three in the right auricle, two in the left auricle.

The case which I am about to describe is quite not only from the fact that the condition is a very rare one, but also that it occurred in a subject of unusual good health, at the age of thirty-five years, without any previous symptoms.



**CASE.**—On October 23, 1906, the patient in question consulted me on account of a pain in the left cardiac region which he described as a deep boring pain which was paroxysmal. He complained of nothing else, and stated that he had been in perfect health since his childhood days. His father died suddenly at the age of seventy-nine of

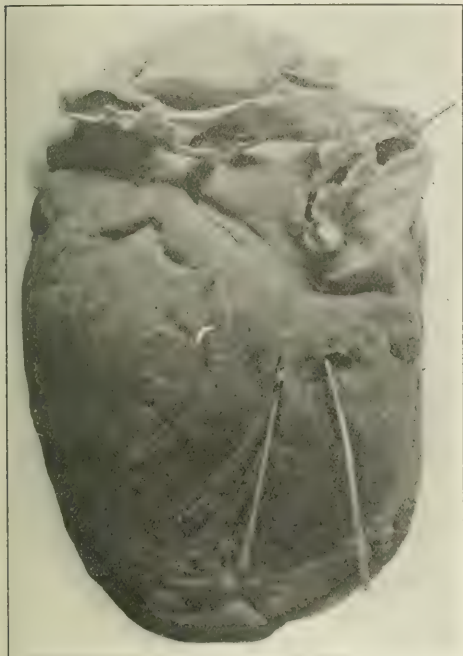


FIG. 1.—Showing, a, the epicardial opening of the channel extending through the outer wall of the right ventricle; b, small opening entering into the descending branch of right coronary artery, which is closed by a thrombus higher up.

apoplexy, the mother was living at the time of the patient's death, but I have since learned that she fell over and died suddenly at the age of seventy-four. There was no autopsy, but the cause of death was ascribed to organic heart disease. The personal history of the patient is uneventful. He has never had any illness of any kind, except measles and whooping cough at an early age. His habits were good, and he denied venereal disease.

The patient was a rugged individual, weighing 180 pounds, five feet nine and a half inches in height, very muscular. The chest was broad and symmetrical, expansion equal on both sides, apex beat visible and strongly palpable in the fifth intercostal space, just inside of the nipple line. The superficial cardiac dullness was not increased, the heart's action was regular, there were no murmurs, the pulse seventy per minute and of good volume, tension about normal. There was a slight radial arteriosclerosis. The temporal arteries were somewhat tortuous. There was some tenderness of the sixth and seventh intercostal nerves on the left side; deep pressure on these nerves caused considerable pain radiating to the side of the chest and back. Aside from the conditions just mentioned the physical examination was negative. Analysis of the urine revealed nothing of importance.

I advised the patient to give up his work for a few days and rest, also directed him to apply counterirritation over the tender area, which he did, with the result that he was entirely relieved from the pain. In fact he told me that he felt perfectly well on the second day after he saw me, and undertook to do some light work about the farm.

On the morning of the third day he was suddenly taken

with an excruciating pain in the cardiac region where he had previously felt the pain. This was sharp and cutting in character and continuous. I saw him about half an hour after the onset of the paroxysm, and found him walking about the house in great agony. There was apparently no dyspnea, and he complained of no shortness of breath, no dizziness, nausea, or vomiting. On examination I found the pulse to be 55 a minute, of good volume, and not easily compressible. Respiration was 20. The apex beat was visible in the same place where I had located it three days before. The area of superficial cardiac dullness had increased considerably since I saw him, and repeated examination showed a continuous extension of this area. The apex beat gradually disappeared. I gave the patient  $\frac{1}{4}$  grain of morphine hypodermically, which I was obliged to repeat in three quarters of an hour, also applied an ice bag over the heart. The patient became quiet, but he stated that the pain continued. As time elapsed the pulse became slower, and was easily compressed. Respiration was shallow and gradually diminished, death taking place in one hour from the time of onset of the pain. The area of dullness in the cardiac region at the time of his death had extended one inch beyond the right sternal line, two inches to the left of the nipple line, upward to the lower border of the second rib and downward below the sixth rib.

**Autopsy.**—At the post mortem examination the pericardium was found enormously distended with a hæmorrhagic exudation in which there were a few small masses of clot. The myocardium of the left ventricle was firm, but of a pale waxy color; some parts of it were covered with a thick layer of fat. The outer wall of the right ventricle was less firm, in some places spongy; the appearance of the tissues were of a peculiar pale color, especially about the base of the papillary muscles; the tissue had a



FIG. 2.—Showing the epicardial opening of the channel extending through the outer wall of the right ventricle, and a small opening entering into the descending branch of the right coronary artery, which is closed by a thrombus higher up.

REMARKS.—The patient in question was a rugged, muscular, and healthy-looking man, who had been in perfect health since his childhood days. He was entirely relieved from the pain. In fact he told me that he felt perfectly well on the second day after he saw me, and undertook to do some light work about the farm.

rhagic infiltration. The condition of the myocardium was confined almost entirely to the outer wall of the right ventricle; there was an area 1.5 by 1.0 cm. situated near the base where the muscular tissue was substituted by a pale spongy tissue, in the centre of which was an opening horizontally oval, 8 mm. by 4, extending

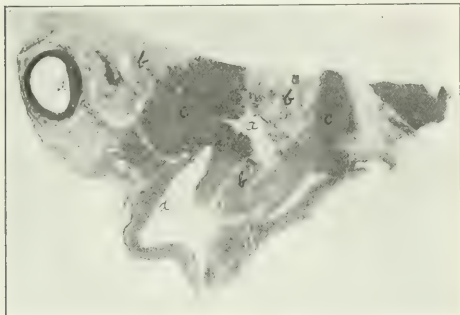


FIG. 3.—Vertical transection through the tissues surrounding the rent in the outer wall of the right ventricle slightly magnified. a, Hole through the ventricular wall showing ragged margin. b, Broken down muscular tissue with infiltration of blood. c, Remaining heart muscle in various stages of degeneration. d, Portion of a bloodvessel showing thickened intima.

obliquely upward through the muscular wall into the right ventricular cavity, the inner opening being somewhat smaller and surrounded by a dark brown discoloration. The channel was empty, the tissues immediately surrounding the rent were discolored by considerable extravasation of blood. One and a half cm. to the right and 1 cm. below the opening just described there was another small opening entering into one of the branches of the right coronary artery and extending upward 1 cm. At this point there was a complete obstruction of the vessel by a thrombus. Below the opening the vessel was empty. The muscular tissue of the heart adjoining the rupture was undermined, very soft, shredded, and discolored, due to more or less infiltration of blood. The coronary arteries appeared diffusely opaque, and were hard and resistant; on slitting them open the walls were found to be much thickened, and the lumen very small in some parts of the



FIG. 4.—Showing fragmentation of the muscular tissue and infiltration of blood at the site of the rent through the ventricular wall.

larger branches. In others there were aneurysmal dilations with extremely thin walls. This was the condition where the obstruction was found, the portion of the vessel wall surrounding the thrombus was more than double the thickness on one side that it was on the other; while its wall

was extremely thin below the thrombus, where the rupture had taken place.

There were no marked changes in the endocardium aside from those described. In the aortic valves the tissue about the corpora arantii was somewhat thickened and the nodules enlarged. There was no marked infiltration in any of the valves and they retained their translucency.

**Microscopical Examination.**—The muscular fibres of the anterior wall of the right ventricle showed various degrees of degeneration; in the slightest changes they appeared somewhat swollen; diffusely stained, their nuclei did not take on stain readily or not at all, and in many places had disappeared. There were frequently large vacuoles and infiltration of fat throughout the sections. Surrounding the rupture there was every degree of change to total necrosis of the muscular fibres, which involved the entire thickness of the wall of the ventricle. In some areas there was an entire substitution of detritus and infiltration of blood, with an occasional fragment of heart muscle for the normal tissues of the heart. Although the condition of the myocardium was confined almost entirely to the right ventricle, there was considerable fatty infiltration throughout the muscular tissue of the heart and marked sclerosis of the coronary arteries.

Unfortunately the case is not a complete one, as a post mortem examination of the heart only was permitted.

In conclusion I may say that the rupture of the ventricle was a natural consequence following the endarteritis obliterans, the cause of which could not be determined.

## NOMA.

### A Bacteriological Study of Seven Cases.

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The question of specificity of any certain organism bringing about the affection known as noma is apparently as far from settlement at the present day as it was some years ago. To some observers it seems certain to be due to one organism. A number of investigators have isolated different bacteria from the lesion, and each thought the bacterium specific, but others working along the same line of investigation have failed to prove these statements.

Numerous investigators have described a condition similar to noma in calves (Loßler and Lingard), in oxen (Bang), in monkeys (Lingard, Blackwood, and White), and in rabbits (Schmorl, *Zentralblatt für Bakteriologie*, xxi, 1890). As regards the pathology of the affection, most observers have noted the transition from ulcerative to gangrenous lesions, and Kraus (Nothnagel's *Specielle Pathologie und Therapie*) mentions that Taupin in 1839 stated that ulcerative and gangrenous stomatitis were essentially the same in nature.

Schimmellbusch's work in this connection is well known, as is also the assertion of Lingard that an organism isolated by him is specific for this affection. Perthes (*Archiv für klinische Chirurgie*, 1889) sets forth the assumption that noma is a mycosis which develops on the basis of some acquired predisposition, such as measles or typhoid, and caused by an organism which stands between the bacteria and threadlike parasites and should be grouped as a streptothrix. He has demonstrated in the diseased tissue the "streptothrix" of noma in

enormous threads, which in turn give off finer filaments, often dichotomously. The projecting filaments have a spirillum form, and the finest mycelia are found on the boundary line, and in the necrotic parts only thicker threads are seen and in small numbers.

Hermann (*Archives of Pediatrics*, November, 1905), in dealing with the aetiology of noma and after analyzing the article of Seiffert and Perthes (*Verhandlungen der medizinischen Gesellschaft zu Leipzig*, 1897 to 1901), alleges that the threadlike organisms found in the disease belong to the spirochaetae, which he asserts have such unusual characteristics that it would seem better to consider them a separate family.

Comba (*Jahrbuch für Kinderkrankheiten*, li, p. 591) believes that noma is always secondary to an ulcerative stomatitis, and that the process begins from without. The gangrene is due to the action of the saprophytes normally existing in the mouth, and becoming pathogenic under favorable conditions.

Jensen (*Handbuch der pathologischen Mikroorganismen*, II) found a bacillus which he named the *Bacillus necroseos*, and which has been found in necrotic processes in the horse, cow, pig, kangaroo, ape, stag, antelope, and rabbit. This organism, the *Bacillus necroseos*, Jensen asserts, is identical with Salomonsen's *Bacillus necroseos*, Löffler's *Bacillus diphtheriae vibulorum*, *Bacillus necrophorus* of Flüge, and the *Streptothrix cuniculi* of Schmorl.

Krahn (*Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie*, VI) found comma bacilli at the boundary of necrotic and reactive tissue. He was unable to cultivate these comma shaped bacilli.

Weaver and Tunnicliffe (*Journal of Infectious Diseases*, January, 1907) summarize their findings in the necrotic tissue of the cheek in noma as follows: "There is some leucocytic invasion with fusiform bacilli and spirilla, similar to those seen in smear preparations made from the nose and mouth before death and from the necrotic tissue of the face immediately after death. Both forms are present in both the necrotic and living tissue, the spirilla forms apparently being in excess in both places. The thrombosed vessels contain fusiform bacilli, filaments, and spirilla. They believe these organisms are the threaded and spiral forms of one organism which correspond to forms shown by them to occur in pure cultures of fusiform bacilli."

Lingard (*Lancet*, April 14, 1888, p. 159) asserts that the essential character of the organism of noma is the same in human, monkey, calf, and horse. It consists of long threads, the individual threads being made up of small bacilli of various lengths, and are found at the line of extension of necrotic patches in great numbers. The inoculated disease is characterized by appearances precisely similar to those seen in the original malady.

Levi and Sailer (*Archives of Pediatrics*, 1905, p. 476) report a case of noma following typhoid fever in which a pure culture of the Klebs-Loeffler bacillus was found. Antitoxine did not give any benefit.

Moser (*Medical Record*, February 1, 1902, p. 170) records finding protozoa in three cases of

noma; they were small, oval bodies, little larger than a red blood cell, and were very lively in their movements.

Bruce (*Lancet*, October 12, 1907) mentions a case of Vincent's angina involving the larynx and trachea, occurring in a man, aged forty-seven. The patient made no complaint of his throat, but was suddenly seized with obstruction to respiration. Laryngotomy was performed, and examination of fauces showed sloughing of the uvula and the edge of the soft palate, and later extended to both sides of the neck. The bacillus of Vincent was present in large numbers, but no spirilla were observed. (It might be mentioned that a mild degree of pyorrhoea alveolaris was present, which might have been the



Illustration from a case of noma, which was bilateral from its inception.

starting point of the widespread gangrenous process.)

Blumer and MacFarlane (*American Journal of the Medical Sciences*, November, 1901), in an epidemic of measles, at the Albany Orphan Asylum, met with sixteen cases of noma. These cases affected the mouth, vulva, rectum, and other parts. In nine cases studied bacteriologically, the colon bacillus was found in all. Besides the colon bacillus was an organism that resembled a leptothrix. Pus cocci, and occasionally the *Streptococcus pyogenes*, were also present in some instances. These organisms were encountered in smears, and sections of one case studied bacteriologically showed the same bacteria.



Freymuth and Petruschky (*Deutsche medizinische Wochenschrift*, 1898, No. 15), in a case of noma genitalium, found true Klebbs-Loeffler bacilli, and while stating that all cases of noma are not due to this organism, it is well to make a careful bacteriological examination, as the bacillus produces necrosis and poisons and associates with putrefying bacteria.

Gravitz (*Deutsche medizinische Wochenschrift*, 1890, p. 318) reports a case of noma following typhus, in which a bacillus was the only organism present. (No specific description of this bacillus was given.)

Foote (*American Journal of the Medical Sciences*, cvii, p. 198, 1893) found few long bacilli in groups which stained by Gram's method in spreads made from the lesion while in the tissue, single bacilli often end to end and in filaments were encountered.

Bruning (*Jahrbuch für Kinderkrankheiten*, lx, p. 631, 1904) reports four cases of noma, in which, in two cases, a cladothrix was obtained in spreads and also in the tissue. Inoculation into animals did not produce any lesions whatever.

Walsh (*Proceedings of the Pathological Society of Philadelphia*, June, 1901) found true diphtheria bacilli in a case of noma, and likens the process to moist gangrene, where a saprophyte produces the putrefaction and a parasite produces the necrosis. He concludes that, whenever other pathogenic microbes capable of producing necrosis are found, it is possible that they may be the primary excitants.

Fischer (*American Journal of the Medical Sciences*, April, 1902) mentions a case of noma in which a nonpathogenic staphylococcus and a pleomorphic nonpathogenic bacillus which resembled the *Bacillus diphtheriae* were obtained. Hofman and Kusser (*Münchener medizinische Wochenschrift*, October 25, 1905) succeeded in isolating a bacillus 4 to 5 micra long and 0.8 micron in thickness, which in fluid media formed chains up to 40 micra in length. Spores were abundantly developed in forty-eight hours, and the organism grew well upon all ordinary culture media.

When noma follows some acute infectious disease, as typhoid fever, the specific organism of that disease may be isolated together with other bacteria. Such a case is reported by Ravenna (*Il Policlinico*, May and June, 1904), in which the *Bacillus typhosus* was isolated from the blood as well as from the gangrenous areas. A large number of observers have isolated bacteria which morphologically and tintorially resemble the diphtheria bacillus. Upon further study of these bacilli, some were virulent, while most of them were of the pseudo or nonvirulent type of the organism.

The seven cases collected by the writer include one following typhoid fever and six following measles. Spreads were made from all the patients during life and after death. The bacterial flora observed in all the cases was so similar that a general description will suffice. Foremost and most abundant was the spirillum and fusiform bacillus of Vincent; next in frequency were diphtheria like organisms, streptococci, staphylococci, and, in a couple of cases, pneumococci. As just mentioned, the fusi-

form bacillus and the spirillum of Vincent were the most abundant organisms present in the smears.

In four cases inoculations were made upon agar, blood serum, bouillon, egg medium (Dorsett). The tubes were incubated, and the resulting growth consisted principally of an organism resembling the *Bacillus diphtheriae*. It showed granular and beaded forms which were quite pronounced with Andrade's stain, was Gram positive, and in a few spreads some few organisms responded positively to Neisser's stain. Together with this bacillus was an organism that resembled the pneumococcus and a few streptococci.

The bacillus was isolated in pure culture and inoculated into the flank of a guinea pig. Three days afterward, an apparently painful swelling of the inoculated part was noticed. The animal did not move about with its accustomed vigor and was irritable when handled. On the fifth day the animal appeared to suffer considerably and got about the cage upon three legs. Loss of appetite supervened, emaciation set in, and the animal was killed. At this time the swollen area had broken down and an ulcer, or, more properly, a slough, 3.5 cm. in length and 2.5 cm. in breadth had formed. Spreads and inoculations were made from the slough and from the heart's blood. In the spreads the bacillus originally isolated was found, together with an organism resembling the pneumococcus. In the cultures from the slough the same two organisms were obtained. After obtaining a pure culture of the bacillus, 2 c.c. were inoculated into the peritoneal cavity of a guinea pig, but no toxic action was ever noticed.

The fifth case was interesting principally on account of the extent of the gangrenous slough and its bilateral aspect. The following short résumé is from the notes of the case given the writer by Dr. Frederick Johnson, then assistant chief resident at the Philadelphia Hospital:

The infection followed measles and was distinctly bilateral from its inception, never showed any demarcation tendencies; latent visible signs of gangrene; apparent freedom from pain; remarkable preservation of strength and ability to take nourishment until twelve hours prior to death; four thousand units of antitoxine of diphtheria given after first cauterization of the area, without any benefit; lungs remaining clear until the end.

At autopsy, inoculations were made upon different culture media and the same organisms were recovered as during life; the diphtheria like organism and in spreads the symbiotic organisms of Vincent.

The sixth case was one following typhoid fever; in spreads the same bacterial flora was observed, enumerated in the other cases. No organism resembling typhoid bacillus was ever demonstrable in spreads or in cultures.

The seventh case was one involving the groin. Spreads from this area of gangrene showed enormous numbers of micrococci and long, wavy filaments and spirilla like organisms. Anaerobic cultivations were made, and an organism resembling the *Bacillus necroseus* as well as micrococci were obtained.

In sections of tissue made from four cases, in two no organisms were seen except large emboli made up of micrococci. In the other two cases

enormous numbers of wavy and spiral, Gram negative, filaments were present together with micrococci and streptococci. Together with these was a small number of diphtheria like organisms. All these bacteria were best seen in the necrotic tissue, though a goodly number were seen penetrating into the healthy tissues.

These studies simply confirm the observations made by the majority of investigators, that no specific organism has as yet been isolated in this condition. I prefer to refer to the diphtheria like organism isolated by me as a pseudodiphtheria bacillus rather than to call it a true diphtheria bacillus. The reasons for this are that upon agar the growth was exceptionally abundant and the growth lacked the typical cream colored colonies as are so typical of the true diphtheria bacillus. It also was wanting in its toxic properties, as well as the subcultures upon various media. It is well known that the fusiform bacillus of Vincent is found in healthy mouths, and it is also a well known fact that the spirillum of Vincent is also seen in spreads from healthy persons. In the ulceromembranous stomatitis of Vincent both of these bacteria are present and generally in abundance.

It seems to the writer that the affection known as noma is due to a symbiosis of a number of bacteria, the principal ones of which are the symbiotic organisms of Vincent. The reasons advanced for this supposition are that the disease is first evidenced by a membranous or ulcerative process; that in this stage the fusiform bacillus and the spirillum of Vincent are present in great numbers; later, as the process goes on to gangrene, other organisms like the diphtheria like organism, streptococci, or other microorganisms, make their appearance, and from this latter invasion toxæmia develops, and the disease goes on to a fatal termination. These facts are borne out by the study of these cases and the bacteriological findings.

In conclusion, I wish to express my thanks to Dr. Frederick Johnson for the notes of the one case, together with the illustration of the bilateral lesion; to Dr. J. D. Wilson and Dr. John Funke for one case each.

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#### NOTES ON EUROPEAN SURGICAL CLINICS.\*

By OLIVER C. SMITH, M. D.,  
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To the average medical man there is no vacation more restful and beneficial than a trip to Europe. The enforced idleness, the fresh air, the cold salt baths, and good food on a transatlantic steamer furnish the ideal requirements for rest and recuperation.

Most medical men feel, however, that they cannot afford to take a long vacation without improving some of the time in a professional way. There is always so much to be learned that it is a natural temptation to endeavor to combine the requirements of professional knowledge with rest and pleasure. Some one has estimated that five thousand Ameri-

can physicians go abroad annually, and that during the past year the American people have spent \$500,000,000 in Europe.

It has occurred to the writer that the time has arrived when a guide book to the European clinics is an essential addition to the medical man's library. If Carl Baedeker could be induced to prepare a careful guide containing the names of hospitals, the attending physicians and surgeons, the hours for clinics and operations, and the opportunity at various places for courses in various branches, it would be a great aid to the American doctor who goes to Europe, especially for the first time.

The American must be prepared to find prominent European physicians and surgeons away on their vacation during the month of August and sometimes portions of July and September.

It is expedient, if one has a decided preference for some operator, to write before leaving America and learn his plans. It is unwise to travel far with the hope of finding the operator whom one wishes to see without previously obtaining information. It is true that at the large hospitals and clinics the work must go on, but it is usually conducted by assistants during the weeks before mentioned.

Letters of introduction are a decided aid. In the absence of these, a card bearing one's name and the positions, hospital appointments, etc., which one occupies is a decided help in receiving some degree of attention at the hands of foreign surgeons.

The route taken by the writer during the past summer was by Hamburg-American steamer, landing at Hamburg at the end of ten days' delightful voyage.

Hamburg is a pleasant city, and far from being a bad place to spend one's vacation. The *Allgemeines Krankenhaus* is a fine, large, modern hospital built on the pavilion plan and well conducted. Professor Kümmel and Professor Sich have charge of the surgical work; distinguished men in other lines are also in attendance. A large three story building is devoted to surgical operations, the amphitheatre being upon the second floor. The patients are wheeled from the various pavilions to the surgical building, thence upon an inclined plane to the operating rooms in comfortable, covered conveyances.

As a sample of the amount and character of work performed in one day, the following list of operations is quoted: Appendectomy; pelvic tuberculosis with removal of both ovaries and tubes; vaginal hysterectomy under spinal tropacocaine anesthesia; cystic goitre; subdiaphragmatic spondylitis abscess; resection of knee joint for tuberculosis, also under spinal anesthesia.

The work performed at this hospital, to my mind, fully justifies the favorable comments made by Dr. Nicholas Senn in an article which appeared in his interesting series on European travel, published in the *Journal of the American Medical Association*. One could spend a very profitable week or fortnight at this place, devoting half of the day to the surgical clinic and the wards of the hospital and the balance of the day to recreation.

Hamburg is the home of the great Unna, skin specialist. The writer visited his private hospital,

\*Read before the Surgical Section of the Hartford Medical Society, September 23, 1907.

which is more quaint and antique than attractive, but the surroundings are impressive when one realizes that much of the pathology of the skin was elucidated on this spot.

From Hamburg to Berlin is a comfortable car ride of three hours.

Berlin is one of the most rapidly growing, prosperous, and modern cities of all Europe. It has been the home of distinguished surgeons, physicians, and scientists for many years.

The chair of surgery at the general hospital, made vacant by the death of von Bergmann, is now occupied by Professor Bier, formerly of the University of Bonn, who is the author of the hyperæmia treatment which bears his name. The writer was fortunate in finding Professor Bier at his post, and both heard him deliver clinic lectures and witnessed his operations.

Professor Körter operates at the *Krankenhaus Urban* Mondays, Wednesdays, and Fridays. The new hospital, only recently built with money left by Professor Virchow, is some distance from the centre of Berlin, and was not visited by the writer, but it is highly spoken of as a modern, up to date institution, where good work can be seen.

Halle. En route from Berlin to Vienna, the interesting university town of Halle is first reached, and here Professor von Braman occupies the chair of clinical surgery, and is a man well worth meeting. He has a most attractive, kindly face, with large physique, and lectures fluently and well. It was the last day of the college term when the writer visited this clinic, and besides listening to a review of the work that had been gone over surgically during the term, he was treated to an exhibition of eighteen postoperative cases, which included a wide and interesting range of surgery. We were treated to an interesting lecture by Professor Schwartze, joint author of the *Schwartze-Stacke* operation upon the mastoid. After the lecture he performed his classical, radical, mastoid operation. During the college session one could well afford to devote time to this hospital and observe the work of Professor von Braman.

Leipzig was next visited; a fine old University city, the home of Professor Trendelenburg, whom many of us listened to at the Boston meeting of the American Medical Association. Professor Trendelenburg speaks English fluently, is pleased to receive American guests, and goes out of his way to show his interesting hospital, his ingenious methods of teaching, and his operative work. A large collection of x ray plates are used in the course of instruction and thrown upon a screen, the amphitheatre being suddenly darkened by automatic sliding shutters at the ceiling and windows. Specimens and photographs, as well as Röntgen ray plates, can be thrown upon the screen, and appear remarkably clear, lifelike, and distinct.

The writer had the pleasure of witnessing Professor Trendelenburg operate on a double hernia, a multiple suppurative arthritis of traumatic origin; also a tuberculous ankle, a congenital dislocation of hip by the open method in a case where the method of Lorenz had failed, and an excision of varicose veins of the lower limbs.

Professor Trendelenburg is a man of large parts. He is ingenious, bright, and tolerant of others' teaching, a kindly gentleman and an excellent surgeon.

Vienna, the Mecca for the postgraduate in medicine, is reached after a long ride from Leipsic. Many of you have spent a far longer time at the interesting Austrian capital than the writer.

Certainly there is no one hospital where so many branches of the profession are taught and practised with such abundance of material as at Vienna. The college was not in session, but the surgical clinics were busy, and the assistants were making the most of their opportunity.

The work at Professor von Eiselsberg's clinic was being performed by first and third assistants, Dr. Clairmont and Dr. Haberer. The former speaks English and gives excellent courses in surgical diagnosis.

Diagonally across the court is the clinic of Professor Hochenegg, made famous during the past century by the work of Franz Such, Theodor Billroth, and Carl Gussenbauer. Dr. Hans Lorenz performed a large number of operations daily, and gave place to Dr. Albrecht before the writer's departure. Dr. Lorenz is a remarkably quick and careful operator. Visitors are welcome to both of these clinics. A list of the operations can be obtained in the morning, and one can alternate between the two and witness the procedures in which he is most interested.

Thorough asepsis is undertaken, and fairly well executed. Rubber gloves are worn in septic cases and cotton gloves in the clean cases. The work in both clinics is accomplished by the surgeons and assistants and one male steward, no nurses being in attendance. Silk is almost the universal suture and ligature material. Continuous sutures are rarely used. Long incisions are practised, but an apparent lack of careful exploration in abdominal work after one lesion has been discovered is occasionally observed. The wounds are never washed after the operation, it being felt that the blood is a safe sealing agent, and by introducing water contamination may be invited from the surrounding parts. Anæsthesia is usually by chloroform. Local cocaine infiltration is practised rather more frequently than with us.

The following list of operations is a fair sample of what can be seen at one of these clinics in one forenoon: 1. Cystic goitre; 2. Gastroenterostomy for tumor of the greater curvature of the stomach; 3. Aneurysm of the femoral artery; 4. Radical amputation of breast, including cervical, supraclavicular, and axillary glands and the pectoral muscles, the large unclosed space being closed by skin flaps, Thiersch method, taken from the upper arm; 5. Gastrojejunostomy for cancer of the pylorus.

The gastroenterostomies were performed between the posterior wall of the stomach and the jejunum, a short distance from the attached portion, this being performed without clamps, stay sutures being introduced into the wall of stomach and jejunum to the gastroëcic omentum. The operation is quick and simple, but rather hemorrhagic, the field sometimes soiling from the unclamped viscera. The



anastomotic opening made is from one half to two thirds the size recommended by English and American surgeons.

It is unfortunate for the surgeon that the operative work comes at the same hour that the autopsies are being performed in the post mortem building. Both rooms are so interesting one can ill afford to lose either. Professor Weichselbaum's official course during the college year is from twelve to one p. m., five times weekly. From six to ten autopsies are performed each morning, it being the law in Austria that people who die in the hospital come to autopsy regardless of the station of the patient.

The autopsies are well conducted. All physicians are invited to attend. There is a printed programme telling when the post mortems of the respective wards are held. On the desk are the "death cards," which are numbered. A like number is attached to the great toe of the corresponding cadaver. The "death card" tells the ward, the name of the patient, time of admittance, time of death, time when post mortem will be held, the clinical diagnosis, and the name of the clinician. The minutest pathological changes are noted, and specimens kept for the gross pathology courses of the afternoon and for subsequent further elucidation in the laboratory of Professor Weichselbaum, which is on the same floor of the post mortem building.

The course in gross pathology, conducted four afternoons each week by Professor Ghon, is most valuable and interesting. Professor Ghon devotes his entire time and life to this work. He speaks rapid Viennese German, but the demonstration of specimens can almost be comprehended by one who does not understand the language.

As many of you know, there is an association for the American physicians at Vienna, which is most helpful to its members in aiding them to secure what they require in the best and most economical manner. The association holds biweekly meetings, and its members are on the alert to guide and aid the recent arrivals. The registry is kept at the "Café Klinik," across the way from the hospital. The round table in the centre of the room is reserved for American physicians, and one can gather the information he requires without going further afield.

At this great Allgemeines Krankenhaus can also be found Professor Schauter, who, with his assistants, conducts a large gynaecological clinic.

Professor Wertheim's clinic is at the Elizabeth Hospital, and is most highly commended.

Professor Sukerkandl is found at the beautiful, new Rothschild Hospital, but a short distance from the General Hospital. As at other clinics which are associated with the university, there is more activity during the college session. It is not always possible to secure the courses one wishes during the month of August. For this reason it is better for those wishing to attend lengthy courses to go at another time, either in the spring, the late fall, or during the winter, but by the surgeon or physician on his vacation enough and more than enough can be seen daily to repay him for every moment spent at this institution.

It is to be hoped if Carl Baedeker prepares a

guide for the medical man traveling in Europe he will add a word of caution and advice as to the conduct of the visitor at the European clinics.

It is embarrassing to hear a spectator ask foolish questions and interrupt the operator, or to see him crowd closely up to the field of operation without the prescribed gown and to conduct himself in general as if this was his first visit to a surgical clinic. It is rather surprising, considering the frequency of such occurrences, that operators are as courteous to visitors as they are.

The time passes altogether too quickly at Vienna. The balmy atmosphere, the open air gardens, and the delightful music fill in the time that is not occupied at the hospitals, and round out each day to completeness.

Switzerland is the ideal country for a summer vacation. The beautiful scenery, the high elevation, the clear air, the picturesque lakes, the fine roads for tramping and motoring are a combination not found elsewhere in Continental Europe, and the Swiss are doing excellent surgery.

*Berne.* The writer for a second time visited the Kocher clinic at Berne. The elder Kocher was not at home, but his son was most courteous and willingly exhibited the postoperative cases in the ward and performed several operations with caution and skill.

In a case of cholelithiasis, he performed Bernays's cholecystenditis operation, and remarked that both he and his father did it frequently, and were surprised that it was not more generally performed. As a proof of his sincerity he announced that four years ago this operation had been successfully performed upon him.

In patients where the gallbladder is not drained they are allowed to sit up on the fourth and return to their homes at the end of the tenth day, which is a decided economy of time, as compared with the lengthy course of ordinary gallbladder drainage.

The ambulatory treatment for fractures of the femur was demonstrated, the patients being allowed to get up within two or three days following the fracture, the limb encased in plaster, and a thick soled shoe upon the foot of the well side.

Dr. Kocher reiterated his remarks at the last meeting of the American Medical Association upon their thyroid surgery, and told us that more and more they appreciated the importance of operating upon exophthalmic goitre in two or more stages, ligating the vessels to limit thyroid secretion before removing any portion of the gland.

The adage that a prophet is not without honor save in his own land is exemplified by the fact that the colleagues of Professor Kocher do not employ his method in work upon goitre, and it is a matter of surprise to visitors at the clinics, other than Professor Kocher's, to find that his methods are not carried out.

*Geneva.* The General Hospital at Geneva is an excellent institution. Professor Gerard is one of the most attractive, scientific, and conscientious surgeons that it was our pleasure to meet. While there he was most enthusiastic and courteous in showing us every detail of the various departments of the hospital and defining his methods of treatment. He

is a strong advocate of postoperative out of door life. The patients are early rolled out into the garden and there allowed to convalesce.

Tuberculous lesions are treated by the sun's rays, the affected part being exposed until the skin is tanned to a dark brown. In no other hospital on the Continent did we find an operating room so conscientiously guarded from the incursion of germs. Absolutely no one—nurse, operator, assistant, or visitor—enters the room without gown, cap, and rubber shoes.

The professor believes this the only way of impressing the importance of such asepsis on the student.

One leaves Professor Gerard's company feeling that he could wisely and cheerfully select him for his own surgeon.

Geneva now boasts of a remarkably up to date gynaecological hospital. It is a model in every sense of the word, scientifically and hygienically, and has every modern device for the comfort, safety, and convenience of the patients. The furnishings, especially the operating theatres, have the latest and most improved equipments, and are worthy of careful study by one interested in such matters. We found nothing like it in our travels. It was interesting to know that these excellent aseptic furnishings and appliances were of Swiss make.

To one having the building of a hospital in view, a visit to this institution would be of great benefit.

*Lausanne* is the home of Professor Roux, generally acknowledged to be Kocher's most illustrious pupil. The writer was disappointed in not finding him at his work.

*Paris.* The usual route from Vienna is through Paris. If one wishes to visit the hospitals or clinics at this great centre, it is especially desirable to have a letter of introduction.

There is much excellent, scientific work done at Paris, but there is some that is not particularly profitable to witness.

Dr. Fore in gynaecology, Dr. Doven in general surgery and gynaecology, and Dr. Albarran and Dr. Guion in genitourinary work, are all men of great fame. As a rule, these men are not to be found at home in the vacation months, but in such a great centre there is always something of interest.

For instance, at the old l'Hôpital St.-Louis there is a most extensive and interesting museum containing a collection of wax specimens of cutaneous diseases and Péan's wonderful collection of wax specimens of surgical pathology. One can profitably spend an entire day at this museum.

At *London*, The London Hospital, Whitechapel, furnishes abundant opportunity for witnessing a wide range of surgical operations. There are a dozen operating theatres, mostly in charge of men of distinction in certain lines, where work progresses each day in the week except Sunday.

The writer had the privilege of witnessing the genitourinary work of Mr. Hurry Fenwick at this institution.

Much may be seen in the same line at St. Peter's, Covent Garden. It is here that Mr. Frayer performs many of his prostatectomies.

The highest type of brain surgery in Europe is probably performed, by Sir Victor Horsley at the

National Hospital for Epileptics and Paralyzed, Queen Square, W. C.

At the Children's Hospital, Great Ormond street, Dr. Lane has an active surgical clinic, and performs a large number of cleft palate operations.

Bland Sutton can be found at the Middlesex Hospital, Regent street, W.

Mr. Mayo Robson, well known to us all through his writings, operates mostly at private hospitals, and for that reason a letter of introduction is essential to see his work.

Mr. Hubert V. Paterson, who read a paper in the stomach symposium at the Atlantic City meeting this year, operates at the Temperance Hospital. He does careful, conscientious work, and is very courteous to visitors.

At St. Mary's Hospital, Professor Wright, the champion of opsonin index theory, may be found. From what I could learn of his work he is very much respected by the profession of London.

*Liverpool.* Probably the most prolific orthopaedic clinic in England is conducted by Professor Robert Jones Nelson at Liverpool. The writer did not attend this clinic, but learned from others who had that twenty or more operations could be seen each Wednesday.

*Leeds.* The visit of the writer to Leeds, a four hours' ride from London, to witness the work of Mr. Moynihan, was interesting. Mr. Moynihan operates at the General Infirmary, also at a private hospital close by. His reputation in biliary and gastric surgery is probably excelled by none in England. I think it is fair to speak of him as the Mayo of his country. He is a dextrous, cool, methodical, an extremely cautious, and quiet operator. The contrast between the quiet of Mr. Moynihan's operating room, where scarcely any one speaks, not even the chief, to that of some of the operating rooms on the Continent, is marked, and one is forced to admire the English habit of speaking softly and working calmly and quietly.

If asked what is most to be admired and copied in the work of the European surgeon, the writer would answer: Their patience in pursuing a long course of preparation, their accurate knowledge of anatomy, their familiarity with gross pathology, their willingness to serve long periods as assistants before occupying the responsible post of full surgeon, and their devotion to the life with but small compensation.

If asked what features of the work of the American surgeon could be most profitably emulated abroad, the writer would answer: A more profound respect for the sacredness of the tissues of the human body, more thorough explorations in the abdominal cavity when it is entered, an endeavor at times to work through smaller incisions, more prompt hemostasis on the part of the assistants, more discrimination in the selection of ligature material, and greater neatness of technique.

Each may learn from the other; in years past we have learned chiefly from them, but at present the European surgeons are holding us in higher esteem, and are observing our work with more marked attention and respect than ever before.

## MILK AND EDUCATION.\*

BY GEORGE W. GOLER, M. D.,  
Rochester, N. Y.

A woman was complaining on one occasion to Dr. Osler that Providence had seen fit to take her little child, when the doctor interrupted with the remark, "Providence had nothing to do with it; it was dirty milk."—John Mason Knox.

Early, very early in the morning, and again late in the afternoon in thousands of barns in every State in the Union thousands of milch cattle are milked every day in the year in order to supply the millions of people of this great country with milk. Of these millions of people ten millions are children under five years of age. In round numbers, down in New York nearly half a million; in Boston, 60,000; in Philadelphia, 140,000; in Chicago, 200,000 babies under five years of age, all dependent upon milk for food. Ten millions of babies and many millions of people, some of them sick, must have this milk produced daily from the bodies of all these thousands of animals.

From these statements one would be led to think that the education and training of those intrusted with the production, transportation, and distribution of milk would be made the subject of the State's greatest care. For are we not taught that the State depends upon the physical, mental, and moral welfare of its children for the perpetuation of the nation?

Do we see evidences of that care that milk demands by either the producer or the retailer? Does the producer handle his milk carefully, care for his utensils properly, store and transport it carefully, protect it at the railroad depots and provide for icing it on trains? Does the producer or the retailer clean his cans or utensils as they ought to be cleaned? Does he keep the milk cold, or does he substitute pasteurizing or preservatives for ice? Is there even provision for determining what percentage of the milch cattle are subject to tuberculosis? What man may enter the business of milk production? Has he training? Does he enter the business of dealer in the most perishable of foods with that education and training which these millions of infants have a right to demand for their protection, and which we, the State, should demand for them? They can neither speak nor vote as we men can vote or as both men and women can speak.

Inspection of milk and the protection which it should insure are both sadly lacking.

Is there a model farm where the dairyman may see and learn how he ought to produce and handle his product with financial advantage to himself and sanitary advantage to you? Is there a model dairy where the retailers of milk may learn how best to handle milk and how best to clean and keep clean milk and milk utensils? The men who work as butchers, the men who cut your corns or humors, the men who bury your dead must all pass examinations before they can receive licenses to do these things, but the men who produce or who sell milk to the millions of babies in the United States of America are, as a class, without education or training in the simplest rules of cleanliness and by a mere declaration and on payment at most of a dollar or two may

purvey food to your children. With this food millions of germs are frequently found in every teaspoonful. The germs of tuberculosis, typhoid fever, and diphtheria, the poisons of scarlet fever are but too often conveyed from the faraway farm or the family of the retailer to the children of the State.

When will we as a people awaken to the necessity for clean milk? Not so much because milk may cause the death of many infants, but because of the danger of disease in the years of the child's formative state, when the energies of the body should be used for growth, and not for resisting disease carried to it by milk.

In the countries of Europe the subject of milk as food for babies has received much attention within the last decade. Abroad they have begun to realize that the character of the milk supplied to the babies is of importance because milk is almost the sole food of the baby. They have found, as in Berlin, for instance, that in 1895 45 per cent. of their infants were breast fed, but that in 1905 the number of breast fed children had diminished to less than 33 per cent. We have in this country to-day, on the authorities of special workers in children's diseases, less than 25 per cent. of mothers in affluent circumstances who are able to nurse their children. Other evidence could be adduced to show that the number of naturally suckled children is diminishing, and this being the case, we are compelled to fall back upon the cow, to make our babies parasites upon a four footed board faced animal who may furnish excellent food for a calf, but only at the very best, indifferent food for a human baby.

Cows' milk, even chemically, is at best poor food for a human baby. It clots in larger and more indigestible lumps than woman's milk. It has a different fat, albumin, and sugar content than human milk. With all the skill of the most scientific treatment, it is both chemically and physiologically unfit for a human baby. Artificial treatment, predigestion, gruel mixtures, make it poor indeed in comparison with human milk. The only way to make cows' milk fit for a human baby is to feed it into the digestive tract of the human mother, in whose system it should be elaborated for her baby into human milk droplets from her breasts.

But we have before us the problem of 75 per cent. of our nurslings to be fed by the cow. We know the foul, dark, ill ventilated, dirty stables, the dirty cows and cans and utensils, the flies, the swarms of bacteria in the artificial food of the baby. We know of the poor makeshifts, the strainers, the temptation to condense, cook, and pasteurize, and otherwise "ize" this food, and all the time those of us who are striving to teach the value of clean milk are learning the lesson of depopulated France, Germany, and other European countries, viz., that the most precious thing in the world is the human baby. We are learning this lesson, not yet perhaps as they have learned it, because in Europe the mothers bear children, and, bearing children, attempt to rear them, but here our native American women no longer bear children as they once did, and so, as we import raw products of other kinds, we are now beginning to import most of our mothers.

But if we have not a large proportion of native born children, let us try to keep those we have and

\*Read before the New York State Sanitary Commission at Buffalo.



all other children alive and well. Let us try to realize that the baby is a future citizen. Let us try to look upon the protection of the milk supply as one of the greatest measures of protection for these citizens. Milk is secondary in importance only to water. All people may and should join in protecting this great food supply. The physician especially may do much to advance this work if he will acquaint his patients with the necessity of procuring clean, cold milk, unchanged by any Pasteurizing or so called concentrating process, and for protecting that milk by cleanliness and by icing, both before and after it reaches the consumer. The physician can assist in the establishment of milk stations throughout the city. Especially should such stations be established in connection with hospitals, particularly in those hospitals where clinics are held, so that the nurses in charge of the work and the physicians and students attending the clinics may observe the value of clean milk in the artificial feeding of infants. It is notorious that hospitals, as a rule, have the worst of milk supplies. It is supposed that their drugs are pure. Do they pay less attention to their milk than to their drugs? A patient becomes sick, the physician puts the patient upon a milk diet. How often does he know whence the milk comes, and whether it is clean or dirty? The importance of milk as food for older sick people is considerable, but of how much greater importance is it when the milk is to become food for infants! The results obtained from systematic milk inspection and through the work of milk stations are remarkable, but still more remarkable are the results shown in the figures taken during the last three months in Rochester, where all the deaths in infants under one year of age have been investigated with reference to whether the infants were breast fed or artificially fed, and if artificially fed, what was the standard of the milk obtained for their food.

During the months of July, August, and September, the months of heaviest infantile mortality, there were 144 deaths in infants under one year of age. Of these (excluding four less than forty-eight hours old) twenty-two were breast fed, 122 bottle fed, and of these 122 bottle fed children who died during those three months not one of them received a really safe milk supply.

It may be fairly assumed that the breast fed infants of the alleys have a far greater chance for life than their artificially fed brothers or sisters of the avenues. The children of those parents in affluent circumstances, when artificially fed, have a greater chance for life than the child so fed in the slums, or the carelessly fed child of a higher social grade. Artificially fed infants will thrive better on clean cows' milk in hot weather than on dirty milk in hot weather. They will even do better on home Pasteurized or sterilized dirty milk than when fed on untreated dirty milk, but they will also do far better if artificially fed on clean, uncooked milk than on the best kind of commercially Pasteurized or sterilized milk.

Figures for ten years show that infants do not die as frequently in cold weather on dirty milk as in hot weather. Else why do they not die in such great numbers in January as in July? The infant will stand dirty milk and cold, and it will endure heat alone, but it will not endure dirty milk and heat to-

gether. Clean, cold milk is the great necessity for the artificially fed baby. How many cities have clean milk—milk that can be trusted as a food for infants? Do you know of one city? How many cities have cold milk? Do you know of one? There are at least ten such cities. These are the cities that have a milk ordinance requiring milk to be delivered under 50° F. New York, Boston, Brockton, Los Angeles, Detroit, Cleveland, Cincinnati, St. Louis, St. Paul, and Minneapolis have such an ordinance. No city in New York State but New York City. Why? How many cities are feeding milk from tuberculous cattle, feeding it to their men and women with perhaps sufficient power to resist the disease, but feeding it as well to their infants who may grow up to become patients in the sanatoria for tuberculosis that are to be built for their reception in the future? The only cities buying milk from tuberculin tested cows are Grand Rapids, Mich.; Minneapolis and St. Paul, Minn.; Montclair, N. J.; Denver and Colorado Springs, Colo.; Brookline and Lynn, Mass.; Milwaukee, Wisc.; and Pasadena, Cal. Why?

It is not until such questions as these have been answered by the public and until the facts which the answers to such questions should call forth have been made known to the public that we shall improve the condition of the milk. The improvement of the milk supply depends not only upon the education of the public, but upon the education of the milk producer and the milk retailer. The milk producer should be a trained dairyman. The State should have before him as schools of reference to which he may refer a number of model farms.

All the operations of dairying should be carried on on these farms, and should include the best method of preparing the soil, planting, gathering, and housing crops, selection of cattle, the housing, storing, and transportation of milk. For the further advantage of the milk producer a system of book-keeping should be so simplified as to show the operations of such farms. If the State should establish such farms, it would be unnecessary to provide new houses and new buildings. It would be a great deal better to secure old, partly run down places with old buildings, and bring these into the highest state of efficiency so that the small milk producer could learn how to improve his own place without going to the expense of new buildings.

Even cities could well conduct model farms with new buildings in connection with the park system, where a day nursery might be conducted in the park, and where the cows might supply milk for such a nursery. For the benefit of every producer and retailer every health department should have a system of milk inspection so arranged that the premises of the producer and those of the retailer are subjected to regular, quarterly inspections and the result of those inspections entered upon a score card in triplicate so that each record of inspection might be furnished to the health office, the producer and the retailer. Upon the score card used for the retailer all of the data should be gathered necessary to make a ready reference relating to the retailer's premises, the score of the producer's premises, the bacterial count, and a rough diagram of the milk room so that in conversing with the retailer the inspecting or licensing officer might have all the information in his

hands at a time in condensed form on a single sheet.

For the further benefit of the retailer there should be in every health office a model milk room in actual operation, consisting of a steam boiler, sinks, with hot and cold water, and a sterilizing box where the retailer might see and learn how to adapt the simplest principles of cleanliness and of can and utensil sterilization to the public needs.

Then, with the introduction and operation of a licensing system, the enforcement of a milk ordinance by law that should provide imprisonment for a second offense, no man should be permitted to send milk into the city until the licensing authority had been satisfied with the premises of his producer, the health of his cows, and the cleanliness of all his appurtenances; that the cows had been subjected to a tuberculin test, and that the shipping facilities of the railway would insure the milk being kept cold. The retailer, too, should be compelled to show his ability to comply with the ordinances before being permitted to sell milk. These are the rules that must be lived up to if we are to protect the food of our children.

We live in a great country, the people of which approach the highest civilization the world has ever seen. Since the Civil War all the arts and sciences have attained the most wonderful development. Everything in this great country of ours is so new that if we pause and look out upon the achievements of our people it might almost seem as if we had been transplanted into a new world, where, fairylike, a new order of living had been made possible in part of the cycle of the life of man. New modes of communication at a distance, new modes of travel, the work of man manifolded by wonderful machines, new plants, the earth's products quadrupled; all these until men, women, and children have become mere machines.

While we are growing new grains, grasses, fruits, and vegetables, we are cultivating, weeding, and protecting them. What are we doing for our children? Are we cultivating them? Are we doing for them what the agriculturist does for grasses, fruits, and flowers? Are we even in their formative state giving them decent food?

The subject discussed here is part of a great social question. Upon the feeding and the training of our children we must depend for the stability and strength of the home and of the nation. The children of to-day are to be the parents of the future. To be strong, to be good parents, they must be well fed. What are you going to do for the protection of their most necessary food? Will you leave it as it is, practically unprotected, or will you insist upon the enactment of laws for its protection, and the enforcement of the laws after they are enacted?

127 EAST AVENUE.

#### TUBERCULOSIS AMONG MEDICAL STUDENTS AND ITS POSSIBLE PREVENTION

By UNO J. WILE, M. D.,  
New York

The prevalence of pulmonary tuberculosis among medical students and those engaged in the practice of medicine is a well known and long recognized

fact. The records of private sanatoria for the cure of tuberculosis show that a very considerable percentage of all patients are drawn from these walks of life. Setting aside that group of cases in which there is a previous history of tuberculosis, and that group in which there may be inherited predisposition, there remains a large number of cases in which the infection has been acquired during the course of study, and where perhaps it can be traced to direct carelessness or ignorance on the part of the student, or lack of protection incommensurate with the exposure to which all students of medicine are necessarily subjected. This last group of cases, therefore, would seem justly to be called preventable cases, and it is the purpose of this paper to point out briefly the probable sources of contagion in such cases and to suggest measures whereby such cases might be prevented.

During his medical course the student is exposed to tuberculous infection, as well, of course, to other infections, in three places, namely, the clinical laboratory, the post mortem room, and the ward. I have purposely left out the special dispensaries for tuberculosis, as here the danger seems to be well appreciated, and elaborate precautions against the spread of infection are usually observed. Likewise in the bacteriological laboratories the danger is probably minimal, for the student in bacteriology, in order to avoid ordinary contamination, must observe a technique which of itself does obviate any possibility of infection from the organisms studied, if that organism be the Koch bacillus.

Obviously the best time to warn the student against exposing himself uselessly to tuberculous infection is early in his course. Therefore, as soon as the entering classes in medicine are enrolled they should be gathered together, and some one of their teachers should address them, explaining the necessary and unnecessary dangers to which they may be exposed in their ensuing four years of work and thereafter. They should be strongly advised against overwork, underexercise, and overstimulation. Too often these are the causes which break down the normal resistance and render the student, perhaps late in his course, a fit subject for infection with the tubercle bacillus. Secondly, should be pointed out to the new student the widespread incidence of slight tuberculous infection among healthy people—in other words, the German view, "Jeder Mann hat am Ende ein wenig Tuberculose." To many this will undoubtedly serve as an added warning against risking an already infected, although latent, process to further infection. Thirdly, the proper hygiene of life, which, after all, is the best prophylaxis, should be strongly emphasized. Unfortunately in large cities, where clinical opportunities are good, proper hygienic surroundings for the student are not equally good. He should be urged, however, to spend at least one hour each day in the open air, to retire and to rise at regular hours, the morning to be well initiated by the cold tub or sponge. Using his mind constantly, the student should, above all things, have good food, and it is indeed poor economy to neglect, as many of the students do, the cheap boarding houses usually found in the proximity of the hospital or college. House infection is without doubt a factor in some of the cases

of tuberculosis developing among students, and the new student should carefully question his landlady as to his predecessor, and, in any event, before entering it as his own, he should insist upon having the room fumigated, or at least thoroughly scrubbed from top to bottom. One evening a week for the theatre, or any other preferred diversion, is an excellent rule for the student to follow throughout his medical course, and if he can be urged to take Sunday off besides, away from his books, it would be much better, and, I believe, a real gain in his working capacity. Having pointed out these things, the new student should be reminded that, despite all precautions and advice, a few cases of tuberculosis will undoubtedly occur in his class, but that these would probably occur in the same proportion in any walk of life, and should cause no special alarm.

To return to the places where the student will necessarily be exposed, we may first speak of the ward. The chances of contamination are here very obvious. One patient suffering from tuberculosis may, through his own ignorance, or the neglect of those who should know better, contaminate an entire ward with tubercle bacilli. To minimize this great danger all patients who cough, no matter from what cause, should be instructed to cover the mouth with a piece of gauze, thus lessening the chance of droplet infection. These pieces of gauze should be collected at least once a day and burned; furthermore, all patients should have as a sputum receptacle, not the china cup or mug most often used, but the regulation tin covered sputum cups, which are lined with pasteboard boxes. These should be covered with sawdust and burned each day, and the receptacle easily sterilized by boiling or by immersion in strong carbohc acid. Not infrequently the cups ordinarily used are thrown on the floor and the sputum spilled all over; the tin covered pasteboard boxes seldom are spilled, even when thrown on the floor, owing to the cover and the small opening in the pasteboard.

With regard to the laboratory, no sputum should be examined in large bulk. It is obviously a difficult task to find rice bodies or elastic tissue in two to four hundred c.c. of sputum. To spread this amount out on glass plates is to contaminate too large a surface to be afterward satisfactorily sterilized. The proper receptacle for sputum examination is the wooden screw box, which is painted inside with black enamel. Into this the patient should expectorate one or twice only. The black surface enables one easily to discern the desirable elements for examination, without transferring the infectious material to another surface, and the boxes should then be covered and soon afterward burned. In all his manipulations in the sputum room the student should avoid contaminating his hands, and all sputa should be removed before they can become dry. Besides this, no room for examination of sputum is complete unless plenty of soap and water and some disinfectant is at hand, and no examination can be complete unless the student makes use of these, whether he thinks he has contaminated his hands or not.

In the post mortem room, possibly more than anywhere else, is the student exposed to tuberculous infection. In order thoroughly to understand dis-

eased tissues, whether tuberculous or not, the student must feel them. Contact with tuberculous tissue, of course, spreads the infection to the examining fingers, but the danger from this is probably not great if the means are at hand for immediate and thorough cleansing of the hands. Unfortunately, however, in an autopsy room much used and usually not overclean, the student may further contaminate himself in endeavoring to rid his hands of infection. The faucets and sinks are probably infected, and even the door knobs may be, by those who are careless enough to leave the room before washing. The use of thin rubber gloves in the autopsy room, or in the examination of pathological tissue, is, I think, to be recommended. It may be argued by some that the tactile sense is lost or not so good, but we have the evidence of the surgeons against this view. Certainly no measure which may protect the student, even if its efficacy is a question of doubt, should be neglected until shown beyond this doubt that it is useless.

It is quite believable that if these briefly outlined precautions are followed and insisted upon in the medical school and hospital, a certain number, at least, of cases of tuberculosis acquired during the medical student's course may be prevented.

332 WEST EIGHTY-EIGHTH STREET.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXX.—How do you distinguish alcoholic stupor from other conditions resembling it? (Closed January 15, 1908.)

LXXI.—How do you treat gallstone colic? (Answers due not later than February 15, 1908.)

LXXII.—How do you treat fracture of the patella? (Answers not later than March 16, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXIX has been awarded to Dr. Maurice A. Walker, of Dillon, Montana, whose article appeared on page 164 of the preceding number.

### PRIZE QUESTION NO. LXIX.

THE TREATMENT OF POST PARTUM HÆMORRHAGE.

(Continued from page 169.)

Dr. William H. Randle, of Germantown, Philadelphia, writes:

Successful treatment of post partum hæmorrhage depends, first, on prophylactics; second, absolute certainty that the uterus is empty; third, stimulating the tired and relaxed uterus (inertia), causing contraction.

Immediately after the child is born, the fundus of



the uterus should be firmly grasped and held for half an hour, when it should be more firmly grasped and massaged, thereby expelling the placenta. If during this thirty minutes (time between the birth of the child and expulsion of afterbirth) excessive hæmorrhage begins, the placenta should be removed by Credé method, and massage continued. Hypodermatic injections of aseptic ergot and strychnine 1/20 gr. should be given separately.

Should flow continue, the treatment at this stage is the same, whether hæmorrhage began before placenta was removed or after. Patient should be placed across the bed, buttocks well over the edge. The left hand should press the uterus well down; the right hand, rubber gloved or thoroughly sterilized, be passed quickly into the uterus and every particle of secundines removed. The uterus should then be irrigated with normal saline solution at temperature of 115° F. A glass nozzle attached to a four quart fountain syringe should be carried well up to the fundus and irrigated slowly; at the same time the left hand should hold the body of the uterus tightly. If the uterus is well contracted, hæmorrhage stopped, and pulse good, the patient can be replaced in proper position.

If, however, there is doubt of the hæmostasia, and patient shows acute anæmia, and complains of feeling faint, with rapid, weak pulse, grasp posterior lip of uterus with double tenaculum forceps, draw uterus well down and to either side, and note particularly whether there are any cervical lacerations. Hæmorrhage may be due to laceration of uterine artery. If so, one or two sutures with chromic catgut, No. 1, is the best remedy.

Should exsanguination at this time have reached an alarming condition, it is best to pack the uterus, carrying packing (iodoform gauze, 5 per cent.) up to the fundus (not through the fundus, which can be easily done), and pack firmly. It is also well to pack the vagina. Ice cap should now be placed over lower part of the abdomen, pillows removed from under the head, and foot of bed elevated about two feet. Give brandy, half ounce in water, every hour until two or three doses are given. If indicated at this time, another hypodermatic injection of ergot, and another of strychnine sulphate, 1/30 gr., should be given; concentrated liquid diet in small quantities, frequently repeated, and normal saline solution (enterocolysis), eight ounces every four hours, and patient kept at perfect rest, complete the treatment.

Obstetrics being one of the most important branches of medicine, no physician should assume responsibility of a case without going to his patient thoroughly equipped for any emergency that may arise. The armamentarium being so necessary for successful treatment, so much depending on being ready and acting promptly, it is quite in order here to state what the physician should have with him.

His obstetrical satchel should contain a Tarnier forceps (or the make he likes best); a short forceps; half a dozen well curved needles; a needle holder; a fountain syringe, a glass nozzle for the same; a double tenaculum forceps; a uterine dressing forceps; a hypodermatic syringe in good order; tincture of veratrum viride; scissors; two or three hæmostats; a yard of moist iodoform gauze, 5 per cent.; six

yards of sterile gauze; twenty day chromicized catgut, no. 1; a linen bobbin; bichloride tablets; tincture of green soap; tincture of ergot; chloroform; a can of ether; a pair of rubber gloves; and a glass catheter. This outfit can be carried in a satchel six by fifteen inches.

*Dr. J. W. Summers, of Chicago, Ill., writes:*

Post partum hæmorrhage, the gravest of all obstetrical emergencies, is, if properly and intelligently managed, the most amenable to treatment. Since it is due to multiple causes, there can be no hard and fast plan of treatment.

In some cases the treatment should begin with the first visit to the patient. If there is evidence of anæmia, severe constitutional diseases, degenerations of important organs, or history of hæmophilia, and previous severe hæmorrhages, treatment should be instituted at once for the alleviation of the condition. For anæmia judicious diet with roborant tonics and well regulated exercise and habits will do good, not only to the blood and vascular system, but to the musculature of the entire body as well.

The various constitutional diseases, of course, will call for treatment directed to their alleviation. If a history of hæmophilia or previous hæmorrhages is given, treatment must be directed to improving the pathology of the blood, and at the time of delivery provision must be made for emergencies. Calcium lactate, calcium chloride, iron, and, in some cases, small doses of manganese, should be administered. To gelatin, as food, is sometimes attributed the power of increasing coagulability of the blood and better fibrin formation.

Prophylaxis during delivery is the next step in treatment. Care must be taken to prevent too rapid expulsion of the foetus, which should be extracted only as rapidly as the uterus will contract firmly. It is sometimes necessary to hold the child back to stimulate the vigorous uterine contractions.

After delivery of the child, the uterus must be encouraged to contraction by mild irritation of the fundus by massage through the abdominal wall, until it can be felt as a hard mass low in the abdomen. Do not hasten to deliver the placenta unless you feel sure contraction is taking place. Then expel the placenta by Credé's method, which is one of massage. This, if well done, will stimulate uterine contractions. After the placenta is expelled the uterus should still be firmly held and kneaded at frequent intervals for some time. If contraction has occurred towels may be tightly folded and forced under a tight binder in such a manner as to keep up continuous pressure on the uterus.

But occasionally, with the greatest care in delivery and previously, the hæmorrhage will occur, and in these cases the alert and self possessed physician is the one who will succeed. No time is to be lost. If the patient is conscious give her a good sized dose of fluidextract of ergot at once, but if she is under an anæsthetic some of the hypodermatic preparations of ergot should be given without delay. This can be done by the nurse or some member of the family while the physician is giving his attention to the local condition.

The first thing to be done in a post partum hemorrhage is to introduce the gloved or sterilized hand into the vagina and search for vaginal or cervical tears, and if the cause is not found there the hand should be introduced into the uterus and internal and external massage instituted by placing the other hand upon the abdominal wall.

The cavity of the uterus must be explored while this is being done, to see if there is still some placental tissue or membrane attached. These, if found, must be detached at once, and the walls of the uterus palpated to be sure there is no rupture or laceration. If a tear is found it must be rapidly repaired or grasped with clamps until preparation can be made for its repair, but if none are found and the hemorrhage is from the uterine sinuses, continue the combined internal and external massage and compression for a reasonable time.

Added to this procedure, a hot intrauterine douche, temperature  $110^{\circ}$  to  $115^{\circ}$ , should be given. It will sometimes be found that this only serves to wash the blood away and does not promote contraction. If such is the case no time should be lost, but proceed at once to pack the uterus with wet strips of sterile gauze, or cloth of any kind in case gauze is not at hand. Tear the cloth in strips and place it in very hot water to sterilize it, and introduce it into the uterus tightly. The vagina should be tightly packed also, in order to prevent expulsion of the gauze from the uterus, and then a perineal binder should be placed on tightly, to hold the gauze in the vagina. These measures are usually sufficient to stop the flow.

If adrenalin is at hand, swabbing the cavity of the uterus with 1 in 3,000 solution will often do good, since it is a powerful hemostatic when applied locally. Should no adrenalin be obtainable, acetic acid or sterile vinegar will do good.

Ice is an excellent stimulator of muscular contraction, and if the hemorrhage is so unexpected that no hot water or other measures are ready, a small piece of ice should be introduced and the cavity of the uterus massaged with it. This is excellent to promote contraction, but it causes some shock and even necrosis if allowed to remain too long, and, besides, ice is not always sterile. However, it may be used to good advantage in absence of other measures.

When hemorrhage is so severe as to cause fainting or unconsciousness, the foot of the bed should be elevated, and in very severe cases the limbs bandaged, hypodermoclysis or intravenous saline given, and heat applied. In less severe hemorrhages, high enemata of normal saline, plain or with a small amount of whiskey added for its stimulating effect. This acts quickly, and the simplicity of it often makes it more useful than hypodermoclysis or intravenous infusion.

Strychnine, camphorated oil, and other stimulants should be given if the condition of the patient requires them.

In hospital practice the control of post partum hemorrhage and the prevention of sepsis is a fairly easy feat, but in the poorly equipped home it assumes grave aspects and demands the best thought and self-control of the obstetrician.

*Dr. Iva M. Lickly, of Lima, Ohio, remarks:*

The most successful treatment of post partum hemorrhage lies in prophylaxis. An understanding of its etiology is therefore necessary.

As soon as the child is born a nurse or assistant should place her hand upon the mother's abdominal wall. If it is not unduly relaxed, the uterus will be felt as a firm, round body. If relaxed and bleeding occurs, the uterus should be massaged to secure contraction. The hand should then remain over the fundus until the placenta separates spontaneously, which will be indicated by a rising up of the fundus. If the patient is watched in this way, one will not be surprised by a concealed hemorrhage.

Usually the placenta will be expelled spontaneously. If not, Credé's method may be used after the placenta is separated, or if bleeding occurs. Impatience of the obstetrician and too early attempts at Credé's method often cause retention of portions of the placenta and consequent hemorrhage.

In rare cases the hemorrhage may be caused by adherent placenta. Then it may become necessary to insert the hand into the uterus to remove the placenta. Strict obedience to the rules of asepsis must then be observed, for danger of sepsis is great. The hand should follow the cord into the uterus and the edge of the placenta found. Then the placenta should be carefully peeled from the uterine wall. The hand then grasps the placenta, but should not be removed at once from the uterine cavity, but should be slowly withdrawn after the uterus contracts firmly over the hand. As soon as the placenta is expelled or contracted, it should be carefully examined for missing portions. If any part is absent, its removal will become necessary. This may be done according to method for removal of adherent placenta.

Bleeding, continuing after the expulsion of the placenta entire, may be due to uterine inertia or to deep cervical tears. Rarely it may be due to rupture of the uterus or to complete inversion. These latter, fortunately rare, require surgical treatment.

As soon as the placenta is expelled, the uterus should be massaged through the abdominal wall to secure contraction. If it shows a tendency toward relaxation, fluidextract of ergot 5i may be given by mouth, or, better, aseptic ergot min. xxx to min. lx. may be injected deeply into the muscles of the thigh. The uterus must be palpated often during the first hour after the placenta is expelled and massaged when necessary.

If the hemorrhage is due to deep cervical, vaginal, or perineal tears, the blood will be bright, the flow constant, and not stopped by the contraction of the uterus. In that case a careful examination should be made and the laceration repaired.

If massage fails to stop the bleeding, an intrauterine douche of hot, sterile, normal salt solution should be given. It should not continue for over two or three minutes, for, while the first effect of the hot water is to cause contraction of the blood-vessels, if continued too long it defeats its own purpose by causing relaxation.

If this fails it will be necessary to pack the uterus with sterile gauze, either plain or iodoform. A roll of sterilized gauze four or five inches wide should always be carried for this purpose. The patient

should be brought to the edge of the bed, prepared as for an operation, and a Sims or bivalve speculum inserted. The cervix should be brought down with a tenaculum and the uterus and upper vagina firmly packed. This packing should be removed in twenty-four hours by pulling on the free end.

The use of ice, vinegar, Monsel's solution, and other astringents may be mentioned only to be condemned. Ice and vinegar are never aseptic. Any astringent to be effective acts by forming a coagulum over the surface. This latter separates by sloughing. None of these methods are as effective as the intrauterine douche or packing the uterus. Following the latter methods one does not fear puerperal sepsis.

The after treatment is the treatment of shock. In mild cases, absolute quiet, elevation of the foot of the bed, and hot water bottles to the extremities will be sufficient. If, however, symptoms of profound shock occur, if the pulse is weak, of low pressure, and thready, and if the patient is restless and shows signs of "air hunger," more vigorous measures must be adopted. Strychnine nitrate, gr. 1/30, hypodermatically, repeated until three doses are given, is good treatment. Adrenalin extract is evanescent in its effects, but may tide the patient over a critical time until other things have time to act. It may be given hypodermatically, the dosage depending upon the preparation used. Brandy and ether may also be given hypodermatically.

Six ounces of hot coffee and salt solution (temperature 110° F.) may be given per rectum, or hot normal salt solution may be injected slowly high into the colon. It will be rapidly absorbed and prove a valuable aid.

In many cases of pronounced shock from hæmorrhage life has been saved by subcutaneous or intravenous injections of hot normal salt solution. If given by hypodermoclysis, the injection may be given under each breast, using at least a pint of solution and repeating as soon as absorption has occurred. If the case is very urgent, the solution should be given intravenously.

To sum up:

1. Hæmorrhage may usually be avoided by proper treatment.

2. If it occurs, (a) remove placenta; (b) massage uterus; (c) give ergot hypodermatically; (d) repair lacerations; (e) use hot sterile intrauterine douches, and (f) pack uterus.

3. After care: Heat stimulants. Hot normal salt by enteroclysis, hypodermoclysis, and intravenously.

*Dr. J. Lytle Moore, of Toledo, O., observes:*

After the expulsion of the placenta, normally there is a loss of a variable amount of blood. In cases where the uterus does not contract promptly or sufficiently this hæmorrhage may be so severe that the patient would be exsanguinated in a short time unless very prompt measures are taken to stop it.

The causes of post partum hæmorrhage may be briefly stated as: 1. Relaxation or insufficient contraction of the uterus. 2. Exertion, which causes a loosening of the clots in the uterine vessels. 3. Ruptured uterus. 4. Inverted uterus. 5. Lacerations

in the birth canal. 6. Tumors and new growths.

1. Relaxation of the uterine muscle is by far the most frequent cause of post partum hæmorrhage. The causative factors of relaxed uterus are those which interfere with the complete contraction of the organ, as retained placenta or clots, weakness of the uterine muscle from overstretching (twins, hydramnios, large child, etc.), or debility from general disease, adhesions around the uterus, distended bladder or rectum, fatigue from a protracted labor, rapid delivery, short time between pregnancies, etc.

The treatment of this form of post partum hæmorrhage divides itself into prophylactic, active, and after treatment.

Prophylaxis.—If there is systemic weakness or debility from any cause, this should be treated with tonics, good food, proper hygiene, etc., to get the patient in the best condition possible before delivery. At the onset of labor the rectum and bladder should be emptied. The physician should not allow the patient to become too much exhausted by a long labor. As soon as the head is born, a hypodermatic injection of ergot should be given and the fundus massaged to insure contraction. A firm abdominal binder should be applied to insure slight pressure.

Active Treatment.—Before giving my favorite procedure, I would like to mention a number of methods which are in use by the best physicians for stopping the bleeding.

a. External stimulation of the uterus. The best way is to massage the uterus through the abdominal walls. The fundus is grasped in the hand and kneaded and irritated. The uterus can also be stimulated to contract by the application of cold to the abdomen. A little ether can be poured upon the abdomen, or ice, or a cold compress can be used.

b. Internal stimulation. A comparatively safe and efficient method is the hot uterine douche. Water at a temperature of 120° F. should be used.

Pieces of ice are sometimes placed in the uterus. The chief objection to this is the danger of infection. Irritating drugs, as tincture of iodine, Monsel's solution, vinegar, etc., promptly cause uterine contraction when introduced into the organ. But they, too, have an objectionable side. They cause large clots to form in the vessels, and these are likely to form an embolism. I do not think them as safe as other methods.

Another method of internal stimulation is to introduce the left hand into the uterus, and massage it between the two hands until it is felt to contract down upon the inside hand. With proper attention to antisepsis the danger of infection is slight.

Tamponing the uterus.—Sterile gauze is packed into the uterus and vagina. This will usually stop all hæmorrhage. The gauze is left in from twenty-four to thirty-six hours. If hæmorrhage commences again after its removal, it should be repacked.

Compression of the uterus.—The fingers of the left hand are in the posterior cul-de-sac, and the right hand is over the pubes. The uterus is compressed between the two hands.

Pressure on the abdominal aorta is sometimes resorted to when all other methods fail. Authorities differ as to the value of this procedure.



In addition, ergot should always be given, and the child placed to the breasts when possible.

The following is the outline of the way I would treat a case of hæmorrhage arising from relaxed uterus: Place patient on her back, with head lowered; then give a hypodermic of ergot. Remove placenta if attached, correct inversions and misplacements if present. By external massage of the uterus hæmorrhage is usually controlled. If not, internal massage. Finally, if this does not control the bleeding, I resort to tamponing the uterus and vagina.

After treatment of all forms of post partum hæmorrhage is the same as hæmorrhage from any cause. In the less severe cases, give the patient a cup of strong, black coffee or some other stimulant, and keep up the body temperature by hot water bottles to the extremities. In severe cases, raise the foot of the bed, stimulate with a hypodermatic injection of ether, give an enema of hot saline solution, or a hypodermoclysis. After reaction, quiet the patient with morphine, and give stimulants, digitalis, strychnine, etc. Keep the patient perfectly quiet, and allow only a liquid diet. Later put her on tonic treatment.

2. High arterial tension, or exertion on the part of the patient may cause loosening of the clots. This should receive appropriate treatment, viz., quietness or drugs to lower arterial tension.

3. Inverted uterus.—If the placenta is adherent, remove it and then replace the uterus. If it does not contract, the methods given before should be tried, or it should be packed with gauze.

4. Lacerations of birth canal.—If possible, pick up and tie the bleeding vessels and repair the tears. If this cannot be done, pack the uterus or vagina, whichever is necessary. Later, this is to be removed and the rents sewed up.

Hæmorrhages from other causes are more rare, and their treatment is that of the causative factors.

*Dr. Parker F. Southwick, of Sandusky, Ohio, states:*

As relaxation and loss of contractile power of the uterine muscle is the most frequent cause of post partum hæmorrhage, any treatment to be effective must be directed to these conditions, the object being to secure firm and prolonged contraction of the womb. To this end especial care should be exerted in the third stage of labor.

After birth of the child some little time should elapse before any attempt is made to deliver the placenta, thus allowing the fatigued and overworked uterus time to regain its lost muscular tone. The placenta having been removed by the expression method, the hand should maintain this external pressure, and at the same time make gentle kneading movements over the womb. If the uterus is not firmly contracted and there is some hæmorrhage, 5i or ʒi of extract of ergot should be given by mouth. Then give a hot vaginal douche of sterile water at a temperature of 112° F. If it produces no effect give an intrauterine douche consisting of sterile water, normal salt solution, or a 2 per cent. solution of acetic acid; if the latter is not at hand, vinegar may be used. The use of the hot douche is extremely valuable, but is not always possible to give without trained assistants. During these procedures the

mechanical stimulation through the abdominal walls should be maintained. If hæmorrhage continues, repeat the ergot and introduce the free hand into the vagina, carry it up posteriorly to the cervix, and with both external and internal hands press the uterus firmly up under the symphysis pubes, always continuing the kneading movements of the external hand. If this produces no effect carry the hand up into the uterine cavity, removing all blood clots and placental remains. At the same time move the hand about rather roughly to incite a mechanical stimulation of the muscle, or close the hand in the uterus and make firm pressure over it with the external hand. Gauze soaked in vinegar and carried into the uterine cavity may bring about desired results.

Should all these means fail to incite firm contraction and check the hæmorrhage, the uterine cavity is to be packed with sterile gauze. With the patient across the bed the gauze is carried to the fundus and firmly packed in from above downward, causing an immediate cessation of the hæmorrhage. Electricity and local styptics might be tried, but they are usually not at hand when most needed. Then, too, styptics are dangerous from the firm clots they produce in the uterine sinuses.

All of these measures in and about the parturient canal should be carried out under strict aseptic precautions, as the uterus is especially liable to infection at this time.

In cases of mild hæmorrhage not controlled by mechanical irritation and the hot douches, careful inspection of the vagina and uterus should be made through a speculum. Often a tear in the vaginal or cervical tissue may be responsible for the bleeding. If found, immediate repair insures the desired result.

The cessation of the hæmorrhage is not the only consideration in these cases, as they are usually followed by depression, syncope, and acute anæmia, which demand immediate treatment.

The patient is to be kept perfectly quiet, with the foot of the bed raised six or eight inches, and heart stimulants, strychnine, digitalis, and brandy, administered as required. An enema consisting of

B	Adrenalin chloride, .....	ʒj;
	Brandy, .....	ʒi;
	Normal salt solution, .....	ʒviij.

M.

acts as a powerful stimulant, besides restoring the balance of fluids in the system. Normal salt solution may be given subcutaneously in immediate danger.

*Dr. C. C. Coryell, of New York, says:*

The treatment of post partum hæmorrhage divides itself into two divisions—the first prophylactic, the second curative.

1. *Prophylaxis.*—Since the causes of post partum hæmorrhage are not invariably similar, the preventive treatment is most important, and should include a proper regulation of diet and hygiene, especially during the latter weeks of gestation; the condition of overdistention of the uterus, due either to excessive hydramnios or multiple foetation should receive attention; also pregnancy should be terminated prematurely if the patient is markedly weakened by any systemic disease.

During labor itself care should be taken, first, to prevent a too rapid delivery, thereby causing insufficient uterine contraction or lacerations of the birth canal, and, secondly, to prevent a too prolonged labor, on account of which the uterine muscles fail to contract properly.

Beginning with the end of the second stage of labor the fundus should be held firmly through the abdominal wall and pressure continued thereafter until there are firm contractions after the termination of the third stage. However, if the placenta is not expelled after thirty minutes, the familiar method of Cr  d   should be employed, this being an important adjuvant as a preventive of post partum h  morrhage.

Immediately following the birth of the placenta fluidextract of ergot should be given by mouth (or a smaller dose subcutaneously) to promote uterine contractions; the placenta should be carefully inspected for possible retained membrane or cotyledons, and, if there is a probability of such being the case, the fingers (under aseptic precautions) should be passed into the uterus and shreds or clots removed.

**II. Curative.**—When, in spite of all preventive measures, there occurs a frank h  morrhage after the third stage of labor, the following methods of control should be employed.

Put the infant to breast of mother to promote reflex contractions of the uterus; rub and squeeze the fundus through the abdominal wall to produce direct contractions; pass the fingers into the cervix and remove clots of blood or retained portions of placenta or membranes. These procedures failing, pass the fingers of the right hand into the posterior vaginal fornix, pressing forward the cervix, while with the left hand seize the fundus through the abdominal wall and press downward and backward in an effort to bend the uterus upon itself; as a final method the closed fist of one hand should be placed inside the uterine cavity, and with the external hand squeeze the fundus upon it.

These manipulations, begun early and carried out rapidly, are invariably sufficient. Then a hot intra-uterine douche of sterile saline solution should be given. If there is a tendency for continued uterine relaxation, the fundus may be packed tightly with strips of sterile gauze, to be removed in twenty-four hours. Injections of substances such as vinegar, iron chloride, etc., are mentioned to be condemned. All manipulations are to be carried out under aseptic precautions if possible.

Following the control of the h  morrhage, the general treatment of the patient must be begun. Elevate the foot of the bed; give a hot saline enema, and, if considerable blood has been lost, a saline venous infusion or hypodermoclysis may be employed; stimulate with hypodermics of brandy, strychnine, or Hoffmann's anodyne, as indicated; place hot water bottles to extremities; morphia sulphate, gr. 1/4, hypodermatically is a valuable stimulant in cases of collapse.

After the patient has passed two or three days without h  morrhage, she may be considered out of danger. Then general tonic and dietetic treatment must be begun.

*Dr. Adolph Morgenstern, of New York, writes:*

The treatment applicable to a case of post partum h  morrhage is classed as (a) preventive and (b) curative.

I shall not consider remote prophylaxis, which deals with the preparation and treatment of a patient whose general condition, surroundings, or family history would warrant suspicions of a possible post partum h  morrhage. But I must devote a little space to the immediate or direct prophylaxis, i. e., the one pertaining to the proper management of the second and third stages of labor. I firmly believe that the least break in the technique of managing these two stages enhances some chance of a post partum h  morrhage. This is especially true in multipare, and particularly so where the patient is exhausted from tardy labor and somewhat prolonged chloroform narcosis. To be more explicit, I must of necessity give a brief review of the rearrangement of the uterine fibres after labor as well as the methods of aiding this process where the physiological return to the normal is somewhat retarded.

After the birth of the child, the hypertrophied uterine fibres, stretched during the period of gestation, begin to rearrange themselves, or, in other words, to tonically contract and relax. The mere touch of the fingers promotes and stimulates this tonic action of the uterus. Moreover, as the periods of contraction lengthen, the periods of relaxation shorten, and in about twenty to twenty-five minutes the uterus is usually firm enough to render the Cr  d   method possible. By virtue of these muscular contractions, which continue after the delivery of the placenta, the ligation of the uterine vessels is accomplished. Should the uterus present a boggy touch, Cr  d  's movements are to be instituted, and as one or more blood clots are expelled, the uterus regains its firmness. The hand should, under no circumstances, leave the fundus for at least one hour. The patient remains perfectly quiet, with thighs together and flat on the bed. A tight abdominal binder coming up to three inches above the fundus and reaching about two inches below the trochanters, is very effectual, for the reason that it supports the abdominal muscles, which in turn exert a certain amount of pressure on the uterus.

Slight h  morrhages usually originate from a badly lacerated cervix, vagina, or perin  um. These are best controlled by suture. The curative treatment of a post partum h  morrhage proper—that is, one having its origin at the placental site—I will discuss more fully. In the treatment of this last condition various manipulations are employed. In my experience the ordinary Cr  d   manoeuvre—that is, grasping the fundus between the hand and the thumb, and pressing the latter against the dorsum, simultaneously directing considerable force downward—has been most satisfactory. Breisky's method is also very efficacious. I have controlled some moderate h  morrhages by holding the right hand at a point corresponding to the junction of the body and cervix, and forcibly anteflexing the uterus with the left. In these external manipulations a certain amount of pressure is also exerted on the abdominal aorta. The combined internal and ex-

ternal manipulation does not appeal to me, because of the possible dangers of embolism and infection consequent upon such a procedure.

To my mind the hot douche of sterile water at a temperature of  $116^{\circ}$  to  $120^{\circ}$  F. is only applicable in hospital practice. In the tenement houses of this city it is exceedingly difficult to obtain sterile water, and much more so at an optimum temperature. The styptic effect alleged from a hot 1 per cent. to 5 per cent. acetic acid douche is too slight to be of any value, consequently hardly worth while trying.

Uterine tamponade is the most efficient method for the control of severe hæmorrhages following hæmophilia or marked atony of the uterus in consequence of inertia uteri from exhaustion, overdistension of the uterus from any cause, and where simpler methods have failed. The method I employ is extremely simple. Strip iodoform gauze one and one half or two inches wide is carried with a uterine dressing forceps, or, in emergency, with the fingers, clear up to the fundus, until the whole uterine cavity is filled with gauze. The fundus is then grasped with the left hand, while the middle finger of the right, introduced into the cervix, squeezes the gauze against the fundus to insure tight packing of the uterus. The cervix, fornices, and upper vagina are then tightly packed. This, I find, can be done more thoroughly with the fingers than with instruments.

The gauze should carefully be removed after twelve hours. It is permissible, however, to leave it in the uterus for twenty-four hours, and, in very rare instances, for forty-eight hours without the least untoward effects.

Most standard authors invariably recommend unmedicated sterile gauze for intrauterine tamponade, but I fail to see its advantages over iodoform gauze. On the contrary, to my mind, 5 per cent. iodoform gauze is the safer of the two from the standpoint of asepsis. Out of about seventy-five cases packed with iodoform gauze, I only recall one patient whose urine gave the iodoform test after the gauze was left in the uterine cavity for seventy-two hours. The other symptoms of iodoform were so slight that they entirely disappeared within twenty-four hours after removal of the cause. It stands to reason that in emergency, lacking iodoform gauze, plain gauze, bandages, or even strips of linen must be resorted to.

Various textbooks recommend additional measures for the control of post partum hæmorrhages, such as the application of the child to the breast as a reflex excitomotor, electricity in the shape of a faradic current, and swabbing the uterus with tincture of iodine. In my opinion, they are absolutely useless, for the reason that, considering the nature of the case, it is imperative to act and not theorize. All trifling methods must, of necessity, be discarded and the most efficient ones adopted. The only effective measures available can be summarized under the following tripod: 1. Ergot. 2. Manipulation. 3. Tampon.

The shock and anæmia should receive attention in proportion to the severity of symptoms. On general principles all pillows should be withdrawn from under the head, and the foot of the bed elevated. Hot water bags to the body, and drachm doses of

hot water, with or without brandy, given every few minutes; tend to keep the patient warm. Rectal enemata of equal parts of hot decinormal salt solution and strong black coffee, with one ounce of brandy or whiskey, are useful for the same reason. These measures not only stimulate the patient, but also replace the loss of blood to certain degree. Hypodermatic injections of strychnine, gr. 1/60, or digitalin, gr. 1/100, given p. r. n., are of value. In very severe cases autotransfusion by means of Esmarch or muslin bandages, hypodermoclysis, and intravenous infusions should be resorted to. The patient must be kept at absolute rest. For the first twenty-four hours a milk diet, later broths and predigested food should be given. On the third day semisolid food may be substituted, followed later by an easily digested general diet. A nutritive diet, with general tonics, will enable the patient to sit up in bed on about the fourteenth day post partum. Fresh air is an important adjuvant in the treatment of the anæmia. In my opinion, the organic compounds of iron are by far more satisfactory as blood producing agents than the inorganic combinations.

(To be concluded.)

## Therapeutical Notes.

### The Antiseptic Value of Iodic Acid and Iodates.

—Calcium iodate employed as a dusting powder, or as a 4 per cent. ointment with petrolatum, is said to be an excellent antiseptic for stubborn sores (*Journal pharmaceutique de Liège*). It may also be used as a warm saturated solution in the form of an injection for vaginal and vesical irrigation, and also as a wash for infantile eczema. It is considered an economical substitute for iodoform. An aqueous solution of iodic acid, 1 in 500, is an active deodorant of purulent wounds. Since calcium iodate is not very soluble, where strong solutions are required zinc iodate may be used; bismuth subiodate is useful as a dusting powder for tuberculous sores.

**Gelatin Solution for Hypodermatic Injection in Hæmorrhagic Conditions.**—A saline solution of gelatin for hypodermatic injection in hæmorrhagic conditions is made, according to the *Pharmaceutisch Weekblad*, as follows:

B	Gelatin, .....	10.0 grammes;
	Sodium chloride, .....	7.0 grammes;
	Distilled water, .....	500.0 c.c.

M.

Dissolve on a water bath; neutralize with decinormal sodium bicarbonate solution, and add distilled water to make the total volume measure 1000.0 c.c. The solution is sterilized in an autoclave at  $110^{\circ}$  C. for ten minutes, is then filtered into sterile flasks, when each flask is again sterilized for fifteen minutes in the autoclave.

**Collinsonia Canadensis.**—The physiological action of *Collinsonia canadensis* formed the subject of a thesis presented by M. Abal to the Faculty of Medicine of Paris for the doctorate degree (*Répertoire de pharmacie*, October, 1907). This plant contains a glucoside of the saponin type and a resin. The alcoholic extract of the root produces in small



doses nervous hyperexcitability. In larger doses this is followed by a depression, which may lead to a paralysis of central origin, with circulatory disturbances and symptoms of irritation of the glandular system. In moderate doses the glucoside acts as a feeble cardiac tonic, while the irritant effects predominate in large doses, giving rise in cold blooded animals to asystole, alternating with energetic systole. In warm blooded animals there is a rapid lowering of arterial pressure, with increased force of the heart beat. The resin acts less powerfully, but its action is to augment the action of the heart. It excites the secretions of the gastrointestinal tract and provokes a marked diuresis, probably owing to its action on both the circulation and the renal epithelium. All the elements of the urine are increased. The chief use of the drug is as a diuretic.

**Artificial Sera.**—The following formula is preferred by Netter (*Journal de médecine de Paris*, January 5th):

B	Distilled water, .....	1,000.0 grammes;
	Sodium chloride, .....	7.0 grammes;
	Calcium chloride, .....	0.20 gramme;
	Potassium chloride, .....	0.30 gramme;
	Sodium bicarbonate, .....	0.20 gramme.

M.

Bouchard employs the formula of Fleig, as follows:

B	Sodium chloride, .....	6.5 grammes;
	Potassium chloride, .....	0.3 gramme;
	Calcium chloride, .....	0.2 gramme;
	Magnesium sulphate, .....	0.3 gramme;
	Sodium bicarbonate, .....	1.0 gramme;
	Sodium glycerophosphate, .....	1.0 gramme;
	Glucose, .....	1.0 gramme;
	Sterilized distilled water, .....	1,000.0 grammes;
	Oxygen, sufficient to saturate.	

M.

**Treatment of Acute Catarrh of the Upper Air Passages in Children.**—In the acute rhinitis of infants Seiffert (*Deutsche medizinische Wochenschrift*, quoted in *The Practitioner*, January, 1908) gives an insufflation, two or three times a day, of a powder consisting of the following ingredients:

B	Boric acid, .....	5iii.
	Bismuth subnitrate, .....	5v.

M. ft. pulvis.

It is recommended to sprinkle the pillow several times a day with 10 to 15 drops of Hager's mixture, which has the following composition:

B	Carbolic acid, {	aa 5ii.
	Ammonia water, }	
	Alcohol, .....	5iiss.
	Water, .....	5iv.

M. ft. lotio.

Older children should inhale the vapor of camphor from a glassful of hot water, on which is sprinkled a pinch of powdered camphor. The steam should be inhaled through the nose by the help of a paper tube, and should be carried out for five minutes at a time thrice daily.

Of special value, the author says, is the use three times a day in a throat spray, or drop bottle, of twenty minims of the following solution:

B	Antipyrine, .....	℞. 8xx.
	Cocaine hydrochloride, .....	℞. xv.
	Distilled water, .....	5iii.

M.

Menthol vapor is of value in acute inflammation of the larynx and trachea: fifteen drops of a 10 per

cent. solution in olive oil should be used in a steam inhaler.

**Correction of Bromopnea Due to Gingivitis.**—The term bromopnea is suggested by Lederer (*Medical Record*, January 11th) to express the symptom of foetid breath, the term being derived from two Greek words, *bromos*, stench, and *pnoe*, breath. In foetid breath accompanying mild forms of gingivitis, Lederer says potassium chlorate or thymol and benzoic acid are good correctives. The following formulas are given:

B	Thymol, .....	gr. iv;
	Benzoic acid, .....	5ii gr. vi;
	Tincture of eucalyptus, .....	5iv;
	Alcohol, .....	5iii 5iii;
	Peppermint oil, .....	℥ xv.

M. Sig.: A teaspoonful in a glassful of water four times a day as a mouth wash (Miller).

If the gums are spongy, solution of aluminum acetate, well diluted, may be used as a mouth wash. Some recommend chlorine compounds, as:

B	Chlorine water, {	aa 5iv;
	Honey, {	
	Distilled water, .....	5x.

M. Sig.: Use as gargle.

An alkaline saponaceous tooth powder should be employed, the author recommending the following combination:

B	Saccharin, .....	gr. ii;
	Precipitated chalk, .....	5i;
	Powdered orris root, {	
	Powdered soap, {	aa 5ii;
	Sodium bicarbonate, {	
	Boric acid, .....	5i;
	Wintergreen oil, {	aa gtt. x.
	Peppermint oil, {	

M.

A pleasant deodorizing pellet, which, if slowly dissolved in the mouth, will mask bromopnea, is composed of thymol, menthol, eucalyptol, vanillin, and saccharin, of each, 1 milligramme (gr. 1/64).

**Powder for Seborrhæic Eczema and Rosacea of the Face.**—Unna uses the following powder applied lightly with a piece of old linen:

B	Zinc oxide, .....	5.0 grammes;
	Magnesium carbonate, .....	4.0 grammes;
	White bole, .....	2.5 grammes;
	Red bole, .....	0.5 gramme;
	Rice starch, .....	8.0 grammes.

M. Sieve frequently to make a very fine powder.

**To Allay Vomiting in Cancer of the Stomach.**—Robin (*La Quinzaine thérapeutique*, December 28, 1907) gives four to five drops of the following mixture in milk before each attack:

B	Picrotoxine, .....	0.05 gramme;
	Alcohol, .....	q. s.
	Morphine hydrochloride, .....	0.05 gramme;
	Atropine sulphate, .....	0.01 gramme;
	Bonjean's ergotin, .....	0.01 gramme;
	Distilled cherry laurel water, .....	12.0 grammes.

M.

**Liniment for Ulcerated Chilblains.**—The following formula is given in *Journal de médecine de Paris*, for December 20, 1907:

B	Purified shellac, {	
	Purified gum benzoin, {	aa 5iiss.
	Balsam of tolu, {	
	Carbolic acid crystals, .....	5iii;
	Oil of cinnamon, .....	5iiss.
	Saccharin, .....	5iiss.
	Alcohol, enough to make, .....	Oil.

M.

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THE COMMAND OF HOSPITAL SHIPS BY  
MEDICAL OFFICERS.

The controversy aroused by the order assigning a surgeon to the command of the hospital ship *Relief* has resulted in the publication of a series of documents bearing on the question which have been laid before Congress in compliance with resolutions calling for information on the subject. These documents show that on August 20, 1904, the medical officers of the navy were authorized to use the term "in command of." On May 5, 1906, general order No. 84 of the War Department was issued, publishing the report of the joint board of medical officers of the army and navy recommending that hospital ships be placed under the command of medical officers. This was accompanied by a comment from Surgeon General Rixey favoring the plan, and one from Rear Admiral Converse, at that time chief of the Bureau of Navigation, disapproving of it. A later memorandum from Surgeon General Rixey, a reply by Rear Admiral Brownson, his letter of resignation, the President's letters accepting this resignation, communications and orders relative to the commissioning of the *Relief*, the President's letter to the Secretary of the Navy condemning Admiral Brownson, and a communication from the surgeon general replying to the memorandum of Admiral Brownson have also been submitted to Congress.

A new element has been introduced into the discussion by Dr. Gallinger, a Senator from New Hampshire, who has submitted to the Senate a

memorandum showing precedents for placing surgeons in command of hospital ships. Among these precedents were a general order, issued February 6, 1865, placing hospital transports and hospital boats exclusively under the control of the medical department; five precedents from the Spanish-American war and nine from foreign naval history, while the *Army Regulations* are also quoted in which the command of army hospital ships is placed under the surgeon general of the army. The citation of these precedents by Senator Gallinger is most timely, as it furnishes a complete refutation of the most serious argument presented by Admiral Brownson against the order objected to, namely, that the issuance of such an order is illegal and contrary to all precedent in the service. Senator Gallinger's memorandum proves that it is not without precedent and has not been considered by the authorities as contrary to law.

We can scarcely understand the aversion with which the line officers seem to regard the plan of placing hospital ships under the actual command of medical officers, for, as was pointed out by Surgeon General Rixey, it is hardly conceivable that line officers would prefer to serve on a noncombatant ship in time of war, and even did they prefer to do so every one would be needed for active service on fighting ships. As a matter of fact, we have not enough trained officers to command all the auxiliaries even in times of peace, as there are at least half a dozen naval colliers now on the naval register which are manned by a "merchant complement," and a collier, unlike a hospital ship, is a vital part of the fighting machinery of the service. An enemy would gain no military advantage by the capture of a hospital ship, and we should not suffer material loss in efficiency. But the capture of a collier might determine a vital point of strategy at a critical stage of a naval campaign. It would surely be more important, therefore, that colliers should be commanded by line officers than that hospital ships should be.

The contention of Admiral Brownson that medical officers would not have authority over enlisted men and line officers who were on hospital ships as patients is disposed of by the general order of the Navy Department No. 61, August 20, 1904, authorizing medical officers of the navy to use the term "in command of," and by the universal practice in hospitals afloat or ashore, which places all patients while in the hospital under the command of the medical officer, regardless of the rank or station of the patient. In fact, it would be impracticable to carry on hospital administration successfully if the patients were not under the control of the hospital authorities.

Finally, it is most important that the neutrality of the hospital ship shall be maintained beyond all question, and this might prove difficult with a line officer in command of an enlisted crew. In fact, as pointed out by Surgeon General Rixey, the hospital ship *Solace*, while under the command of a line officer during the war with Spain, forfeited her title to neutrality on several occasions, and even laid claim to prize money for having taken part in offensive operations. On the whole we cannot but reiterate our conviction that the placing of a medical officer in command of a hospital ship was a wise move, and that, moreover, it is particularly desirable that hospital ships shall be maintained in commission during peace in order that both the officers and the men of the medical corps may become familiar with the details of service aboard such ships.

#### LONGEVITY AND THE MEDICAL PROFESSION.

Though length of years is not always an unalloyed blessing, many of us prefer to take our leave of life as the result of the ripening process so charmingly described by the late Sir James Paget rather than to be launched early upon the unknown waters of the future. We as physicians see a good deal of the misery of senility, and, as a consequence of the dreary contemplation, we are wont to say to ourselves that we had rather die while yet in possession of a reasonable degree of our natural powers than live on to be a burden to those who are younger than ourselves. But as old age creeps on us this feeling is apt to weaken, so that we cling to life in spite of our past sentiments.

Some men, on the other hand, cherish at all stages of their existence the desire of becoming centenarians. A few years ago there was formed in New York an organization known as the Hundred Year Club, the avowed purpose of which was to assist its members in attaining to advanced age. The membership, if our memory is not at fault, included a goodly proportion of medical men. And of late the versatile Metchnikoff has glowingly held out to his fellow professionals the prospect of prolonging life very decidedly. But it has long been known that physicians, as a rule, are not destined to longevity. Individual instances there are, to be sure, of medical men who have reached advanced age, and that, too, without notable impairment of their faculties. A striking example was the late Dr. Garcelon, whose venerable figure, still alert, was conspicuous in every meeting of the American Medical Association up almost to the time of his death. On the whole, however, physicians die com-

paratively young—younger, on the whole, than members of the other learned professions.

An interesting exposition of the subject was offered at a recent meeting of the Philadelphia County Medical Society, an account of which we print in this issue of the *Journal*. The topic of the particular diseases to which physicians seem to be prone furnished the opportunity for many a curious bit of medical biography. Especially noteworthy is the number of aneurysms with which Dr. Thomas King Chambers was afflicted. Addiction to drugs and the excessive use of alcohol, unfortunately, figure somewhat prominently among the causes of early death among physicians. Probably our professional brethren are naturally no more disposed to such dangerous violations of prudent living than other men are, and they certainly ought to profit by the many examples of their baleful action which come necessarily to their notice; but the responsibilities of medical practice, to say nothing of its almost constant interference with the practitioner's legitimate expectation of diversion, readily lead to indulgence for the sake of forgetfulness, and the narcotic drugs have for him a familiarity that tends to dull his dread of them.

#### MINOR MIDWIFERY.

A lecture entitled *Obstetric Nursing* was recently delivered before the Canadian Nurses' Association by Dr. David J. Evans, assistant obstetric physician to the Montreal Maternity Hospital. It is published in the January number of the *Montreal Medical Journal*, where it would not have found a place had it not contained hints as advantageous to the young physician as to the nurse. Indeed, much that is taught in nurses' training schools is well worthy of the medical novice's attention. This is not wholly due to the fact that the physician often has to manage even the minor details of a case single handed, being obliged to forego a nurse's assistance; if he does not know the nurse's duties as well as his own, he can hardly guide her intelligently when, as will occasionally happen, she betrays misapprehension or forgetfulness of some point in her training.

It is the little things that count in the general run of obstetrical practice. Real danger rarely attends childbirth, so a man may take no end of pains to familiarize himself with the technique of the Cesarean operation, for example, and yet fail to acquit himself creditably in managing the details of a simple delivery. We should have almost as keen an eye for a parturient woman's comfort and peace of mind as for her safety and that of the child. Not only is this a duty, but it will conduce most powerfully to that warmth of regard on the part of



patients which is so firm a support to the physician in his practice. The woman who has been thoroughly well taken care of in confinement cherishes for her physician a gratitude so deep that it arms him most effectually in his subsequent professional relations with the family. It is a hallowed feeling and a priceless one.

Almost as much may be said of the young mother's attachment to the skilled and conscientious nurse, and it is much to be regretted that many trained nurses seem averse to obstetric work. But perhaps their dislike for it is not entirely due to fastidiousness; the business aspect of an obstetric engagement is sometimes quite unfair to the nurse, she being expected to hold herself for a rather indefinite length of time in readiness to respond promptly to a hasty call, though entitled to remuneration only from the moment of her actual arrival on the scene. Such a state of things, as Dr. Evans points out, is all wrong. A soldier draws his pay and receives his maintenance in times of peace as well as when he is on the firing line, and so should it be with the nurse.

#### ACCIDENTS OF THE OCULAR REACTION TO TUBERCULIN.

The instillation of tuberculin into the conjunctival sac is doubtless a very convenient procedure for eliciting a reaction indicative of the presence of tuberculous disease somewhere in the body. It appears, however, that it is not always wholly free from danger, though it does not yet seem to have produced permanent ill effects. At a recent meeting of the Medical Society of the Paris Hospitals (*Bulletins et mémoires de la Société médicale des hôpitaux de Paris*, December 12th), M. H. Barbier showed a boy, thirteen years old, who had been under treatment in his service for relapsing nephritis with anasarca, ascites, double pleural effusion, and signs of congestion of the apex of the right lung.

On the 10th of August, in M. Barbier's absence, a one per cent. solution of tuberculin was instilled into the right eye. On the same day there was an intense conjunctival reaction, with photophobia and lachrymation, which during the succeeding days was complicated with keratitis, with superficial ulceration, sufficiently intense to cause loss of vision in the eye. Early in September the left eye became affected in like manner, and the trouble remained stationary during the month. At the end of September M. Barbier resumed his service and found the child still the subject of decided lesions of both eyes, with very pronounced functional symptoms. The right cornea, completely cloudy, so as to prevent vision, presented ulcerations and pannus. The ocular con-

junctiva was red and oedematous. In the left eye there were the same lesions, but they were less intense.

Until the middle of October the child's eyes remained in about the same condition, with ameliorations followed by relapses. The right eye seemed to improve and the left one to be the more affected, though there was hardly any power of vision on the right side. Leucomatous exudates had appeared in both corneae. It was not until the end of October that the inflammatory phenomena had subsided and the exudates were beginning to be absorbed. Even then the right cornea showed diffuse cloudiness, with a central leucoma, but vision was somewhat improved. The improvement continued during the month of November, and the sight was finally restored, only two eccentric spots of opacity remaining. It is added that early in 1906 the child had had keratitis of a month's duration. M. Barbier is convinced that the tuberculous disease disclosed by the ophthalmic reaction is often latent, and he seems to question the advisability of resorting to the test in general.

At the same meeting M. Louis Rénon reported that in three instances out of twenty-eight trials of the tuberculin reaction he had observed accidents, plainly due to the employment of the test, for the patients had never before had any trouble with the eyes. In one of his cases there was intense conjunctivitis, lasting for forty-five days; in another there was slight keratitis; and in the third, twenty days after the reaction, there was extensive interstitial keratitis, with iritis, that lasted for more than three weeks, with adhesions which required the use of atropine and eserine to break them up. Possibly, he said, the use of a tuberculin solution weaker than one per cent. would not have been followed by untoward results.

#### THE INOCULABLE TUMORS OF MICE.

The successful inoculation of malignant tumors from man into the lower animals or from animal to animal is a necessary step in the solution of an ætiological problem which is at present attracting much attention. A great deal of work is being done at present on the carcinomata of mice, a number of tumors having been discovered which may be transplanted from mouse to mouse. Two of the best known of these are the Jensen tumor, which was reported in 1903, and the Ehrlich "Stamm II," reported in 1905, although there have been other tumors described which grow well upon being transplanted into healthy mice. Loeb and Hunter, in the laboratories of the University of Pennsylvania, have succeeded in inoculating a tumor, which was spon-

taneous in a mouse, into other mice with a good proportion of reproductions.

Among recent noteworthy contributions to the literature of the development of the Jensen and of the Ehrlich "Stamm II" tumors is a paper by E. E. Tyzzer (*Journal of Medical Research*, November). Tyzzer found that actively growing tumors developed in seventy three cases, 45.6 per cent., of transplantations of the Jensen variety in ten generations of mice. Sixteen per cent. of the actively growing tumors, however, disappeared spontaneously. In a few instances reinoculation of a mouse which had resisted a first inoculation was followed by the development of a tumor. There is no constant time ratio for the appearance of the tumor after the inoculation of the animal.

In the case of the Ehrlich "Stamm II" tumor ten transplantations gave fifty-nine actively growing tumors, 52.6 per cent., among the normal mice inoculated. In only one of these tumors was spontaneous retrogression observed. The tumors produced by the inoculation of both strains described are largely necrotic, because the growth of the epithelium is more rapid than that of the bloodvessels. Certain breeds of mice are found to be more susceptible to these tumors than other breeds. Metastases were found in connection with four of the transplanted Jensen tumors, all in the lung; and in two of the successful Ehrlich "Stamm II" inoculations, one in the lung, and one in the lung and the liver. The metastases are distinctly due to propagation through the bloodvessels. In no instance were the adjacent lymph nodes involved, although in some cases the tumor and the lymph node actually touched each other.

### News Items.

**American Climatological Association.**—The annual meeting will be held in Boston on June 9 to 11, 1908.

**Plague in India.**—During the week ending December 7, 1907, there were 4,500 cases of plague in India, with 3,430 deaths.

**Changes of Address.**—Dr. Joseph Kraner, from Bedford Station to 18 West One Hundred and Fourteenth street, New York.

**The Section in Ophthalmology of the College of Physicians of Philadelphia,** at its meeting held on January 10th, elected Dr. Howard L. Hansel chairman, and Dr. Edward A. Shumway, clerk.

**American Medicine Comes to New York.**—Beginning with the January number, *American Medicine*, formerly of Philadelphia, will be published at 84 Wallman street, New York, with Dr. Frank C. Lewis as managing editor.

**To Practise Medicine in Japan.**—It is stated on authority that foreign physicians who wish to obtain the right to practise medicine in Japan may pass the necessary examinations in English, French, or German, or may employ "the services of an interpreter."

**The Tri-County Medical Society of South Jersey,** comprising the counties of Gloucester, Salem, and Cumberland, held a meeting in Woodbury, N. J., on Tuesday even-

ing, January 28th. The paper of the evening, on Gas-troptosis, was read by Dr. Henry D. Beyea.

**New York Academy of Medicine.**—At a stated meeting to be held on Thursday evening, February 20th, Dr. Carlos F. MacDonald will read a paper on the Development of the Modern Care and Treatment of the Insane as Illustrated by the New York State Hospital System.

**Boston Society for Medical Improvement.**—The annual meeting of this society was held on Monday evening, January 27th. Dr. Charles W. Townsend read a paper on Congenital Pyloric Stenosis, and Dr. James S. Stone read a paper on Some Recent Literature on Intussusception.

**Women Graduates from the University of Michigan.**—Since the University of Michigan became a coeducational institution in 1871, 2,832 women have received degrees. Of these, 2,168 were from the literary department, 442 from the medical school, and 47 from the law department.

**The Tuberculosis Campaign in New York State.**—It is announced that the State Charities Aid Association has received from the Russell Sage Foundation the sum of \$10,000, to be used in carrying on the work of the educational campaign against tuberculosis, which was formally opened in Albany on Monday evening, January 27th.

**Fremont County, Colo., Medical Society.**—At the annual meeting of this society, which was held recently, the following officers were elected: President, Dr. C. H. Graves, of Canon City; vice president, Dr. W. R. Williamson, of Rockvale; secretary and treasurer, Dr. R. C. Adkinson, of Florence; delegate to State meeting, Dr. J. W. Rambo.

**New Training School for Nurses.**—It is reported that a nonsectarian training school for nurses will be established in connection with the Jewish Hospital, Brooklyn. The training course will be of two years' duration, and will be under the guidance of Miss Simonson, superintendent of nurses, and a corps of well known physicians and surgeons.

**Buffalo Academy of Medicine.**—The regular meeting of the Section in Obstetrics and Gynecology was held on Tuesday, January 28th. Dr. J. G. Clark, of the University of Pennsylvania, read a paper on Enteropitosis, and illustrated it by stereopticon slides. Dr. Earl Lathrop read a paper on the Management of Pregnancy and Some of Its Disorders.

**An Opening for a Young Physician.**—We are informed that in the town of Grafton, Rensselaer County, N. Y., there is no physician, the nearest one being at a distance of eleven miles from the town. The residents of Grafton are naturally anxious to have a physician establish himself in their town, and they believe that a good practice can be built up.

**The Philadelphia Medical Club.**—At the election held on January 18th, the following officers were chosen to serve for the year 1908: Dr. George McClellan, president; Dr. Wharton Sinkler, first vice president; Dr. James B. Walker, second vice president; Dr. J. Gurney Taylor, secretary; Dr. Lewis H. Adler, Jr., treasurer, and Dr. Oscar H. Allis, governor.

**The Health of Boston.**—According to the report of the Department of Health, during the week ending January 11, 1908, the following cases of transmissible diseases were reported: Tuberculosis, 41 cases, 28 deaths; enteric fever, 3 cases, 0 deaths; scarlet fever, 28 cases, 1 death; diphtheria, 60 cases, 3 deaths; measles, 69 cases, 3 deaths. There were 220 deaths from all causes in an estimated population of 560,892.

**Scientific Society Meetings in Philadelphia for the Week Ending February 8, 1908.**—Monday, February 3d, Philadelphia Academy of Surgery, Biological and Anatomical Section, Academy of Natural Sciences. **Tuesday**, February 4th, Philadelphia Medical Association; Northwestern Medical Society. **Wednesday**, February 5th, Academy of Physicians, Association of Clinical Assistants of Wills Hospital. **Thursday**, February 6th, Obstetrical Society; Medical Society of the Southern Department. **Section Meetings**, Friday, February 7th, Germantown Branch, Philadelphia County Medical Society, South County, 7th Avenue Philadelphia Medical Society, Kensington Branch, Philadelphia County Medical Society.

**Pure Food and Drug Law.**—It is reported that Professor Ira Remsen, of the Johns Hopkins University, has been asked by President Roosevelt to head the board of scientists who are to form a consulting committee on the enforcement of the pure food and drug law. The other members of the board will be chosen from Yale University, Northwestern University, the University of California, and the University of Virginia.

**Charitable Bequests.**—By the will of Alexander Crawford, the Northern Dispensary, of Philadelphia, receives \$2,300, and the Sheltering Arms, of Philadelphia, receives \$1,000. In the event of the death of a nephew without issue the Episcopal Hospital in Philadelphia will receive \$10,000 for the endowment of a free bed, to be known as the Ann Coleman Crawford free bed; the Northern Dispensary will receive an additional \$3,000, and the Sheltering Arms will receive an additional \$2,000.

**Medical Association of the Greater City of New York.**—A special meeting of the association will be held at the Staten Island Academy, Wall street, St. George, on Monday, February 3d, at 8:30 p. m., under the direction of the chairman for the Borough of Richmond. The programme will include a paper by Dr. Robert Abbe on Radium, and a paper by Dr. Reginald H. Sayre on the Modern Treatment of Bone Tuberculosis. A cordial invitation to the meeting is extended to all.

**A State Home for Inebriates in New York.**—At the annual meeting of the Medical Society of the State of New York, which was held in Albany, on January 28th, 29th, and 30th, a movement was inaugurated for the establishment of a State institution for the care of inebriates and persons addicted to the excessive use of drugs. A resolution recommending to the Governor and the Legislature the importance of such an institution was introduced by Dr. J. D. Spencer, of Watertown, and adopted by the society.

**Chicago and Suburban Health League.**—The first quarterly meeting of this organization was held on January 11th. The health officers in attendance were first taken to the isolation hospital for a practical demonstration in the diagnosis and treatment of smallpox, after which the meeting convened at the laboratories of the Department of Health. Dr. J. A. Lauer, of Whiting, Ind., read a paper on the Pollution of Water Supplies, and a discussion of the typhoid situation in surrounding towns followed.

**To Investigate Occupational Diseases in Illinois.**—The Governor of the State of Illinois has appointed the following physicians as members of the Committee of Nine, authorized by the General Assembly for the purpose of investigating occupational diseases in the State: Dr. Ludvig Hektoen, pathologist at Rush Medical College; Dr. George W. Webster, president of the State Board of Health, and Dr. James A. Egan, secretary of the State Board of Health. The committee will submit a report to the next General Assembly.

**Traveling Library for Health Officers.**—We learn from the Monthly Bulletin of the New York State Department of Health that for the benefit of health officers in the smaller communities to whom public medical libraries are not accessible the department has established a library from which books can be borrowed for a reasonable period. The number of books is limited, and on this account, for the present, those who borrow books will be restricted to not more than two at one time. If all copies of a book desired are out, a work on the same or an allied topic will be sent.

**First Aid Packet.**—The method of attaching the first aid packet issued to the Army, the Navy, and the Marine Corps, has been criticised as being impracticable. The metal case has also been criticised as soon becoming bright and furnishing an excellent mark for the enemy. The hooks provided for attaching the packet have been discarded by the Army, so that the packet may be slipped into a canvas pouch or pocket attached to the belt by hooks. It is understood that a similar change will be recommended by the medical department of the Navy.

**Dr. John Ordronaux's Bequests to Charity.**—Dr. John Ordronaux, who died recently in Roslyn, L. I., left about half of his estate of \$300,000 to charity. Dartmouth College, his alma mater, receives \$30,000 as an endowment; the Nassau, Jamaica, and Flushing Hospitals will each receive \$6,000 for the endowment of beds; the Methodist,

Presbyterian, and Catholic churches of Roslyn, and the Christ Protestant Episcopal Church of Manhasset will each receive \$3,000. Sums varying from \$1,000 to \$10,000 were left to various hospitals, churches, and charities.

**Seaman Prize Essays.**—The subjects for the essays in this competition are as follows: The Medical Department of the United States Army: Upon What Lines Should its Reorganization Be Instituted? for which a prize of \$100 is offered; The Company Noncommissioned Officer: How Can His Efficiency Be Best Promoted and His Reenlistment Be Secured? for which a prize of \$50 is offered. The terms of the competition may be obtained upon application to the Secretary of the Military Service Institution of the United States, Governor's Island, New York, N. Y.

**The Associated Physicians of Long Island.**—At the tenth annual meeting of this society, which was held on Saturday, January 25th, in the library building of the Medical Society of the County of Kings, Brooklyn, officers were elected to service during the ensuing year, as follows: President, Dr. H. Beekman Delatour, of Brooklyn; first vice president, Dr. Frank T. De Lano, of Rockville Centre; second vice president, Dr. Frank Overton, of Patchogue; third vice president, Dr. Thomas R. French, of Brooklyn; secretary, Dr. James C. Hancock, of Brooklyn; and treasurer, Dr. Charles B. Bacon, of Brooklyn. The general subject for discussion was Diseases of the Stomach and Duodenum, and papers on this subject were read by Dr. Algernon T. Bristow, Dr. H. Beekman Delatour, Dr. Richard W. Westbrook, and Dr. Walter C. Wood. The secretary reported that the membership of the society numbered 473 and applications were received every day. After the meeting the members adjourned to the Imperial, where a banquet was served.

**The Health of Philadelphia.**—During the week ending January 4, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 96 cases, 13 deaths; scarlet fever, 59 cases, 3 deaths; chickenpox, 51 cases, 0 deaths; diphtheria, 115 cases, 10 deaths; cerebrospinal meningitis, 2 cases, 2 deaths; measles, 74 cases, 3 deaths; whooping cough, 11 cases, 2 deaths; pulmonary tuberculosis, 74 cases, 72 deaths; pneumonia, 135 cases, 122 deaths; erysipelas, 5 cases, 3 deaths; German measles, 2 cases, 0 deaths; septicaemia, 1 case, 0 deaths; mumps, 9 cases, 0 deaths; cancer, 21 cases, 17 deaths; tetanus, 1 case, 1 death. The following deaths were recorded from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 7; puerperal fever, 1; diarrhoea and enteritis, under two years of age, 10. The total deaths numbered 688 in an estimated population of 1,532,738, corresponding to an annual death rate of 23.30 in 1,000 of population. The total infant mortality was 125; under one year of age, 96; between one and two years of age, 29. There were 50 still births—27 males and 23 females.

**Medical Society of the State of New York.**—At the one hundred and second annual meeting of this society, which was held in Albany on January 28th, 29th, and 30th, the following officers were elected to serve for the year 1908: President, Dr. Edward Trudeau, of Saranac; first vice president, Dr. A. G. Root, of Albany; second vice president, Dr. John Wheeler, of Chatham; third vice president, Dr. M. C. Hawley, of East Randolph; secretary, Dr. Wisner R. Townsend, of New York; treasurer, Dr. Alexander Lambert, of New York; chairman of the Scientific Committee, Dr. Leo H. Neumann, of Albany; chairman of the Committee on Public Health, Dr. J. L. Heffron, of Syracuse; chairman of the Committee on Legislation, Dr. F. Van Fleet, of New York; chairman of the Committee on Arrangements, Dr. W. J. Nellis, of Albany. The following named physicians were appointed delegates to the American Medical Association: For one year, Dr. Robert F. Weir and Dr. Charles Jewett; for two years, Dr. W. R. Townsend, Dr. D. C. Moriarty, Dr. C. B. Angell, Dr. J. C. Bierwirth, and Dr. Albert Vander Veer. The following named physicians were appointed alternate delegates to the American Medical Association: For one year, Dr. J. A. Fordyce, Dr. A. H. Terry, Dr. W. T. Mulligan, Dr. C. G. Rossman, and Dr. F. A. Burrall; for two years, Dr. Thornton, Dr. Brown, Dr. Little, Dr. Glass, Dr. Dunning, and Dr. Stover. Mr. J. T. Lewis was reappointed attorney for the society.



**The Philadelphia Pædiatric Society.**—The annual meeting of this society was held on Tuesday evening, January 14th. Dr. J. P. Crozer Griffith was elected president. Dr. Herbert B. Carpenter, Dr. J. Claxton Gittings, and Dr. Charles A. Fife were elected vice presidents. Dr. Howard Childs Carpenter was elected treasurer. Dr. Maurice Ostheimer was elected secretary recorder. The executive committee will be composed of Dr. D. L. Edsall, Dr. S. McC. Hamill, Dr. Alfred Hand, Dr. T. S. Westcott, and Dr. E. Franklin Royer, Dr. William M. Bradley, Dr. Eleanor C. Jones, and Dr. Frank Crozer Knowles were elected to the membership committee.

**New York Hospital for the Care of Crippled and Deformed Children.**—According to the seventh annual report of this hospital, which has just been published, in the hospital at West Haverstraw, N. Y., there were forty-eight patients on the first day of October. Of the twenty-two discharged during the year, ten were cured, nine were sent home much improved, two were removed by parents in opposition to the advice of the medical staff, and one died of meningitis. There is a waiting list of two hundred children. Plans for a new hospital, to accommodate four hundred patients, have been prepared, and the board of managers hope to receive an appropriation from Albany to aid them in carrying on the work.

**The Manila General Hospital.**—A new general hospital is being erected in Manila, which is located near the Bureau of Science. It is to be built on the most modern plan, and will consist of five two story wards, with a capacity of thirty beds in each ward, and there will be allowance in some of the pavilions for private patients, giving a total capacity of about three hundred beds. One special feature of the hospital will be an obstetrical ward for the training of medical students and midwives in the science and art of obstetrics. When this hospital is completed it is the purpose of the Government to cancel its contract with private hospitals and to merge the present Civil Hospital into the new institution.

**American Pharmaceutical Association.**—The Philadelphia Branch of this association will hold a meeting in the hall of the College of Physicians, Thirteenth and Locust streets, on Tuesday evening, February 4th, at eight o'clock. The general subject for discussion will be the Responsibility of the Retail Druggist in the Spread of "The Great Black Plague." This subject will be discussed from the viewpoint of the sociologist, the physician, and the pharmacist. The programme will include the following papers: The Relation of Medical Practice Acts to Contagious and Infectious Diseases, by Dr. Henry Beates, Jr.; Gonorrhea, Its Nature, Prevalency, Recognition, and Treatment, by Dr. A. A. Uhle; The Infection of the Innocent and the Suffering and Misery that is Entailed, by Dr. E. E. Montgomery; Gonorrhoeal Iritis and Its Relation to Total and Partial Blindness, by Dr. George E. de Schweinitz; and the More Remote Complications of Gonorrhoea in the Male, by Dr. Thomas R. Neilson. Many prominent physicians and sociologists have signified their willingness to take part in the discussion, and an interesting and instructive evening is assured.

**The Medical Society of the County of New York.**—A stated meeting of this society was held on Friday evening, January 31st. The retiring president, Dr. Walter Lester Carr, and the president elect, Dr. J. Riddle Goffe, delivered addresses, the subject of Dr. Goffe's address being The Life and Times of the Great Medical Reformer, Thomas Wakely, M. D., Founder of the London *Lancet*. The scientific session was devoted to a symposium on the recent epidemic of grippé, the following papers being read: The Scourge as it Appeared in Pittsburgh, by Dr. John A. Lichty, of Pittsburgh; Its Course in Baltimore, by Dr. C. Hampton Jones, of Baltimore; In New York, by Dr. Thomas Darlington; Its General Features and Peculiar Manifestations, by Dr. Alexander Lambert; Its Course in Children, by Dr. Charles Gilmore Kerley; Some Throat and Sinus Complications, by Dr. C. G. Cockley; The Ear Complications, by Dr. Edward B. Dench; Its Ravages in the Buccal Tissues, by Dr. William Carr. A general discussion followed. The officers of the society are as follows: President, Dr. J. Riddle Goffe; first vice president, Dr. H. Seymour Houghton; second vice president, Dr. John F. Weeks; secretary, Dr. John Van Doren Young; assistant secretary, Dr. J. Milton Abbott, and treasurer, Dr. Charles H. Richardson.

**The Southside Virginia Medical Association.**—At the December meeting of this association, which comprises the counties of Dinwiddie, Brunswick, Surry, Sussex, Prince George, Southampton, and Greenville, the following officers were elected for the year 1908: President, Dr. Lucien Lofton, of Emporia; first vice president, Dr. W. B. Barham, of Newsoms; second vice president, Dr. L. H. Moseley, of Ebony; third vice president, Dr. J. G. Rennie, of Petersburg; fourth vice president, Dr. C. W. Astrop, of Surry; secretary, Dr. E. F. Reese, of Courtland; and treasurer, Dr. O. C. Wright, of Jarratt. The association meets quarterly, and the next meeting will be held in Petersburg on the first Tuesday in March.

**The Philadelphia Neurological Society.**—At a meeting of this society, held on Monday evening, January 27th, the programme included the following papers: Unilateral Ascending Paralysis, by Dr. Alfred Gordon; Frenkel Treatment of Locomotor Ataxia, by Dr. M. D. Bloomfield; Card Specimen of a Case of Cerebrospinal Syphilis, by Dr. D. J. McCarthy and Dr. Milton K. Meyers; the Symptom Complex of Transverse Lesion of the Spinal Cord and Its Relation to Structural Changes Therein, by Dr. A. R. Allen. Dr. F. X. Dercum reported a case of Aphasia, Motor and Sensory, without a Lesion of the Third Frontal Convolution, and exhibited a specimen. Dr. W. G. Spiller presented a patient with Acquired Bilateral Spasticity and Athetoid Movements, and reported a case of Encephalitis with Symptoms of Cerebellar Tumor.

#### Society Meetings for the Coming Week:

**MONDAY, February 3d.**—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

**TUESDAY, February 4th.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Medical Association of Troy and Vicinity; Hornellsville, N. Y., Medical and Surgical Association; Long Island, N. Y., Medical Society; Bridgeport, Conn., Medical Association.

**WEDNESDAY, February 5th.**—Society of Alumni of Bellevue Hospital; Harlem Medical Association, New York; Elmira, N. Y., Academy of Medicine; Psychiatric Society of New York.

**THURSDAY, February 6th.**—New York Academy of Medicine; Dansville, N. Y., Medical Association.

**FRIDAY, February 7th.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn; Manhattan Clinical Society; Practitioners' Society of New York.

**SATURDAY, February 8th.**—Therapeutic Club, New York.

**Philadelphia Bureau of Health Statistics.**—During the month of December, 1907, in the Division of Medical Inspection 3,670 inspections were made, exclusive of schools; 632 fumigations were ordered, 56 cases were referred for special diagnosis; 4,312 visits were made to schools; 482 children were excluded from school; 433 cultures were taken; 167 injections of antitoxine were given, and 342 persons were vaccinated. In the Division of Vital Statistics 2,546 deaths, 1,757 births, and 714 marriages were recorded. In the Division of Milk Inspection 7,698 inspections were made of 170,862 quarts of milk, of which 339 quarts were condemned. Seven specimens were examined chemically; 924 were examined bacteriologically, and 924 were examined microscopically. In the Division of Meat and Cattle Inspection 4,348 inspections; 198 were found unsanitary, and 128 pieces of dressed meat were condemned. Three hundred and three post mortem examinations were made, with 22 condemnations. In the Division of Disinfection 232 fumigations were done for scarlet fever, 548 for diphtheria, 79 for typhoid fever, 148 for tuberculosis, 170 for miscellaneous diseases, and 23 schools were disinfected. In the Bacteriological Laboratory 1,094 cultures were examined for the presence of bacteria; 288 specimens of blood were examined for the serum diagnosis of typhoid fever; 924 specimens of sputum were examined; 115 specimens of sputum were examined for tubercle bacilli; 6 distribution tests were made, and 2,780 quarts of antitoxine were distributed. In the Chemical Laboratory 17 analyses were made.

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

January 23, 1908.

1. The Significance of Postoperative Acetonuria,  
By ERNEST BOVEN YOUNG and JOHN T. WILLIAMS.
2. Extracts from Dr. Alexander Hamilton's Itinerary of  
1744, By A. JACOBI.
3. Chyluria Due to Filariasis. With the Report of a Case,  
By RICHARD F. O'NEIL.
4. The Röntgen Ray Diagnosis of Urinary Calculus,  
By E. W. CALDWELL.
5. Trypsin in the Treatment of Malignant Tumors,  
By W. P. GRAVES.

1. **The Significance of Postoperative Acetonuria.**—Young and Williams state that acetonuria is a common accompaniment of a large number of pathological conditions, where it is the result of disturbances of metabolism. The occurrence of acetonuria seems to bear especial relation to disturbances of the gastroenteric tract, but possibly many of the cases of reported acetonemia following operation were the results of other diseases, especially sepsis. The formation and excretion of acetone, and probably also of its supposed antecedents, diacetic acid, betaoxybutyric acid, etc., following operation, is the result of altered metabolism and, in the adult at least, not the cause of any constitutional disturbance. The authors have made some observations on fifty-two patients, of whom only two, or about 3.8 per cent., had acetonuria before operation, while following laparotomy acetone was found in the urine of twenty-seven, or about 52 per cent. The reaction lasted in different cases from two to eight days. Of the two patients whose urine contained acetone before operation, one was a colored girl, fifteen years of age, who was operated upon for adhesions following an acute attack of pelvic inflammation. The operation was short and the convalescence excellent. The other was a woman of twenty-seven, who entered the hospital in very poor physical condition. A double salpingectomy was performed for pyosalpinx. Her convalescence was much prolonged, with rapid pulse, elevation of temperature, vomiting, and some mental somnolence, without any abdominal distention or spasm. She ultimately recovered. Out of the fifty-two laparotomies five patients died, and of these four had acetonuria. The duration of acetonuria varied from forty-eight hours in the majority to ten days. Of these patients, sixteen had subsequent laparotomies. In all but two the acetone had disappeared before the time of operation. In two others there was acetonuria on entrance and again after operation. In two a reaction was present on entrance, but not after laparotomy. In one of these, however, there was considerable vomiting, with rapid pulse and slightly elevated temperature, but terminating in recovery. In four there was a reaction after operation, but not on entrance; and in the remaining six no acetone was found either on entrance or after operation. It is seen that acetonuria occurred most frequently in those cases where there was more or less disturbance of metabolism, notably puerperal sepsis, hyperemesis gravidarum, miscarriages (many of which were septic), carcinoma, and eclampsia. And in those patients who may be supposed to have suffered from no disturbance of metabolism, namely, those admit-

ted for lacerations of the cervix and perinæum, retroversion fibroid of the uterus, and extrauterine pregnancy, it was found most infrequently. Acetonuria is much more common in children than adults. In children metabolism is much more active. The child has not only to replace the amount of tissue used up each day, but also to provide for growth. It is natural, then, that children should be more susceptible to changes of metabolism, and therefore that acetonuria resulting from disturbed metabolism should be more common in them.

4. **The Röntgen Ray Diagnosis of Urinary Calculi.**—Caldwell remarks that the Röntgen ray furnishes the most accurate single means we have for the diagnosis of urinary calculi. It has the advantage over other methods that it not only indicates the presence or absence of calculi, but their size, position, and number as well. When a small calculus is shown in the ureter, the size and shape of its shadow will sometimes enable us to predict that it will be passed, and that operation for its removal will be unnecessary. Occasionally, conditions other than lithiasis may be indicated, such as tuberculosis, abscess, and diseases causing a change in the size, position, or outline of the kidney, or a fibrous thickening of the lower part of the ureter. The x ray is not infallible, and in incompetent hands it may be very misleading, but under the best conditions it is exceedingly accurate. The indications given by it often decide the important question of operation. Such examinations should therefore not be undertaken lightly, nor intrusted to careless and incompetent persons, nor to those who have not a proper appreciation of the responsibility involved in deciding a question upon which may depend the health or even the life of a fellow being.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 25, 1908.

1. Factors Which Influence the Permanence of Cure in Operations for Cancer of the Breast,  
By WILLIAM D. HAGGARD.
2. The Appearance of Glycuronic Acid in Certain Conditions of Diminished Oxidation,  
By C. W. LEWIS HACKER.
3. Plea for a More Thorough Course in Practical Pharmacy and Prescription Dispensing in Our Medical Schools,  
By M. CLAYTON THRUSH.
4. Calmette's Ophthalmic Reaction to Tuberculin. Preliminary Report Based on Two Hundred and Forty-two Cases, By FRANK SMITHIES and R. E. WALKER.
5. Some Results from Orthodontia on the Deciduous Teeth,  
By E. A. BOGUE.
6. The Mutual Development of Upper Air Tract, Jaws, Teeth, and Face, and Their Economic Importance to the Human Race,  
By W. SOHIER BRYANT.

2. **The Appearance of Glycuronic Acid in Certain Conditions of Diminished Oxidation.**—Hacker remarks that in the first series of his examinations 384 samples of supposedly normal urine of patients in the hospitals of Albany were examined in the hope of finding a pseudoreaction, which is obtained by using a large amount of urine with Fehling's solution, and of connecting it with the presence of glycuronic acid or glycuronates. In no case could there be determined the presence of these latter compounds in amounts more than the normal or sufficient to render it of value for diagnostic purposes. Fourteen various samples of glycosuric urines were quantitatively examined, with the following results: Gerrard's and Fehling's

quantitative methods agreed to within 0.1 per cent. The results by the saccharometer were uniformly lower and usually by 0.1 to 0.7 per cent. This difference agreed, however, with surprising accuracy with that found in the polarization determination before and after fermentation. The figures obtained by subtracting the results of polarization before and after fermentation corresponded to saccharometer readings to within 0.1 per cent. These facts indicate that both quantitative copper tests include substances which are not dextrose and which turn the plane of polarized light to the left to the extent of from 0.1 to 0.7 per cent. (calculated as dextrose). The saccharometer readings do not include these compounds, hence they are not fermentable. It may be said that in these urines glycuronic acid or its salts was not present in excessive amounts. In the second series of examinations attention was turned to the postoperative specimens, in the hope that in the condition of diminished oxidation following anæsthesia glycuronates might be detected in abnormal amounts. All the samples were voided within twelve hours after operation. In all 273 specimens were examined, of which 261 were voided after ether anæsthesia, eleven following chloroform, and one after a mixture of the two. Examination of the urines previous to the operations showed no reducing compounds to be present. Subsequent to the operations eleven samples of urine, voided after ether, gave positive reductions with Fehling's test, and on further examination the reducing substance was shown to be dextrose in amounts from 0.2 to 1.3 per cent. The length and character of the operation apparently has no effect on the amount of dextrose eliminated. The patients were persons from twenty to thirty-five years of age. None of the chloroform samples or the chloroform ether sample resulted positively. This is probably to be explained by the use of oxygen during the operation, thereby preventing diminished oxidation in the tissues. The author concludes that dextrose appeared in 4 per cent. of 261 samples of urine collected after operations in which ether was employed. Neither glycuronic acid nor its conjugate salts are eliminated in the urine under conditions of diminished oxidation, such as occur during diabetes mellitus and ether or chloroform anæsthesia, when the latter is combined with oxygen. The pseudoreduction obtained in about 5 per cent. of normal urines is to be ascribed to faulty methods of performing the test. It is not due to an increase in amount of uric acid or creatinin.

4. **Calmette's Ophthalmic Reaction to Tuberculin.**—Smithies and Walker describe their experience with the Calmette ophthalmic reaction to tuberculin. They had 185 patients, clinically diagnosed as tuberculous cases; 176 of these gave positive reactions, nine negative; of twenty-eight doubtfully tuberculous cases twenty-one gave positive reactions, seven negative; of 188 persons suffering from disease not tuberculous, and including a fair proportion of apparently normal individuals, 180 gave negative reactions and only two were positive. The authors are convinced that the ophthalmic reaction as directed to be practised by Calmette and others is of undoubted service in the diagnosis of tuberculosis. In no case where its worth could be tested clinically by the finding of tubercle bacilli

did they fail to obtain decided ocular manifestations following the instillation of the tuberculin. This reaction did not follow when instillations were made in the case of 126 individuals affected with disease other than tuberculosis. It was not obtained in seventy-four apparently normal adults. A proper technique for administration is necessary for the success of the reaction. Whether or not smaller dosage would produce recognizable effects is not at present fully decided. Reactions have, however, been obtained when suspensions of 0.5 per cent. were used. When positive reaction follows promptly on the first instillation it appears that the diagnosis of tuberculosis is reasonably certain. The fact that a reaction thus appears does not mean that the subject is affected with an active tuberculous process, although the evidence is strongly in favor of such. Pre-supposing this might, in some instances, lead to unnecessary alarm and much inconvenience. The ophthalmic reaction, as is the case with every form of tuberculin test, must be accompanied by complete examination of the suspected focus in order to be judged properly. All suspicious cases which fail to respond to one instillation should be re-instilled from two to five times, and careful examinations, local and general, made after each instillation. Too little work has as yet been done to allow conclusions to be drawn regarding the relative value of the ophthalmic reaction and the subcutaneous or the skin reactions to tuberculin. In seven of their cases in which both the subcutaneous and ophthalmic reactions had been tried positive evidence was furnished in each case. They have had no experience with the cutaneous reaction. None of the reactions take the place of thorough examination of the patient, from every viewpoint. They are all confirmatory. Properly administered, they believe that the accumulation of more data will show that the ophthalmic reaction is quite as valuable to the general practitioner as are any of the others. Its convenience and rapidity of action certainly commend it. The hypothesis advanced by the authors is as follows: The inflammatory changes in the eyes of tuberculous individuals following the instillation of tuberculin suspensions is due to the slight stimulation of the hypersensitive cells forming protective substances, with the production of an excess of antibodies. These antibodies so produced, by acting on the tubercle bacilli or fragments of such enmeshed in the conjunctiva, liberate endotoxins which are capable of producing the inflammatory changes commonly observed.

#### MEDICAL RECORD.

January 25, 1908.

1. Upon What Does the City of New York Depend?  
By F. M. POTTER.
2. The Death Rate of the City of New York as Affected by the Consumption Character of Its Population.  
By WILLIAM H. GULFOY.
3. Report of a Case of Acute Gastritis, Following Typhoid Fever and Premature Birth; Recovery.  
By ALFRED E. ROBERTS.
4. Chaneroidal Bubo and Its Treatment.  
By HENRY H. MORGAN.
5. Syphilitic Fracture, with Report of a Case.  
By F. D. NEWMAN.
6. The Surgical Value of Iodine.  
By WALTER J. DUNN.
7. Carbolic Gargles.  
By JAMES L. LEE.
8. A Case of Ectopic Gestation. Diagnosis and Operation Before Removal.  
By WILLIAM C. ALLEN.



2. **The Death Rate of the City of New York as Affected by the Cosmopolitan Character of Its Population.**—The conclusions to be drawn from Dr. Guilfooy's carefully prepared tables show that the natives of Ireland, by reason in great measure of their living at unfavorable age groups, increase the general mortality, and this is also true to a lesser extent of France, Switzerland, and Scotland; the natives of Italy, Bohemia, and the United States are credited with a rate almost the same as that of the general average of the city, while the natives of Sweden, Germany, Russia-Poland, Austria-Hungary, and England affect favorably the general mortality. On the other hand, the immediate descendants of the Irish, Italians, and Austro-Hungarians are instrumental in increasing the general rate and also the rate from certain preventable and infectious diseases; the immediate descendants of most of the other nationalities, including Americans, serve to lower the general rate. The last of his tables shows the death rate per 1,000 from certain diseases and all causes in selected square blocks typical of some of the nationalities and races, the population of these blocks numbering from 1,400 to 5,100 inhabitants, and are situated in congested areas of the city. 1. The Negro block.—The influence of the negro's presence upon the mortality rates is always cumulative and is clearly shown in the table; the general rate, 38.56 per 1,000, of the selected negro block (San Juan Hill) is more than double that of the city at large; the rate from pulmonary tuberculosis is three and a half times that of the average for the city and is only exceeded by that of the Chinese block; the mortality from organic heart, chronic Bright's, pneumonias, and diarrhoeal diseases is also excessively high; throughout the greater city the mortality among the colored population is 27.16 per 1,000, as against one of 18.19 among the whites, the general death rate being 18.35, the effect of the negro population being to increase the rate by 0.16 of a point. 2. The Syrian block.—The general rate of 35.83 per 1,000 almost equals that of the negro block, and the mortality from cancer, pneumonia, and diarrhoeal diseases is greater than that of the negro. 3. The Chinese block contains about 1,450 Chinamen and is noted as the block with the highest death rate from pulmonary tuberculosis, as well as for its unsavory police record; the general rate is 34.65 per 1,000, and it also shows a rate from pneumonia almost as high as that of the Italian block. 4. Irish block shows a high general death rate and a high rate in all diseases preponderating at middle or advanced ages. 5. Bohemian block shows a moderately high general death rate and excessively high rate from pulmonary tuberculosis and organic heart disease. 6. Italian block shows a general rate slightly above the average but the highest rate from the pneumonias. 7. Russian-Polish block shows a low general rate with a pneumonia death rate somewhat above the average. The low rates in the Jewish block and throughout the city can be ascribed to several causes; although living in densely populated sections, the Jew, by reason of his temperate habits and his inherited vitality, is able to resist and overcome infection; or, as has been said of the Jew, he is physically "tough" in its best sense; again, the pres-

ent status of the Jew as to age distribution is favorable at most age periods, with the exception of under five years. 8. The Austro-Hungarian block makes a very presentable showing. 9. The German block shows the lowest general death rate, the only rate much above the average being that from cancer.

4. **Chancroidal Bubo and Its Treatment.**—Morton, of Brooklyn, advocates the following treatment, which was suggested to him by a visit to the Charité in Berlin: When a bubo first appears, an attempt should always be made to prevent suppuration by putting the patient to bed. The ice bag is no longer used, because it has been found that resolution will take place just as well with warm applications. Injection into the substance of the gland of antiseptic solutions has also been abandoned as useless. The bubo is covered with gauze, wet with 95 per cent. alcohol, and with cotton wadding and perforated gutta percha tissue to prevent too rapid evaporation. The alcohol is renewed twice a day as it evaporates. Another method is fomentation with solution of ammonium acetate used warm and frequently renewed. Tincture of iodine has little or no value as an absorbent. After fluctuation has begun the warm applications should be changed for hot ones, to encourage rapid breaking down of the glands. The thermolyte bags are useful, as they can be used with the hot fomentations and serve to retain the heat for a long time. After the bubo is thoroughly broken down and full of pus, a small incision is made with a double edged knife and the pus evacuated. A 10 per cent. iodoform glycerin emulsion is then injected into the wound. The injection is made three times at the first sitting, the first two injections being allowed to run out and the last one retained. The wound is then bandaged over night with fomentations of solution of ammonium acetate. On the following day the bubo is emptied by squeezing out and the injection is again made. The wound is then bandaged and left undisturbed for five or six days. At the end of that time, in the great majority of cases the bubo is healed and the patient requires no further treatment.

8. **A Case of Ectopic Gestation.**—Dukeman describes such a case and states that his diagnosis of probable tubal gestation was based on the following points: 1. The cessation of menstruation the month previous in a healthy woman; 2, the character of the pain penetrating and radiating toward the heart and the anxious manner in which the patient described the pain; 3, slight hæmorrhage for a couple of days, accompanied by the peculiar pelvic pains, which then ceased; 4, tenderness over the left pelvic wall.

#### BRITISH MEDICAL JOURNAL

January 11, 1908.

1. Hospital Treatment of Morbid Pregnancies, By J. W. BALLANTYNE.
2. The Bacteriological Aspects of the Problem of Neurophatic Keratitis, By H. M. DAVIES and G. HALL.
3. A Plea for the Improvement in the Teaching and an Encouragement in the Study of Legal Medicine, By J. J. BUIST.
4. Cancer, Its Ætiology and Treatment by Trypsin, By J. ALCINDOR.
1. **Morbid Pregnancies.**—Ballantyne advocates

the establishment of what he calls "prematernity" beds in maternity hospitals, which beds should be strictly reserved for the reception of cases of morbid pregnancies. Such beds should be placed in a ward by themselves and should be in charge of a nurse or nurses who have had surgical and medical as well as obstetrical experience. Special attention should be paid to urine analysis, to examination of the blood and nervous system, to ophthalmoscopic investigations, and to a detailed and thorough examination of the signs and symptoms of pregnancy, including estimations and descriptions of the foetal heart and of the foetal movements. Suitable cases for treatment in prematurity beds are pregnant patients suffering from albuminuria, heart disease, intractable vomiting, pulmonary disease, hepatic disease, anæmia and other blood disorders, and various nervous maladies, especially epilepsy, hysterocleptisy, hysteria, chorea gravidarum, and paralysis. Diseases of the reproductive organs themselves, such as retroversion of the gravid uterus, threatened abortion, pruritus and oedema vulvæ, uterine prolapse, cystocele, vulvar inflammation and abscess, uterine myomata as complications of pregnancy, and suspected ectopic gestation, might all very properly be treated in prematurity beds. The same is true of hydramnion and overdistension of the uterus (twins), and suspected cases of hydatid mole, placental hæmorrhage, missed abortion, or antenatal death or deformity. Further patients who have suffered in past pregnancies from "habitual" abortion, "habitual" foetal death or disease, "habitual" prematurity or postmaturity, or from eclampsia, might there be suitably treated in order, if possible, to prevent the recurrence of these reproductive disasters. Cases unsuitable for treatment in such a prematurity bed are those of infectious fevers (scarlet fever, measles, typhoid, erysipelas) occurring as complications of pregnancy, and those of insanity in pregnancy. It is doubtful whether cases of syphilis should be dealt with, but patients suffering from gonorrhœal vaginitis and vulvitis might be taken in and treated during their pregnancies. Alcoholism and dipsomania in pregnant women might be regarded as suitable for treatment, but actual delirium tremens should find a home elsewhere until the acute stage has passed off.

2. **Neuropathic Keratitis.**—Davies and Hall have studied the ætiology of neuropathic keratitis, paying special attention to its bacteriology. Its intimate relationship to disturbances of the fifth nerve and Gasserian ganglion has led to the eye changes in all cases being considered as secondary to the morbid condition or disturbance of the Gasserian ganglion. Among the various hypotheses may be mentioned the following: Purely trophic, trophic with central irritation, trophic with peripheral irritation, vasomotor, vasomotor traumatic, purely traumatic, and desiccation. Finally there is the mycotic hypothesis, looking on microorganisms as an ætiological factor. This is the one most favored by the writers. They investigated twenty-one cases of neuropathic keratitis, and found a certain organism, called by them the *Bacillus x*, to be present in the conjunctival sacs of all. The organism could be demonstrated, together with staphylococci, among

the epithelial cells at the margin of the ulcer of the excised eye. This same bacillus was found in about 30 per cent. of normal people, but it was not found in those cases which did not develop keratitis after removal of the Gasserian ganglion. The writers conclude that the presence of the *x* bacillus in the sac is necessary for the production of neuropathic keratitis, but that it does not cause it unless there is an associated lesion of the Gasserian ganglion. Even in the latter case the disease does not develop if the eyelids are sewn together, or if the disease is already present. It tends to heal rapidly after suture of the eyelids. So that for the production of neuropathic keratitis three factors must be present: (1) Removal of the Gasserian ganglion; (2) the presence of the bacillus; and (3) a factor of undefined nature dependent on the eyelids and removed by closing them. (1) and (2) are not adequate alone, as suture of the lids prevents or cures neuropathic keratitis; (1) and (3) are not adequate alone, as keratitis only occurs after destructive lesions of the Gasserian ganglion when the organism is present and in the same proportion of patients as that in which the organism occurs in normal persons.

4. **Cancer.**—Alcindor holds that the predisposing factor in malignant disease is lowered vitality, whether due to faulty metabolism, alcoholism, overstimulation, disease of trophic nerves, or the debilities, local or general. Chronic irritation, of no matter what character, is the determining factor; the cells of the tissue irritated, unable to respond normally to the irritant, assume characteristics suitable for their environment, thus conforming to a natural law. Trypsin is of considerable value in cancer. Cancer of the cervix of the uterus, rodent ulcer, and epithelioma are eminently suitable for the treatment. Gout, rheumatoid arthritis, and chronic rheumatism ought to be treated by injections of trypsin when other better known methods have failed. Amylopsin, either alone or in combination with trypsin, is of no value in the treatment of cancer.

LANCET.

January 11, 1908.

1. Certain Bacterial Infections of the Urinary Tract in Childhood, By C. R. BOX.
2. The Infectivity of Cancer, By A. T. BRAND.
3. On Anomalous Reactions Obtained in Testing Urine for Sugar with Fehling's Solution, By H. MACLEAN.
4. On Ferments and Their Mode of Action, By A. RANSOME.
5. A Case of Paraplegia Due to an Intramedullary Lesion and Treated with Some Success by the Removal of a Local Accumulation of Fluid, By W. B. WARRINGTON and K. W. MONSIEUR.
6. Further Observations on Salts of the Alkaline Earths which Affect the Coagulability of the Blood, By J. B. NIAS.
7. A Case of Echinococcus Disease, By A. M. SORBY.
8. Sudden and Complete Inversion of the Uterus: Its Probable Causation, By A. MAUDE.
9. On Blood Coagulability in the Puerperal State, By R. H. FOX.

1. **Bacilluria in Childhood.**—Box classifies infections of the urinary tract in children as (1) descending infections, (2) ascending infections, and (3) infections by contiguity. Descending infection

is synonymous with infection carried to the kidney by the blood stream, and is therefore termed "hæmatogenous." But, while descending invasion does undoubtedly occur, yet the common cause of bacilluria in children is an ascending infection. The commonest form is that which is due to the colon bacillus. Although the disease may occur in males, it is much more common in females, which is strong corroborative evidence of its ascending character, for the shortness of the female urethra and the proximity of its orifice to the anus render infection easy. In babies infection through the urethra may occur from soiled napkins or from the passage of stools over the vulva. Infection of the urinary passages in childhood may manifest itself as pyelitis, cystitis, or incontinence of urine without obtrusive evidence of local inflammation. Pyelitis may occur as a febrile affection with sudden onset, chills, and pyrexia. When the course of the disease is protracted emaciation rapidly occurs. Enlargement of the spleen may often be detected, and sweating may be pronounced. As a rule, the local manifestations of the disease are unilateral, and the right kidney is more apt to be affected than the left. Slight vulvitis is present in some cases. Incontinence of urine if often associated with bacilluria, and the organism present is almost invariably the colon bacillus. The reaction of the urine is generally faintly acid, never alkaline. The prognosis of these colon infections must be guarded, as they may drag on for months. Frequent bathing and the avoidance of urethral contamination from the anus are important preventive measures. Full doses of potassium citrate combined with the sedatives of the belladonna group often act well, but belladonna is disappointing in inveterate cases. The writer has tried antibacillus coli serum in two cases of incontinence. In one the serum stopped the incontinence, though the bacilluria persisted. In the other the serum had no effect.

2. **Cancer.**—Brand discusses the causation and infectivity of cancer. Among the new facts discovered about cancer in recent years are the following: 1. The mitosis of the cells of malignant neoplasms has been found to be heterotype in character, whereas the mitosis of all somatic cells with one exception, and of the cells of benign tumors, is homotype. The mitosis of normal reproductive tissue is also heterotype. 2. It has been discovered that cancer is not restricted to the higher vertebrata, e. g., man and the domesticated animals, as was at one time supposed, but that it occurs in all vertebrata, with the possible exception of certain reptilia. The malignant growths occurring in other vertebrata are identical with those found in man, clinically, pathologically, anatomically, and microscopically. 3. The transmissibility of malignant new growths from one lower animal to another of the same species has been demonstrated. The writer enumerates two final syllogisms: 1. All diseases which are infectious to the individual are transmissible to others. Cancer is infectious to the individual. Therefore cancer is transmissible to others. 2. All diseases which are infectious to the individual have an external origin. Cancer is infectious to the individual. Therefore cancer has an external origin.

4. **Ferments.**—Ransome discusses the mode of action of organized and unorganized ferments

and their relationship to one another. Fermentations may be grouped under two heads—first, those in which microorganisms are always present, and, secondly, those in which the specific agent is unorganized. In the first group are included (1) all the organisms concerned in the production of fermented liquors; (2) the microorganisms producing various eruptive, contagious, and noncontagious diseases, such as scarlet fever, measles, diphtheria, malaria, sleeping sickness, and the various epizootics. In the second group are (1) all the physiological ferments; (2) those bringing together the components of essential oils and dyes; (3) those which assist in the ripening of fruits; and (4) the unorganized derivatives of living ferments. The enzymes produced by living organisms have been grouped under the following heads: (1) Proteolytic, (2) diastatic, (3) inverting, (4) coagulation, and (5) sugar splitting. One of the most important attributes of ferments in general is the specificity.

6. **The Alkaline Earths.**—Nias has studied the hæmostatic action of the alkaline earths, and concludes that none come up to the lactates and chlorides and carbonates if duly assimilated, and that we should rely on these for the treatment of hæmophilia. For urticaria and conditions of general debility there is perhaps a larger selection.

9. **The Blood in the Puerperium.**—Fox records observations made by him on the coagulation time of the blood in the puerperal condition. He finds the coagulation time immediately after delivery is below the normal, but not markedly so. Under careful management of labor the hæmorrhage is less and the blood coagulability is less altered. In every case in which two successive observations were taken the coagulation time increased during the interval. The excretion of calcium salts in the milk tending to reduce the coagulability of the blood was probably one cause of this increase. An observation of the coagulation time of the blood after delivery might give useful warning of the risk of thrombosis or embolism if the coagulation time were low, or of post partum hæmorrhage if it were high. Appropriate treatment—for example, with citric acid on the one hand or with calcium lactate and salines on the other—would rectify the condition.

#### LA PRESSE MEDICALE.

January 1, 1908.

1. Reflex Troubles of the Pulse in Appendicitis (Retardation, Arrhythmia Acceleration), By A. BROCA.
2. Muscular Physiology. Gymnastics of the Cervical Region, By DESFOSSES.
3. Gag and Tongue Depressor, By G. MAHU.

1. **Reflex Troubles of the Pulse in Appendicitis.**—Broca mentions cases of children suffering from appendicitis whose pulses were very slow or irregular or rapid, and discusses the probable causes.

2. **Gymnastics of the Cervical Region.**—Desfosses gives an excellent study of the musculature of the neck illustrated by many cuts, and then describes the effects produced by certain gymnastic exercises.

3. **Gag and Tongue Depressor.** Mahu presents a description of an instrument he has devised to keep the mouth open and the tongue depressed at the same time. It differs only in unimportant details



from other instruments that have been devised for the same purpose.

#### LA SEMAINE MEDICALE.

January 1, 1908.

1. The Abnormal Multiplicity of Cardiac Murmurs, By L. BARD.
2. A Little Recognized Syndrome Characteristic of a Family, Multiple Telangiectases with Repeated Hæmorrhages.

1. **The Abnormal Multiplicity of Cardiac Murmurs.**—Bard pleads for a clearer classification of these murmurs, as their number has become unaccountably multiplied in the descriptions given.

#### BERLINER KLINISCHE WOCHENSCHRIFT.

December 30, 1907.

1. Oxidation of Sugar, By G. ROSENFELD.
2. Concerning Micrococcus Influenza, Infectious Allorhythmia of the Heart and Nycturia, with Observations Concerning Pyocyanosis, Quinine, Gas Baths, and the Action of Acids on the Organism, By BIEDERT.
3. Experiences with the Meningococcus Serum in Cases of Cerebrospinal Meningitis, By W. SCHULTZ.
4. Symptomatology of Tumors of the Brain, By H. HIRSCHFELD.
5. A Case of Diffuse, Fœtid, External Otitis in a Telephone Operative, By HAMM.
6. Concerning Suboccipital Inflammations (Concluded), By L. GRÜNWAUD.

3. **Meningococcus Serum in Cases of Cerebrospinal Meningitis.**—Schultz reports a case of cerebrospinal meningitis in which he unsuccessfully injected Kolle-Wassermann's meningococcus serum and compares statistics he has collated thus: Of twenty-three patients treated with serum thirteen died, a mortality of 56.5 per cent. Of forty-one patients not treated with serum twenty-two died, a mortality of 53.7 per cent. Hence he is of the opinion that we are not yet in a position to combat satisfactorily epidemic cerebrospinal meningitis with Kolle-Wassermann's serum.

4. **Symptomatology of Tumors of the Brain.**—Hirschfeld reports two cases which demonstrate beautifully the difficulties met with in making a diagnosis of brain tumor. The first case was one of a large adenocarcinoma of a cerebellar hemisphere with three smaller, similar tumors, one extracerebral and two intracerebral, in a woman, sixty-three years of age, who presented a great multiplicity of symptoms. The second case was one of a symptomless tumor of the hypophysis, aneurysm of the carotid at the sella turcica, and proliferating endarteritis of the small vessels of the brain in a woman thirty-six years old.

5. **External Otitis in a Telephone Operative.**—Hamm reports a case of diffuse, fœtid, external otitis met with in a telephone operative, which he is inclined to ascribe to the effect of the electric current.

6. **Suboccipital Inflammation.**—Grünwald adds another case to those reported in the first part of his paper and then presents the following conclusions: 1. Suboccipital inflammation is dependent not only on tuberculosis of the occiput and vertebra, but may be induced by other inflammatory processes, such as diseases of the ear, traumatic diseases of the base of the skull, particularly diseases of the accessory sinuses, also of the teeth, and finally syphi-

lis. 2. The suppuration calls forth various symptoms according to the course which it takes and the organs it involves, but under all circumstances it causes certain typical symptoms. 3. Among the most marked, or at least most important, of such symptoms should be mentioned the more or less extensive opisthotonos together with the early commencement of the pains localized in the region of the trigeminus or occipitalis as particularly characteristic. It is, therefore, to be recommended, without going further into the nomenclature, to unite all these processes under the title of suboccipital inflammations and to consider more closely only the origin and course. 4. In the late stage the infiltrate in the nape of the neck points to the seat of the inflammation. Perforation into the retropharyngeal space is less characteristic. 5. The original focus can be recognized often only from the course of the symptoms as regards time and place, because one and the same localization can have either primary or secondary importance. The focus may remain latent for a long time. 6. The closest attention should be paid to symptoms of perforation, sudden diminution of the pain, of the fever, and the motor disturbances, because these correspond to the extension to a larger region of the hitherto closely circumscribed process, and so in any given case point out the final moment when, by an immediate operation, an unlooked for or even fatal result may be avoided. 7. A careful study of the temperature is particularly useful not only to watch the course but also to enable us to recognize this critical moment in which the extension commences. 8. Before the development of marked suppuration the attempt is justified to secure a retrogression of the process by absolute fixation of the head.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

December 24, 1907.

1. Observations Concerning Gastric Digestion, By COHNHEIM.
2. Cutaneous and Eye Reactions to Tuberculin, By MAININI.
3. Investigations Concerning the Ophthalmoreaction of Tuberculosis, By WIENS and GÜNTHER.
4. Critical Remarks Concerning the Clinical Signification of the Ophthalmoreaction of Tuberculosis, By KUHNENBERGER.
5. Concerning the Antitoxic Function and Albumin, By MUCH.
6. New Experiment Concerning the Demonstration of the Toxine in the Blood of Patients with Diphtheria, By UFFENHEIMER.
7. Concerning Albuminuria and Concerning the Proportionate Excretion of Salicylic Acid from Healthy and Rheumatic Persons, By EHLMANN.
8. Sahli's Desmoid Reaction, Schmidt's Test Meal and Siphoning, By TOTTMANN.
9. Diagnosis of Epidural Hæmatoma, By LINDNER.
10. Hemorrhage from Vaginal Varix During Pregnancy, By GRÜNEBAUM.
11. The Medical Service in the Road Construction from Daraasalam to Morogoro, By KRAUSS.
12. The Stand Taken by Josef Gossmann in regard to Professional Ethics, By KRECKE.

2, 3, and 4. **Cutaneous and Eye Reactions to Tuberculin.**—Mainini asserts that (1) the cutaneous as well as the ophthalmoreaction is positive in persons with positive tuberculosis with great constancy, with the exception of very advanced cases; (2) the specificity of this reaction is probable for many reasons, though not yet proved; (3) in indi-

viduals not suspected of tuberculosis the cutaneous reaction has perhaps a six times higher value than the ophthalmoreaction; (4) under the assumption that the reaction is specific this contradiction appears that the ophthalmoreaction points to an active tuberculosis chiefly, while von Pirquet's reaction indicates rather a latent focus.—Wiens and Günther state that they obtained in a number of cases very serious changes in the eye from the instillation of a 1 per cent. solution of tuberculin as recommended by Calmette, and allege that this procedure is not so harmless and unimportant as has been supposed.—Klieneberger investigated the ophthalmoreaction of tuberculin in sixty-one cases, nine tuberculosis, six suspicious, and forty-six presenting no clinical signs of tuberculosis. All of the nine tuberculous cases reacted positively to the second instillation, even those in whom the reaction to the first instillation had been negative or doubtful. The second reaction was more severe in the mild cases than in the serious ones, and was milder than the first in only one case. Very severe inflammatory symptoms appeared in one case of pulmonary tuberculosis. Of the six suspicious cases only two reacted positively to the repeated instillation. These had reacted slightly to the first, but the second was more pronounced. Of the forty-six cases in which there was no clinical evidence of tuberculosis, thirty-six reacted positively to the second instillation, 78 per cent. Twenty-eight of these presented no trace of reaction to the first instillation, while in the others the first reaction was weak or questionable. The severity of the symptoms induced by the second instillation was marked, as a severe conjunctivitis was induced in sixteen of this group by the repeated instillations. In five there was a considerable swelling of the lids, diffuse hæmatoma, and chemosis of the conjunctiva, conditions which rendered necessary a long course of treatment. Klieneberger will not grant that there was latent tuberculosis in 78 per cent. of the persons who presented no clinical signs of the disease, and hence concludes that reaction from repeated instillations is of no clinical value. He considers the reaction to the second instillation as one of hypersensitiveness and not serviceable for diagnostic purposes.

5. **Antitoxic Function and Albumin.**—Much gives a detailed account of his experiments and suggests three possibilities to account for his results, the most probable of which he believes to be that antitoxine is not albumin, but that the separation of the antitoxic function from the albumin which cannot be brought about in the test tube is accomplished in the milk glands.

7. **Albuminuria and the Excretion of Salicylic Acid.**—Ehrmann finds that in normal persons without acute or chronic arthritis the urine remains free from albumin after a single dose of 5 grammes of sodium salicylate. In a few cases a very slight ring of albumin appeared, which disappeared after a day or two. Repeated doses of 5 grammes usually produced no albumin. In the few in which a ring of albumin appeared at first it disappeared as after a single dose, in spite of repeated doses. In patients with acute and chronic arthritis the same was true. In them, likewise, when albuminuria was caused it disappeared again in spite of repeat-

ed doses. He found also that the period of the greatest excretion of salicylic acid did not coincide in time with the appearance of albumin. He finds the duration of excretion to be from thirty-six to forty-eight hours. The real dangers of treatment with salicylic acid he believes are not to be found in its action on the kidneys, but in its effect upon the brain and spinal cord.

December 31, 1907.

1. Concerning the Antiferment Reaction of the Blood and its Relations to the Opsonic Strength in Acute Infectious Diseases, By WIENS.
  2. Withdrawal of Common Salt in Hydrops of Pregnancy, By CRAMER.
  3. Concerning Pancreon, By FISCHER and HOPPE.
  4. Alternating Appearance of Purpura Rheumatica and Erythema Exudativum Multiforme Hebræ, By VÖRNER.
  5. Late Appearing Lesion of the Ulnar, By BRASSERT.
  6. Casuistic Contribution to the Question of the Prognosis After Swallowing Foreign Bodies with Unfavorable Surfaces, By FISCHER.
  7. Extragenital Infection, By KNAUER.
  8. Pruritus in Tabes, By GÜNZBURGER.
  9. Contribution to the Innovations in the Field of Obstetrical Instruction on the Phantom, By GLÖCKNER.
  10. Tamponade of the Nose and of the Nasopharyngeal Space, By LENNHOF.
  11. Narcosis with Warmed Chloroform, By RATH.
2. **Withdrawal of Common Salt in Hydrops of Pregnancy.**—Cramer says that he has obtained excellent results in hydrops of pregnancy by confining the patient to a diet from which salt was carefully excluded. Such foods as meat and milk, which naturally contain considerable salt, were forbidden. Wine and beer were allowed in moderate quantities, and no special limit was placed on the amount of fluid to be drunk. The prescribed diet is given as tea, coffee, malt coffee, lemonade from the fruit juice with ordinary water, rice, coarse meal, sago, potatoes, farinaceous foods, puddings, green vegetables, lettuce, fresh or cooked fruits, two eggs a day, bread made without salt, and fresh butter from which the salt has been washed. Any addition of salt to the food is forbidden, but any spice may be added for the sake of improving the taste. The women are able to attend to their daily duties during this course of treatment.

3. **Pancreon.**—Fischer and Hoppe seem to consider pancreon to be a food particularly well fitted to meet the needs of patients suffering from mental and nervous diseases.

4. **Alternating Appearance of Purpura Rheumatica and Erythema Exudativum Multiforme Hebræ.**—Vörner reports a case in which he observed the alternation of these two conditions at intervals of fourteen days in a boy ten years old. He believes that the same etiology underlies both.

5. **Late Appearing Lesion of the Ulnar.**—Brassert reports the case of a man, forty-eight years of age, who came under observation during the autumn of 1907 on account of atrophy of the muscles of the right hand, which are supplied by the ulnar. The elbow joints showed thickenings and deformities, and could not be perfectly extended or rotated, a condition which was more marked about the right elbow. This condition was referable to abscesses about the elbow joints following scarlet fever in 1875. No other explanation of this muscular atrophy could be discovered than the involvement of the ulnar nerve in these changes.

about the joint, the symptoms referable to it having appeared at the end of nearly thirty-two years.

**6. Prognosis After Swallowing Foreign Bodies.**—Fischer reports a case in which a child, ten months old, passed per rectum an open safety pin which had been swallowed about four weeks previously.

**7. Extragenital Infection.**—Knauer reports a case of chancre of the finger.

#### THE EDINBURGH MEDICAL JOURNAL.

January, 1908.

1. Clinical Observations on Some of the Rarer Varieties of Vesicular and Bullous Affections of the Skin,  
By W. ALLEN JAMIESON.
2. Some Lessons from the Study of Arterial Pressure,  
By G. A. GIBSON.
3. The "Energy-Quotient" in Infant Feeding,  
By J. S. FOWLER.
4. Chronic Arthritis: A Critical Résumé of Recent Views on the Pathology of Rheumatoid Arthritis, Osteoarthritis, Rheumatic Gout, Arthritis Deformans, etc.,  
By CHALMERS WATSON.
5. A Ten Years' Study of Cupar Water Supply (Clatto Waterworks), with Special Reference to the Germ Content thereof,  
By C. E. DOUGLAS.

**5. A Ten Years' Study of Cupar Water Supply, with Special Reference to the Germ Content Thereof.**—Douglas describes the water supply of Cupar-Fife, a burgh having about 4,500 population, which is obtained from a gathering ground at Clatto, about five miles distant in a south-easterly direction, 600 feet above sea level and about 500 feet above the mean level of Cupar. The supply is an upland surface water, obtained from numerous "feeders" from the neighboring higher levels, the land being cultivated, some of it arable, the rest pasture land. The gathering ground itself has a water surface, when full, of about 820 acres of catchment area, and gives a supply of 280,600 gallons per day; there is, therefore, a supply about six gallons per head of the population. The soil is of the limestone formation. The water is purified by sand filtration. The filtering medium consists of washed quarry clips at the bottom, covered by clean washed gravel, assorted into five degrees of fineness from the size of hazelnuts to such as will pass through a sixteen mesh sieve and be retained by a sixty-four mesh sieve. Altogether this gravel bed is two feet in depth. Two feet of clean washed fine sand overlay this bed. When the filters become clogged the top is scraped off and laid aside. This is allowed to weather thoroughly, and is then well washed in a mechanical sand washer acting under a head of water; it can be used again indefinitely. Each filter is usually cleaned once in six weeks, the indication for this being the lowering of the level in the clear water cisterns into which the water passes immediately after filtration. When the slime layer on the surface of the filters becomes too thick, the water cannot pass through so quickly as to maintain the level of the water on the filter, and the filter in question has then to be cleaned. The total filtration area, when all filters are in use, is 1214 square yards. With the average daily flow of water this gives 272.65 gallons per square yard of filtering area per twenty-four hours, equal to 1.26 gallons per square foot per hour—in other words, a filtration speed of only 4.848 feet in twenty-four hours. After filtration, the water passes through

a seven inch pipe to a small reservoir three miles nearer Cupar, which contains always about a day's supply, 300,000 gallons or thereby. The author made a thorough examination of the water and came to the conclusion, that the water in a catchment area may differ chemically from that of the underlying geological formation. The Glenfield scraping process is of value in maintaining the output of a supply pipe at its proper figure, and may even save a community the very large cost of putting down a new supply pipe. The apparatus used consists of a machine which is driven through the pipe by the pressure of the water. There are two distinct portions of the machine, the front portion carrying a pair of steel scrapers, working one behind the other, and being connected by a swivel joint with two steel propelling pistons also working one behind the other. This apparatus is put into the pipe at a manhole just below the filters, and driven down by the force of the water behind it till it emerges at the next manhole situated about a mile further down. During its passage it has to be most carefully followed by the men in charge. They have previously located the line of the pipe by auscultation through a long iron stethoscope, and indicated its track by a series of little flags. If the scraper is travelling, its progress can be detected by the low grinding noise made by it in encountering the incrustation. While it is travelling the detached incrustation goes down before it. Sometimes it becomes fixed. The increased pressure of the water behind it may overcome the obstruction. If not, it has to be cut down upon and started once more. The range of alkalinity observed in this water supply does not appear to have any effect upon the germ content. The mean germ content of this upland surface water is between 900 and 1,000 per c.c. The method of sand filtration is capable of removing over 90 per cent. of organisms when the filters are in good working order. Filter beds should be cleansed about once in six weeks, and should be allowed at least a week's rest after cleansing before being put again into use. The germ content of a water supply is distinctly greater at the point of delivery than as issuing from the filter bed, and this increase is probably due to the state of comparative rest in the pipe. In an upland surface water the number of organisms which will grow at blood temperature is a very small proportion of those growing at room temperature.

#### Proceedings of Societies.

##### COLLEGE OF PHYSICIANS OF PHILADELPHIA

##### Section in General Medicine.

March 1, 1908.

The President, Dr. A. O. J. KELLY, in the Chair.

**Primary Cancer of the Head of the Pancreas Causing Obstructive Jaundice.**—Dr. HERMAN B. ALLEN reported the case of a man, SIXTY-FIVE years old, who was admitted to the Philadelphia Hospital complaining of jaundice, epigastric pain, headache, and weakness. The jaundice had developed two weeks before admission, and gradually deepened to



a mahogany tint. The liver was enlarged, and the gallbladder enlarged and distinctly palpable, but not tender. The urine always contained bile, and the fæces were generally alcoholic and contained fat. No tumor could be felt in the epigastrium. The patient died of exhaustion and toxæmia. The whole duration of his illness was less than two months from the onset of the jaundice. At autopsy there was found primary cancer of the head of the pancreas causing jaundice by compression of the common duct.

The author discussed the diagnosis of cancer of the head of the pancreas from stone in the common duct, from stone in the ampulla of Vater, and from cancer of the duct and cancer of the duodenum occluding the orifice of the duct.

With regard to the special tests for pancreatic digestion, such as Sahle's and Schmidt's, the author had found them uncertain if not misleading. An excess of fat in the stools was of value in diagnosis, particularly if there was a small quantity of soaps in proportion to the neutral fats and fatty acids. But an accurate estimate of these fats was not easy. In the work of Robson and Commodge the authors reported an analysis of the fæces for fats in twenty-four cases of malignant disease of the pancreas. The average percentage of total fats was 77, of neutral fats 50, and of fatty acid 27. But the percentage of total fat varied between 93 and 40 per cent., of neutral fat between 69 and 31, and of fatty acid between 36 and 3 per cent. Such wide variations must lessen the value of the findings in any case. Commodge had also reported upon the result of his improved pancreatic reaction in sixteen cases of cancer of the pancreas. It was positive in only four, negative in twelve cases.

Dr. J. DUTTON STEELE believed the estimate of the fat percentage to be the only accurate means of determining between jaundice due to obstruction of the duct and jaundice due to other causes.

**Congenital Torticollis.**—Dr. ARTHUR NEWLIN reported this case, which was attributed to lateral fixation of the head in the pelvis during uterine life.

Dr. H. A. HARE inquired whether tests had been made of the muscles of the opposite side of the neck to show whether the torticollis might not be due to lack of power or to palsy of the opposite side.

Dr. NEWLIN replied that these muscles had been examined, but not by electrical apparatus. Apparently they were normal.

**Some Clinical Aspects of Blood Coagulation.**—Dr. THOMAS R. BOGGS, associate in medicine in the Johns Hopkins University, presented this paper, saying that the coagulability of the blood was dependent upon a number of different factors. It might be varied experimentally *in vitro* and *in vivo* by modifying the physical and chemical condition of the blood. From the standpoint of the practitioner, it was possible, with a fair degree of accuracy, to measure the gross variations in coagulability and in some cases to modify this coagulability by therapeutic measures.

For increasing the coagulability the most useful means was the administration of calcium salts by the mouth, subcutaneously, or by direct infusion. The salts best adapted to this purpose were the ace-

tate and lactate of calcium. In general, many cases of hæmorrhage from parenchymatous tissue (capillary hæmorrhage) after trauma, in purpura hæmophila, scurvy jaundice, etc., might be benefited by calcium therapy.

The treatment was as yet purely empirical, and not all cases of the same disease would show identical conditions with regard to coagulability or respond in the same way to treatment. Nevertheless, the number of cases which were benefited was sufficient to make it desirable to extend the study of coagulation from a clinical standpoint.

Dr. HARE thought it the experience of all who had employed the calcium salts in the various conditions in which Wright had recommended them had been bitterly disappointed at times, and at other times had gained results as encouraging as the disappointments had been discouraging. Possibly 75 per cent. of the employments of the calcium salts in his hands had been futile, while in 25 per cent. some good had been observed.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of December 11, 1907.

The President, Dr. JAMES B. WALKER, in the Chair.

**Diseases of Physicians.**—Dr. ROLAND G. CURTIN presented a résumé of his experience in the study of diseases of medical men, with a tabulation of the cases and remarks upon the frequency of diseases, some of which were unusual and some more common. The probable cause was given, also the mode of life necessary to preserve health, with directions tending to prolong the practitioner's life, especially in old age. The statistics given did not embrace slight ailments or any of the severe forms of disease in which Dr. Curtin had been called in consultation. His findings in regard to the drug habit among physicians differed from the conclusions of Dr. Crothers, of Hartford. The showing of twenty-eight deaths from angina pectoris bore out the appellation of "doctors' disease" for this affection. Only four cases of Bright's disease had been noted, all of a severe type. The milder ones were not mentioned. Ten cases of renal calculus had been found. The cause of this large number was difficult to explain. At least half the number were in young practitioners.

A general study showed that clergymen had twice the chance to attain the age of sixty-five than the physician had. This was accounted for by the constant stress attendant upon the physician's life. The motor car was said to add greatly to the strain of the nervous system.

**The Longevity of Physicians.**—Dr. JOSEPH P. TUNIS showed that the mortality of the medical profession was higher than that of many other occupations. According to Dr. Ogle's statistics, the farmer was the longest lived, and the clergymen enjoyed the greatest longevity of the learned professions. The late Dr. George M. Beard, in 1866, had said that the greatest and hardest brain workers of history had lived longer, on the average, than brain workers of ordinary ability and industry. Beard had found that the average age at death of 500 of the greatest men in recorded history was 64.2. From an insur-

ance point of view, physicians had shown a slightly greater mortality than had been expected. Taking them as a whole, they were, however, "average risks."

*Mortality Table of Physicians at Different Periods.*

Year.	No. Investigated.	Investigator.	Mortality.
1834.....	624	Casper	56.4
1885.....	3,865	W. Ogile	59.3
1886.....	8,627	J. M. French	56.47
1907.....	2,000	J. P. Tunis	60.6

The author concluded that statistics proved the truth of the popular belief that all men lived longer nowadays than fifty years ago; that the most satisfactory statistics of longevity could be secured only by selecting groups of men living under the same conditions; that the diseases to which physicians were especially liable affected the cardiovascular and nervous systems; and that the secret of long life would seem to lie in abstemiousness, brain work, and contentment, a sound mind in a sound body being presupposed.

**Diseases of Great Physicians of the Past.**—Dr. WILLIAM PEPPER pointed out the difficulty in drawing conclusions as to the commonest forms of disease in the physicians whose names were mentioned, as it was only in those cases in which the men had suffered from some interesting disease that the cause of death was given. The cases were, however, classified according to certain loose groups, the most interesting group including those who had described diseases and had themselves suffered from the same disease. Another group included those who had fallen victims to various diseases in the line of their duty.

Laennec fell a victim to a disease the nature of which he had taken pains to describe. Lancisi and Corvisart died of diseased heart, Boyle sank under the ravages of the disease of which he had been the most successful illustrator. Sir Benjamin Brodie, a great surgeon, died of cancer of his right shoulder joint. Dupuytren, the most famous surgeon of the last century, died of an empyema. Refusing to submit to an operation, he said he "would rather end his life through God's hand than that of a surgeon."

In more recent times Mikulicz, who wrote on cancer of the stomach, himself fell a victim to this disease. Fowler, of Brooklyn, having written on appendicular inflammation, died of this disease.

Upon the memorial tablet of Dr. Jesse W. Lazear, who died of yellow fever, were the words: "With more than the courage and devotion of the soldier he risked and lost his life to show how a fearful pestilence is communicated and how its ravages may be prevented."

A number of distinguished physicians had been great sufferers from the gout. Sydenham said: "More wise men than fools are victims of this affection."

Angina pectoris had claimed its share of the medical profession, and in this group might be mentioned the names of Sir James Y. Simpson, Sir Charles Bell, and John Hunter.

Instances were cited illustrative of Osler's statement that the profession offered many examples of good work thoroughly and conscientiously carried out by men with aneurysm of the aorta. Dr. Thomas King Chambers first had an aneurysm in the

left popliteal artery, eleven years later one in the right leg, cured by pressure, and finally aneurysms of the carotid arteries. Dr. Richard Bright died of the consequences of extensive and long standing calcification of the aortic valves of the heart, the exit for the blood being reduced to a mere chink. Robert Liston died of an aneurysm of the aorta, which must have existed for years and been fostered by his great physical exertions, which characterized his recreation as well as his work.

Another group was given, including those having suffered from apoplexy, and still another and larger group was classified under the heading of miscellaneous.

Dr. JAMES C. WILSON said there were two main groups of morbid conditions to which physicians were particularly liable—the infectious diseases of adult life and the general diseases of the period of involution of life, diseases especially of the cardiovascular system, of the kidneys, and of the nervous system. Neurasthenia, the drug habit, and alcoholism were also to be considered. These were said to be the result largely of improper living combined with inherited feebleness of organism. The man who entered upon the practice of medicine with impaired powers of resistance and lack of self discipline was apt to become neurasthenic or fall a victim of one of the drug habits.

Dr. JAMES M. ANDERS, commenting upon the frequency of cardiovascular degenerations among physicians, thought that the experience of any single physician or group of physicians even could not solve the problem, since individual experiences differed widely. As pointed out by Dr. Tunis, physicians lived under different conditions, pursued different lines of professional work, and their habits were equally various. He held, however, that it was possible to accumulate a sufficiency of data on which to base valuable practical conclusions.

An analysis of 115 cases showed tuberculosis to be present in nearly 15 per cent., while organic heart disease, gout, obesity, and neurasthenia stood next in point of frequency. Angina pectoris, diabetes mellitus, and nephritic colic, conditions which appeared to lead in Dr. Curtin's experience, were less common, although, when compared with their incidence in general, the percentage among physicians was still abnormally large.

The cases of angina pectoris, nephritic colic, and diabetes occurred among men who might be counted as brain workers, but they also led unusually sedentary lives and were given to the pleasures of the table. Of morphinism in doctors there were five cases, which result agreed with Dr. Curtin's statistics rather than with those of Dr. Crothers. It was remarked, however, that morphine was often used in secret by physicians.

Dr. Anders felt strongly that an extensive statistical inquiry would reveal sufficient facts and data upon which to base valuable conclusions. The subject was said to be one bringing up the whole question of the influence of occupation as a causative factor of disease, which, whether considered in relation to the professional crisis, brain workers in general, merchants, artisans, clerks, or laborers even, was not fully appreciated by the medical profession.

Dr. DAVID ROEMAN referred to a French case

valent among the laity that physicians had no right to be ill, and regarded it as probably a relic of the superstition of the barbaric age, when disease was looked upon as a demon that could be exorcised by the medicine man, who, naturally, if he could drive it out of the patient, would drive it out of his own body. Instances were cited of disease contracted in the course of the work of physicians. Whether physicians were prone to certain diseases could only be learned by statistics. Dr. Riesman's own practice showed that of some diseases there is a rather large number of cases of physicians. He had had seven cases of appendicular inflammation, two of tuberculous disease of the lungs, two of pneumonia, ten of neurasthenia, four of arteriosclerosis, and a number of others, one and two of a kind. Arteriosclerosis seemed to be quite common. Two of his patients had been under thirty-five years of age and total abstinents in regard to alcohol. Loss of sleep and the use of tobacco were considered productive factors. His experience showed neurasthenia to be rather profound in the medical profession. While it could not be said that physicians were exempt from disease, it was believed that they would work longer when handicapped than any other class of men, because of their sense of responsibility and the fact that no one could take a doctor's place.

Dr. JAMES TYSON had seen a good many physicians with typhoid fever. He had very often been consulted for morphinism by physicians who realized their complete helplessness. He had also known cases in which physicians had most successfully overcome the habit. The cocaine habit in his experience has been a very frequent occurrence among physicians. This habit was much more easily overcome than morphinism. Of angina pectoris he had seen a number of cases. Two cases were cited showing the impossibility of drawing conclusions of a prognostic character from the symptoms. The presence of albuminuria and casts in the case of a physician who had been very much overworked, but which passed away almost immediately upon rest, was a condition falling under his observation. Neurasthenia he regarded as almost a doctor's disease, stating that, after women, doctors came in as a class of neurasthenics.

Dr. JAY F. SCHAMBERG regarded the strain and stress under which the physician lived and his exposure to contagious and infectious diseases as essential factors in the varying incidence of certain diseases in the medical profession compared with the general population.

He referred to the fact that Dr. Edward Jenner had been the first to call attention to the pathological cause of angina pectoris and refrained from publishing his views on the subject during the lifetime of John Hunter, because of his intimacy with his friend and teacher; and, although he made known his views to the physicians of Hunter, he was only given credit for his knowledge after Hunter's death, when these gentlemen found calcification of the coronary arteries.

Dr. ALBERT R. MOULTON, from his experience with cases of drug addiction, was inclined to believe that the percentages given by Dr. Crothers of the drug habit among physicians were exaggerated.

Dr. CURTIN noted that, in fifteen deaths from

angina pectoris among physicians, five had occurred suddenly after a hard day's work and a hearty meal. He suggested that the heaviest meal should not be taken at night and that the physician should rest, if tired, before and after the meal. After the age of fifty it was important that physicians gradually reduce their work, avoiding night work and shortening that of the day.

Dr. PEPPER said that as the historian of the evening he would simply refer to that good old physician Rabelais, who, after his study of this subject, said that "there be more old drunkards than old physicians."

## Letters to the Editors.

### RECOVERY FROM CANCER.

470 COMMONWEALTH AVENUE,  
BOSTON, December 31, 1907.

To the Editors:

The writer desires information regarding any alleged recoveries or cures of inoperable or recurrent carcinoma of the mammary gland. If any case or cases are known to any one who reads this circular and can be authenticated by facts as to the history and condition prior to recovery and the length of time which has elapsed since recovery, such information will be much appreciated and duly acknowledged. Any well authenticated reports of recoveries from carcinoma located in other parts than the mammary gland will be welcomed. Cancer paste cures, x ray cures, radium cures, or cures as result of surgical operation are not wanted. Hearsay cases are not wanted unless accompanied by name and address of person who may give knowledge first hand.

HORACE PACKARD.

### MELANCHOLIA.

NEW YORK, January 18, 1908.

To the Editors:

In the *Journal* of October 12th is an editorial on melancholia in which are reviewed the work and conclusions of Dr. G. L. Dreyfus, of Heidelberg. You say in your editorial that Dr. Dreyfus, "after reviewing all the cases in Kraepelin's clinic, comes to the interesting conclusion that involution melancholia—the only melancholia in the Kraepelin system—is but a phase of manic-depressive insanity."

In my *Textbook of Nervous Diseases and Psychiatry*, 1904, I distinctly taught this view, and I argued for its soundness in a paper read before the New York Neurological Society over three years ago.

There could be nothing less ambiguous than the following paragraph (p. 641): "Melancholia, strictly speaking, is a special disease, and occurs under three forms: (1) Acute melancholia; (2) chronic melancholia; (3) manic-depressive insanity, or manic melancholia. These are all closely allied types, so much so that the term 'manic-depressive psychosis' might also be used to include all three." My conclusions were not guesswork, either, but based on a study of several hundred cases.

A particular point in my paper was that the melancholia of involution was not always one of the later period of life, but had its representation in



certain usually mild anxious depressions of early or middle life, and in the hypochondriasis of adolescence and later. There is no clouding of consciousness in those cases, and the depressive ideas relate usually to subjective or bodily symptoms.

This form of melancholia, in its milder types called by Meyer "anxious depression," is rather rare in early life and increases in frequency to the age of fifty. There is a form of it which is characterized by extreme activity of thought, unclouded brain, great fixity of delusion, and a most persistent impulse to suicide. Here the delusions are usually self accusatory and do not relate to bodily conditions.

The most sharply separated form of melancholia is, no doubt, the depressed phase of manic-depressive insanity. Here there is not so much depression or actual psychic pain as there is apathy, slowness and difficulty of thought and action, so that the patient may become almost stuporous. Yet there are linking cases which show the relationship between this and other forms of melancholia. For purposes of convenience, then, I think we can recognize: 1. Acute melancholia, which is represented by the type just described and which may alternate with a mania. It is often recurrent and occurs oftener in early life, but it also runs well into old age. 2. Chronic melancholia, often a melancholia of involution, but not always, and called as Meyer suggests an "anxious depression" at whatever period of life it occurs. A type of this may be called "agitated depression," which takes in the active and suicidal cases of early and later life, and the "anxious depression" includes most of what is usually called hypochondriasis. This form is seen with increasing frequency as age comes on. There are linking cases, and certain fundamental symptoms appear in each group.

CHARLES L. DANA.

### Book Notices.

*Metabolism and Practical Medicine.* By CARL VON NOORDEN, Professor of the First University Medical Clinic, Vienna. Volume III. The Pathology of Metabolism, by Carl von Noorden, H. Salomon, A. Schmidt, A. Czerny, H. Steinitz, C. Dapper, M. Matthes, C. Neuberg, O. Loewi, and L. Mohr. Anglo-American Issue, under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol, etc. Chicago: W. L. Koenner & Co., 1907. Pp. xx+527 to 1320. (Price, \$6.)

This, the third and concluding volume of von Noorden's great work on the physiology and pathology of metabolism, comprises the sections of greatest practical interest for the physician. The two preceding volumes, on the physiology and general pathology of metabolism, have already been reviewed in this journal. In the third volume are considered the important relations of the chemical changes in the body to various specific diseases, including diabetes mellitus, gout, obesity, diseases of the skin, cancer, the gastrointestinal diseases of children, myxœdema, Graves's disease, acromegaly, and Addison's disease. There are also valuable and suggestive chapters on mineral waters, baths, drugs, and poisons, and the influence of light and the

Röntgen and radium rays. One is impressed by the enormous amount of patient and minute research work reported and sifted in these volumes, by the frank note of scientific candor in the recognition of the incompleteness and often conflicting nature of the results obtained by equally competent and unbiased observers in the same field, and by the meagreness of the therapeutic applications which may be deduced in most cases from laboratory conclusions alone.

And yet the difficult studies, which are only in their infancy, have already cleared the ground of many traditional fallacies and superstitions, and are the only certain basis for the hope of a therapy more rational than a blind empiricism. Among the positive benefits to clinical medicine which may fairly be alleged for the exact methods of modern researches in the chemistry of normal and pathological physiology are the recognition of the rôle of the acetone group as a cause of the acidosis producing diabetic coma, the part played by the purin substances in the dietetic management of gout, and the detection of the rarer derangements of carbohydrate oxidation which result in such anomalies of excretion as pentosuria and the presence in the urine of glycuronic acid and lævulose, inositol, maltose, and other unusual forms of sugar. Studies in metabolism have also profoundly changed our views as to the action of many drugs and as to the therapeutic use of mineral waters. On this latter point von Noorden pertinently and justly says: "Valuable scientific work has, however, been published during the last ten years in spite of the enormous output of worthless, pseudoscientific writings which mislead the inexpert. A clamorous jargon has been invented, which includes apparently learned expressions about delayed or increased metabolism, oxidation, assimilation, protein balance, molecular disintegration, ions, osmosis, radioactivity, and the like; without these no twentieth century advertisement is complete. The truth is that so little is known of the bearing of mineral waters on biological processes that most of the statements in balneological literature may be stigmatized as idle make believe." This quotation is a fair example of the author's impatience with pretense, and his demand for rigorous demonstration can not but have a stimulating and wholesome influence upon the medical reader, although at times some of his cherished beliefs may receive a rude shock. Nothing is more futile than theory without an adequate basis of carefully observed fact, and one obstacle to advancement is removed when we freely admit our ignorance of what we do not know.

"Eine einziger Zahl hat mehr wahren und bleibenden Wert als eine kostbare Bibliothek voll Hypothesen."

*Commercial Precedents.* Selected from the Column of Replies and Decisions of the *New York Journal of Commerce and Commercial Bulletin*. An Essential Work of Reference for Every Business Man. By CHARLES PUTZEL, A. B., LL.B., of the New York Bar. Hartford: American Publishing Company, 1907. Pp. v-770.

This volume presents a compilation of the questions and answers concerning commercial law and usages which have appeared in the pages of the *New York Journal of Commerce and Commercial Bulletin*. This journal has for seventy-five years been

the leading authority in the field of commerce, and the department which has been known in it as Replies and Decisions has always been regarded as one of its most valuable features. The publication is in no sense a law book, the underlying principles on which the opinions and decisions are based not being elaborated. The book contains much information regarding commercial law and usage which will be of interest to every one, whether engaged in professional or in commercial pursuits.

*Thinking, Feeling, Doing.* By E. W. SCRIPTURE, Assistant Neurologist to Columbia University. London and New York: G. P. Putnam's Sons, 1907.

The author, after twelve years, has given us a second edition of this excellent little manual. It is one of the clearest of similar works and introduces the reader at once into the mysteries of the mechanism of mind action in a delightful and satisfying manner. It has had a great success as a textbook, and in its new edition merits all the attention it has been paid in the past.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

Movable Kidney and Other Displacements and Malformations. By David Newman, M. D., F. F. P. S. G., Surgeon to the Glasgow Royal Infirmary, etc. New York, Bombay, and Calcutta: Longmans, Green & Co., 1907. Pp. 233.

Transactions of the American Gynecological Society. Volume 32. For the Year 1907. Philadelphia: W. J. Dornan, Printer, 1907. Pp. 568.

#### Miscellany.

**International Congress on Tuberculosis.**—Active preparations for the International Congress on Tuberculosis, to be held in Washington, next September, are under way in other countries. The national committees for France, Germany, Sweden, Austria, Holland, Greece, Bulgaria, Cuba, Venezuela, Brazil, and Costa Rica have organized and have forwarded their membership lists to the secretary general. The French committee has a membership of over 300 and includes men of prominence in public life as well as in the medical profession. The officers of this committee are: President, Dr. Louis Landouzy, of the medical faculty of the University of Paris; vice presidents, Dr. Faisans, of the University of Paris; Professor Vallée, veterinarian, of Alfort; Dr. F. Bezancon, of the University of Paris, and Dr. Le Gendre; secretaries, Dr. Triboulet, secretary general of the last International Congress, which was held in Paris three years ago; Dr. Nobecourt, Dr. Leon Bernard, Dr. Dehan, and Dr. Georges Bourgeois; treasurer, M. Masson. The secretary of the German committee, Dr. Johannes Nietner, was secretary general of the recent International Congress on Hygiene and Demography. Other members of the committee are Dr. Gotthold Pannwitz, secretary general of the International Tuberculosis Association; Dr. B. Frankel, Dr. Ernst von Leyden, professor emeritus of the University of Berlin, and Dr. Johannes Orth, professor of pathology in the University of Berlin. Dr. N. P. Tenderloo, of Leyden, another well known pathologist, is a member of the committee for Holland. Dr. P. K. Pell, of the University of Amsterdam, is chairman of that committee, and Dr. W. J. von Gorcum, of The

Hague, is the secretary. Dr. A. Herrera Vegas, the chairman of the Venezuelan committee, is president of the Venezuelan Antituberculosis League and a member of the National Academy of Medicine at Caracas. Dr. P. Acosta Ortiz, the vice president, is a director of the hospital at Vargas, and Dr. L. Razetti, another member of the committee, is vice rector of the University of Venezuela, and permanent secretary of the National Academy of Medicine. All of the members of the Brazilian committee are actively identified with the antituberculosis movement in that country. The committee includes Dr. J. J. Azevedo Lima, of Rio Janeiro, president of the Brazilian Antituberculosis League; Dr. Oswaldo Cruz, director general of the Department of Public Health; Dr. J. J. Seabra, and Dr. Cypriano de Freitas, of Rio de Janeiro. The president of the Cuban committee is Dr. Guiteras, formerly professor of pathology in the University of Pennsylvania, and now at the University of Havana. Dr. J. L. Jacobsen, the vice president, is president of the Cuban Antituberculosis League. The secretary is Dr. M. G. Lebre-do, of Havana. Two well known members of this committee are Dr. Aristides Agramonte, the last surviving member of the famous yellow fever commission of the United States army, and Dr. Carlos J. Finlay. Dr. B. Patrikios, the chairman of the committee for Greece, is secretary of the Department of Health of Greece, and secretary general of the Greek Red Cross Society. Dr. Aristote Kouzis, the secretary, is a professor of the University of Athens. Dr. Constant Savas, a member of the committee, is professor of hygiene in the University of Athens; Dr. P. Manoussos is the principal medical director of the Military Hospital at Athens, Dr. Kalliontzis is professor of surgery, and Dr. Pierre J. Rondopoulou is professor of pathology at the University of Athens. The Hon. Otto von Printzkold, the chairman of the Swedish committee, is the first chamberlain of the Swedish court. The secretary, Dr. Bertil Buhre, is the president of the Swedish Antituberculosis League, the largest volunteer association of the kind in existence. The Costa Rican committee has named Dr. Louis P. Jimenez chairman, and Dr. Teodoro Picado, of San José, secretary. Other members are Dr. Teodoro Prestinary, Dr. Benjamin Hernandez, and Dr. Marcos Zunega, all of San José. Three chairmen have been named by the Austrian committee. They are Professor Leopold von Schrötter, of the medical faculty of the University of Vienna; Dr. Weichselbaum, and Dr. Richard Paltauf, of the department of pathology of the University of Vienna. The secretaries are Dr. H. von Schrötter, Dr. L. Teleky, and Dr. J. D. Bartel. Dr. M. Rousseff, director of the Department of Health of Sophia, is president of the Bulgarian committee; Dr. Ivan Ognianoff, secretary of the Superior Board of Health at Sophia, is secretary, and the members include Dr. Georghi Zolotovitch, Dr. Ivan Theoroff, and Dr. S. A. Valcovitch.

**A Case of Acquired Dextrocardia Associated with Advanced Phthisis.**—J. Hubert Young, of Boston, places a case on record (*Boston Medical and Surgical Journal*, December 12, 1907) which is unique, as the patient was continually under observation during the transposition of the heart from left to right. This displacement was gradual, and,

as it became more marked, signs of cavity were elicited at the right apex. There were no subjective symptoms referable to the heart, and, except for rare intervals when the patient was confined to her bed for a day or two, with slight gastric disturbance, she was dressed and about the ward all the time without any discomfort. Nor was there any clinical evidence that the heart was not performing its function perfectly in its abnormal position. X ray examinations were made, but, owing to the involvement of the right lung, the right border could not be accurately determined. About twenty-five cases of acquired dextrocardia associated with chronic pulmonary tuberculosis, without the presence of fluid or air in the pleural cavities, have been reported, but in all the cases, with the exception of four, the displacement was complete when the case first came under observation.

### The Milky Way.

To boil or not to boil, that is the question:  
Whether 'tis nobler, recklessly to swallow  
The germs and toxins of raw lacteal blend,  
Or to take arms against this sea of microbes,  
And by parboiling, end them? To pasteurize—  
No more, the doctors cry, nor sterilize,  
For thus we slay the thousand healthful germs  
That milk is heir to: 'tis a consummation  
Devoutly to avoid. Thus would they lull  
Our fears to sleep. We dream; ay, there's the rub,  
For in that sleep of dreams, what rude alarms  
Awaken us! The milkman's morning call  
Disturbs our rest. There stands the milk,  
A bottled menace unto human life.  
Yet must we pay for quarts of beverage which,  
With germs benign, is mixed the contumely  
Of rural scorn for hygienic laws,  
And city dealers' dash of formalin,  
Put in to lower the count bacterial.  
Inspection does make cowards of us all;  
And thus the native hue of bovine milk  
Is sicklied o'er with the pale cast of doubt.  
From Cow to Milch Goat let us turn our thoughts,  
To Nanny, late despised, but now the queen  
Of rediscovered country, that fair realm  
Of capriculture, whence her lacteal yield  
Gives health and strength from infancy to age.

—A Caprine Soliloquy by Julia Harries Bull  
in *Good Housekeeping*.

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending January 24, 1908.

Place.	Date.	Cases.	Deaths.
Alabama—Mobile	Jan. 4-11	1	0
Alabama—Mobile	Jan. 1-14	10	10
California—Oakland	Dec. 1-14	9	24
California—Los Angeles	Dec. 28 Jan. 1	1	0
Connecticut—New Britain	Dec. 1-30	1	0
Delaware—Georgetown	Jan. 1	1	0
Illinois—Evanston	Jan. 1	1	0
Indiana—Indianapolis	Jan. 4-11	1	0
Iowa—Des Moines	Jan. 1	1	0

Indiana—Lafayette	Jan. 0-13	1	0
Kansas—Wichita	Jan. 4-11	12	6
Louisiana—New Orleans	Jan. 4-11	6	6
Michigan—Grand Rapids	Jan. 4-11	1	0
Michigan—Saginaw	Dec. 29-Jan. 11	23	0
Missouri—St. Louis	Jan. 4-11	3	0
New York—Niagara Falls	Jan. 4-11	1	0
New York—New York	Jan. 4-11	2	0
North Carolina—Greensboro	Jan. 4-11	0	0
Ohio—Cincinnati	Dec. 27-Jan. 10	7	0
Ohio—Dayton	Jan. 4-11	3	0
South Dakota—Sioux Falls	Jan. 3-10	19	0
Tennessee—Knoxville	Dec. 28-Jan. 11	14	0
Tennessee—Nashville	Jan. 4-11	9	0
Texas—Houston	Jan. 1-11	3	0
Texas—San Antonio	Jan. 4-11	2	0
Utah—Cannonville	Dec. 1-3	18	1
Washington—Spokane	Dec. 28-Jan. 11	1	0
Wisconsin—La Crosse	Jan. 4-11	2	0
Wisconsin—Milwaukee	Dec. 21-Jan. 11	4	0

#### Smallpox—Foreign.

Brazil—Para	Dec. 21-28	10	4
Brazil—Rio de Janeiro	Dec. 8-15	33	9
China—Hongkong	Nov. 10-23	1	1
China—Shanghai	Dec. 7-15	2	0
17 deaths among Europeans and cases among Europeans and 2 deaths among natives.			
Ecuador—Guayaquil	Dec. 15-21	2	2
France—Marseilles	Dec. 1-31	9	9
Great Britain—Leith	Dec. 22-28	1	5
India—Bombay	Dec. 10-17	2	0
India—Calcutta	Nov. 30-Dec. 17	3	3
Italy—General	Dec. 19-26	52	0
Java—Batavia	Nov. 30-Dec. 7	3	1
Russia—Moscow	Dec. 14-21	2	3
Russia—Odessa	Dec. 13-20	2	0
Spain—Denia	Dec. 21-28	4	4
Spain—Vigo	Dec. 21-28	2	2
Venezuela—Caracas	Jan. 3	3,000	Estimated
Venezuela—La Guaira	Jan. 3	25	0

#### Yellow Fever—Foreign.

Brazil—Para	Dec. 21-28	16	8
Cuba—Habana Province	Jan. 16-19	2	1
Cuba—Santa Clara Province	Jan. 17-20	3	2
Cienfuegos	Jan. 31-Jan. 19	3	1
Cuba—Palma	Dec. 14-21	1	1
Ecuador—Guayaquil	Dec. 14-21	1	1

#### Cholera—Foreign.

Philippine Islands—Manila	Nov. 21-28	8	8
	Nov. 28-Dec. 7	3	2

#### Cholera—Foreign.

India—Bombay	Dec. 10-17	2	0
India—Calcutta	Nov. 28-Dec. 7	1	0
India—Madras	Dec. 7-13	4	0
India—Rangoon	Nov. 28-Dec. 7	1	0

#### Plague—Foreign.

Brazil—Rio de Janeiro	Dec. 8-15	0	0
Egypt—Alexandria	Dec. 13-25	4	3
Egypt—Damietta	Dec. 22-28	1	0
Egypt—Suez	Dec. 10-30	21	15
Minch	Dec. 17-23	1	1
India—Bombay	Dec. 10-17	11	0
India—Calcutta	Nov. 23-Dec. 7	10	0
India—Rangoon	Nov. 28-Dec. 7	1	0

Turkey in Europe—Kavak.  
Plague erroneously reported as present on December 26.  
Cases and deaths in Turkey have been included under smallpox.

#### Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the week ending January 25, 1908.

BELL, J. M., Pharmacist. Leave of absence granted for eight days from January 1, 1908, amended to read six days.  
BROOKS, S. O., Surgeon. Granted leave of absence for fourteen days on account of sickness, from January 22, 1908.  
COFER, L. E., Passed Assistant Surgeon. Relieved from duty at Seattle, Wash., and directed to proceed to Honolulu, Hawaii, assuming the duties of chief quarantine officer at that port.  
DE VALIN, H., Assistant Surgeon. Leave of absence granted for thirty days from December 16, 1907, amended to read twenty-nine days only.  
FOGARTY, J. N., Acting Assistant Surgeon. Granted leave of absence for thirty days from January 15, 1908.  
GLOVER, M. W., Passed Assistant Surgeon. Relieved from special temporary duty at Seattle, Wash., and directed to assume charge of the Service at that port.  
KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for one day, under paragraph 210, Service Regulations.



LAVINDER, C. H., Passed Assistant Surgeon. Leave of absence granted for one month from January 12th, amended so as to be effective January 14, 1908.

MCBRIDE, C. R., Pharmacist. Granted leave of absence for eighteen days from January 14, 1908.

TROXLER, R. F., Pharmacist. Directed to proceed to Norfolk, Va., for special temporary duty at the grounds of the Jamestown Tercentennial Exposition; granted leave of absence for seven days, effective upon completion of special duty at Norfolk.

WHITE, M. J., Passed Assistant Surgeon. Relieved from duty at Seattle, Wash., and directed to proceed to Detroit, Mich., reporting to the medical officer in command for duty.

#### Board Convened.

A board of medical officers was convened to meet in Baltimore, Md., 10 o'clock a. m., January 20, 1908, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon J. T. Burkhalter, chairman, and Acting Assistant Surgeon J. LaB. Ward, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending January 18, 1908:*

EBERT, R. G., Major and Surgeon. Relieved from duty at the Philippines Division, and will proceed on the transport to sail from Manila about March 15, 1908, to San Francisco, Cal., and upon arrival report by telegraph to the Adjutant General of the Army for further orders.

HARRIS, J. R., Captain and Assistant Surgeon. Ordered to proceed to the Army General Hospital, Presidio of San Francisco, Cal., for observation and treatment.

JONES, H. W., First Lieutenant and Assistant Surgeon. Relieved from duty at the Philippines Division, and assigned to duty in the Army Transport Service.

PALMER, F. W., First Lieutenant and Assistant Surgeon. Granted ten days' leave of absence.

RICHARDS, R. L., Captain and Assistant Surgeon. Advanced to the rank of captain.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending January 25, 1908:*

ALLEN, A. H., Assistant Surgeon. Detached from duty with the marine detachment at Lajas, Cuba, and ordered to duty with the Cape Cruz-Casilda survey expedition, with headquarters at Manzanillo, Cuba.

FITTS, H. B., Surgeon. Ordered to the naval recruiting station, Indianapolis, Ind.

IDEN, J. H., Passed Assistant Surgeon. Detached from duty in connection with the Cape Cruz-Casilda survey expedition, with headquarters at Manzanillo, Cuba, and ordered to continue other duties.

MACKENZIE, E. G., Assistant Surgeon. Appointed an assistant surgeon from December 28, 1907.

RIGGS, R. E., Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the naval station, Charleston, S. C., for temporary duty, and thence to Camp Columbia, Havana, Cuba.

SCHMIDT, L. M., Assistant Surgeon. Appointed an assistant surgeon from December 28, 1907.

STRINE, H. F., Passed Assistant Surgeon. Detached from the naval hospital, Annapolis, Md., and ordered to Washington, D. C., January 20th, for temporary duty, and thence to the *Relief*.

WELLS, H., Medical Director. Ordered to duty at the naval recruiting station, New York, N. Y.

WHEELER, L. H., Assistant Surgeon. Detached from the navy recruiting station, Indianapolis, Ind., and ordered to Washington, D. C., January 27th, for examination for promotion, and then to await orders.

#### Married.

BIGGS—NORRIS.—In Rutherfordton, North Carolina, on Monday, January 27th, Dr. Montgomery W. Biggs and Miss Mary Pepper Norris.

CONLEY—HINCH.—In Wilmette, Illinois, on Wednesday, January 15th, Dr. B. Conley and Dr. Minnie Agnes Hinch.

LEDDETER—COWIE.—In Annapolis, Maryland, on Wednesday, January 22d, Dr. Robert E. Ledbetter, United States Navy, and Miss Ethel Cowie.

PERCIVAL—MCBURNIE.—In Philadelphia, on Tuesday, January 21st, Dr. Milton F. Percival and Miss Mary Beattie McBurnie.

POTTER—SARGENT.—In Brookline, Massachusetts, on Saturday, January 25th, Dr. Nathaniel Bowditch Potter, of New York, and Miss Mary Sargent.

REISMAN—FLEISHER.—In Philadelphia, on Monday, January 20th, Dr. David Reisman and Miss Eleanor L. Fleisher.

RUSSELL—FOX.—In New York, on Wednesday, January 22d, Mr. Henry R. Russell, of Pittsfield, Massachusetts, and Miss Adaline Fox, daughter of Dr. George H. Fox.

#### Died.

BLAKEMAN.—In Portsmouth, Virginia, on Wednesday, January 22d, Dr. Robert Silvester Blakeman, United States Navy, retired, aged thirty-five years.

BURRALL.—In White Plains, New York, on Tuesday, January 21st, Dr. Frederick Augustus Burrall, aged seventy-four years.

BRUNNER.—In Boyertown, Pennsylvania, on Tuesday, January 14th, Dr. F. R. Brunner, aged sixty-eight years.

CAMP.—In Washington, D. C., on Monday, January 20th, Dr. Herbert M. Camp, aged forty-six years.

COLLINS.—In Covington, Kentucky, on Friday, January 17th, Dr. J. D. Collins, aged eighty-four years.

DALE.—In Lemont, Pennsylvania, on Tuesday, January 14th, Dr. J. Y. Dale, aged sixty-six years.

DANN.—In Titusville, New York, on Tuesday, January 14th, Dr. James L. Dann.

EVERSFIELD.—In College Park, Maryland, on Monday, January 20th, Dr. William Octavius Eversfield, aged sixty-seven years.

HAYES.—In Carrollton, Illinois, on Thursday, January 16th, Dr. J. B. Hayes, aged sixty-three years.

HEGER.—In New York, on Saturday, January 25th, Dr. Anthony Heger, Brigadier General, retired, United States Army, aged seventy-nine years.

KELLY.—In Philadelphia, on Monday, January 20th, Dr. Patrick M. Kelly, aged seventy-four years.

KLOCK.—In St. Johnsville, New York, on Friday, January 17th, Dr. Charles M. Klock, aged fifty years.

KNIPE.—In Boyertown, Pennsylvania, on Tuesday, January 14th, Dr. Irwin Knipe.

LOTER.—In Philadelphia, on Sunday, January 19th, Dr. Percival E. Loder, aged fifty-four years.

MCKITTRICK.—In Evergreen, Alabama, on Sunday, January 19th, Dr. A. A. McKittrick.

MATHEWSON.—In Hartford, Connecticut, on Sunday, January 19th, Mrs. Harriet Silliman Mathewson, wife of Dr. Arthur Mathewson, of Brooklyn.

MAURER.—In Philadelphia, on Friday, January 17th, Dr. Emil Maurer, aged forty-two years.

MAYER.—In Boyertown, Pennsylvania, on Tuesday, January 14th, Dr. Charles Mayer, aged fifty years.

MICHAEL.—In Binghamton, New York, on Wednesday, January 22d, Dr. F. M. Michael.

ORDRONAUX.—In Glen Head, Long Island, on Monday, January 20th, Dr. John Ordrónaux, aged seventy years.

PAINTER.—In West Haven, Connecticut, on Thursday, January 16th, Dr. Henry Wheeler Painter, aged seventy-six years.

ROSS.—In Hearshville, Virginia, on Monday, January 20th, Dr. C. A. Ross, aged forty-seven years.

SCOTT.—In Campbellsville, Kentucky, on Thursday, January 16th, Dr. Ben Scott.

SMITH.—In New York, on Monday, January 20th, Dr. A. P. Smith.

STRATFORD.—In New York, on Friday, January 24th, Dr. William Stratford, aged sixty-three years.

TURNER.—In Boyertown, Pennsylvania, on Tuesday, January 14th, Dr. F. B. Turner.

WILKINSON.—In New York, on Saturday, January 25th, Dr. Asa Williams Wilkinson, aged seventy-five years.

WOOD-ALLEN.—In Washington, D. C., on Wednesday, January 22d, Dr. Mary Wood-Allen.

### Births, Marriages, and Deaths.

#### Born.

SHAW.—In Santurce, San Juan, Puerto Rico, on Sunday, January 5th, to Dr. Harry Shaw, United States Navy, and

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### Original Communications.

#### THE HAND AS A THERAPEUTIC AGENT.

*Calling the Attention of Physicians to Useful Auxiliary Measures Which They May Themselves Employ with Great Advantage by Adaptations of Manual Therapy, Nerve Pressures, Massage, Passive Movements, "Chiropraxis," Etc.*

By J. MADISON TAYLOR, A. B., M. D.,  
Philadelphia.

The hand is an ever present agent of skill for the physician. It is capable of infinite adaptation. Employed in a variety of directions by specialists, it is known to be the chief factor in their personal efficiency. Among primitive peoples manipulations have always afforded more certain help than crude attempts at chemical corrections. In the rude surgery of the ancients, and now in many semicivilized countries, dextrous practitioners often perform feats well worthy of imitation. In modern medicine evidence is growing to prove that we should develop and utilize these hints, always in the light of advancing physiological and clinical knowledge. While the subject is still in its infancy, the stage of conjecture, of early experiment, is past. If half as much scientific research had been expended on the principles governing manual treatment as upon pharmacology, the hand would be esteemed to-day on a par with drugs in acceptability and power.

No single therapeutic agent can be compared in efficiency with this familiar but perfect tool. Sir Charles Bell wrote a book in 1833 on *The Hand, its Mechanism and Vital Endowments*, etc., calling attention to its marvelous adaptabilities. It is pre-eminently the instrument of the artist in all departments. Swedish physicians, instigated by a prophetic enthusiast, Ling, have evolved an elaborate system of treatment, demonstrating that often by clumsy, empirical methods great things are, and greater can be, thereby done. The subject has developed slowly, but steadily, in the manner common to other lines of clinical growth. Along with aggregations of incontrovertible facts, there are being gradually evolved scientific, physiological, as well as rational, explanations. As was inevitable, such an easily imitated measure fell early into the possession of independent handcraftsmen. Many of these, while more or less competent, protected themselves instinctively and naturally by secrecy. Methods were propagated by tradition. The "bonesetters" of Devonshire, after obtruding their successes upon the puzzled and disturbed surgeons of England,

gradually contributed much to the science of surgery. Wharton Hood tells the story with valuable personal contributions in a suggestive little book on *Bone Setting*.

Few educated physicians themselves employ the hand in everyday treatments. Those who do are viewed askance. At least, they are denominated "cranks." Yet an array of their names makes creditable showing. In the preface of Kleen's book on *Massage* are mentioned a large number of well known authorities who themselves use what is called "massage and systematic movements," many of them distinguished in various recognized lines of science. Metzger to-day is overworked ministering with amazing success to the crowned and coroneted heads of Europe, and not a few "bo-nanza kings" of America.

To be sure, the utterances of many apostles of manual treatment are marred by overstatements; assertions of exclusive efficacy are often made for their personal methods beyond the verge of truth. These vaporings become distasteful to a large proportion of the profession, who, knowing little about the facts, comfort themselves with sneers or denials. If, however, the truth is demonstrable in abundance, even unguessed in its scope, it matters nothing till, in the fullness of time, all deserving things shall be made plain. So great is the potency of this measure that in recent years a vigorous cult is working, in most communities, cures, or satisfactory ameliorations of conditions, which the "regular profession" have been unable to relieve. Yet all this potentiality is entirely within the reach of these learned gentlemen if they will open their eyes and put forth their own hands.

Of course, they will come to make use of it in due time. Scientific medicine has frequently been enriched by the adoption, somewhat late, of agencies intrinsically good, but, unfortunately, discounted. Fashion, convention, ultraconservatism, is responsible for much delay in adopting many advantageous measures. It was both amusing and pathetic to observe how ludicrously reluctant many physicians, on whom or their families I have worked "unbelievable miracles," were to accept the facts. The common demurrer is to the effect that the whole thing is "mere suggestion." But why did not earlier suggestions compass similar results? What about the salutary effects wrought thus upon infants? Why does the alleged suggestion work against the avowed skepticism of these physicians themselves? Undoubtedly my own knowledge is yet too small to touch many foliages, and too much of strictly accurate correlations. The word

ologists must do a lot of better work before exact interpretations of this, or many other functional influences, are fully explainable. Facts, based upon the clearest physiological principles, are, however, abundantly in evidence. A respectable array of clinical findings are on record to substantiate all reasonable statements. Many of these are not yet marshaled in such shape as to corroborate the postulate that by touch of hand, alternating or continued, or by distributed pressures, certain curative results are wrought, though obtainable in no other way. Yet, rightly interpreted, they contribute unerringly to prove our assertions. Many of the effects produced by heat, cold, faradism, galvanism, poultices, counter irritants, section, constriction hyperæmia, deep injections of salt solutions, alcohol, drugs, and the like, are equaled or surpassed by the cunningly applied hand and through exactly the same fundamental physiological principles.

*Drug Nihilisms.*—The reaction among clinicians against the use of multitudinous drugs is reflected with exaggerations upon the laity. Injudicious condemnation by physicians of medicaments works more harm to scientific medicine than many concrete evidences of failure to afford relief. The public notices our perplexities and interprets our candid expressions of conservatism to signify doubts as to the efficacy of these unimpeachable agencies. There is a deplorable lack of consistency in medical teaching, especially in therapeutics. The cause of this is due largely to unfortunate customs in teachings, to fanciful explanation, but, above all, to faulty habits of presenting well attested truths. Drugs, used with a full knowledge of those principles which are, or are becoming firmly established, will always stand first among our keenest weapons of defense against the havoc of disease. Our literature would, unfortunately, lead a casual or overcritical reader to infer that in methods of treatment we are swayed by whims, fashions, waves of opinion, stupid imitation, or even by emotion. Hence the public, aware of our candid selfquestionings, interprets all this to signify doubts as to our capabilities. Thereupon they too readily welcome blatant, ill trained, assertive irregulars who assume to work miracles by "drugless methods." The crucial fact is that to get best results one must be aware of all important truths, by which alone exact knowledge of conditions can be attained.

As physiology slowly illumines our pathogenesis we may form more exact conclusions on the underlying potentialities which govern clinical results. Scientific medicine has repeatedly been compelled to recognize hints from irregulars which, if useful enough for adoption, may, when candidly scrutinized, be accepted without prejudice, often with great advantage to our patients. Manipulations have been increasingly employed by surgeons without criticism, but when a general practitioner undertakes similar methods he is met with condemnation. Why? Originally, i. e., previous to about 1880, whatever manipulation (massage, educative and corrective exercises, etc.) was deemed advisable was relegated to handicraftsmen or women. A certain few of these were (there always are some) both skillful and wise. Physicians then, as now, knew personally almost nothing of these measures

except a few vague and fluctuating "rules." They were, and are, even more ignorant of what should be expected of "massage" than they are now of the essential effects of drugs, and no analogue more emphatic can be cited. Even to-day few physicians make use of massage except vicariously and inexactly.

*Ignorance of Physicians on the Subject of Manual Treatments.*—In an unclear way the physician knows that through this agency certain general effects are usually induced. He has almost never had personal instruction; he would be puzzled to distinguish good work from bad, even if accurately displayed. A case comes to his mind, e. g., which he infers might be bettered by this additional measure. He thereupon selects some one on his list whom he thinks suitable, and sends him, or her, to the patient. What instruction is given? Practically none, except perhaps some negative directions learned from books as to the "contraindications." Thereupon the operator has one of two courses open: 1. To apply for specific instructions to the physician. This is seldom done. If these are sought they prove so obviously nonhelpful that the second course is open (and the one that is most generally pursued): 2. To go ahead and do whatever seems proper, giving usually an hour of routine "rubbing."

So important is intelligent, judiciously applied massage, passive movements, stretching, torsions, etc., that the laity recognize its utility more clearly than the profession. Furthermore, irregular practitioners have sprung up, forming a bold, aggressive body, adopting the best methods taught in Europe, shrewdly recognizing and utilizing the cruder points of vasomotor action and reaction whereby vasotonus is influenced, and the public is quick to see and endorse the excellent results obtained.<sup>1</sup>

It is well to emphasize the fact that all measures which influence so powerfully the functions of the human body should be kept within the jurisdiction of the educated physician. He it is who must direct and control all remedial measures. He must keep himself informed as to the principles and technique, so that he shall be able to use or direct the precise kind, direction, and amount of auxiliary measures exactly as he regulates his dosage of drugs. He must be an expert in the whole field of theories, practice, scope, and applicabilities, or else he should not use or countenance measures of which he is ignorant. If these, or other agencies, are powerfully influential for good, they are equally powerful for harm if injudiciously applied; precisely as in the misuse of drugs. It is quite true, as many will reply, that few instances of harm are brought to light. That is because expert masseurs are warned not to do those things which can work much havoc. When paid for their work they are often content to do little good, and we should be happy if they do no harm. Routine massage is, however, of only moderate efficacy. By it some surface stimulation is afforded, comfort is given, sleep and rest enhanced, slight nutritive and sensory quickenings awakened. By the passive movements ordinarily employed much good is effected in disused or chronically diseased joints. The whole cus-

<sup>1</sup> See article by the author, *New York Medical Journal*, December 11, 1914.



tomy procedure constitutes what Weir Mitchell has classically described as "the equivalent of a five mile walk without strain upon the heart."

But all these things are as child's play to the powerful effects capable of being wrought on the vasomotor and visceromotor mechanisms if the centres in the cord, the subsidiary centres, the exposed points in nerves and ganglia are intelligently operated upon by an educated physician. Here a knowledge of these governing mechanisms is required along with familiarity with the natural history and phenomena of disease, such as is assumed to be the possession of the expert clinician.

In trying to teach physicians what I myself know of the niceties of manipulations, I have been surprised to find so few, even of "distinguished clinical teachers," who are possessed of fair motor intelligence. After the plastic age is passed full manual dexterity is not attainable. Delicacy of touch is far rarer among physicians than one might assume. What they cannot perceive through clumsy, ill trained fingers they are inclined to deny. In percussion and palpation many of our "teachers" display surprising coarseness of touch. What a person of nice tactile sense may perceive instinctively, e. g., the outline of the liver, the spleen, the position and resistance of the kidneys, the stomach, varying resistance in tissues, etc., others can only infer inaccurately by awkward fumbings and gropings.

If space permitted it would be useful to set forth the significance of those variants in tissue resistance, local infiltrations, tensions, minor alterations in shape and density, in sensitiveness, tenderness, etc., especially in the erector spinæ muscles, which offer useful corroborative keys to the visceral conditions. We can thereby valuably supplement both our customary diagnostic as well as therapeutic measures.

*Aids to Diagnosis.*—It is my conviction that refinements in the education of touch, the perceptive hand, will form an essential part of clinical diagnosis as well as therapeutic teaching in the future. The laboratory, at its best, is not alone adequate to reveal many pathological indications. By habitually handling tissues much light is thrown upon many factors in diagnosis. The careful clinician thus not seldom can learn facts which would have been obvious to former advisers had they approached the problem in the same way. But sight and surface touch is a small matter compared to deeper handling, compression, palpation, estimation of resistances, of mobility or waxy compressibility.

*Aids to Therapeutics.*—The educated hand can become an exceedingly important instrument in therapeutics. While at best only auxiliary to other agents, by its use some morbid states can be more promptly and others more completely removed than by other known means. In conjunction with indici-  
ously applied hygienic measures, or clearly indicated drugs, or both, the accomplishment of complete cures in certain conditions can only thus be made certain. Any physician of moderate deftness can acquire enough skill to greatly enhance his own usefulness. A few can attain rare and many have

that supremacy of artistic capacity which makes them welcomed or famous. Variation in result here is precisely analogous to that in other handicraftsmanships. A good equipment in hand skill, along with brains and education, lifts the few above the many moderately competent. There is no more warranty in denying extraordinary results attained by manual therapy than in legerdemain, in painting, in sculpture, in violin or piano playing. Herein feeling, instinctive apperception, must supplement knowledge.

Conformation also cannot be ignored. Hands vary; some are well, others are ill adapted to the work. Motor intelligence does not always stand on a par with intellectual gifts. "Each man at arms naturally prefers to employ those weapons best fitted to his hand," be they drugs, hygiene, electricity, or manual dexterity. To omit any one may be to fail to do our full duty to the patient. The history of modern medicine exhibits manifold instances of the truth of the assertion, though relatively few failures are candidly recorded. Observant folk, however, often detect the instances of failures due to omissions. Hence when varied measures, not manual, have failed to relieve or cure; whenever a skilful craftsman presents and does achieve desired results (especially where the physician omitted to advise and direct the agent) confidence in him is shaken, the potential of the profession is lowered. This need not be; should not be permitted. The remedy is for all physicians to themselves acquire much knowledge, and at least some skill, in manual therapy.

*Massage.*—In so condensed a presentation it is only permissible to describe briefly massage as employed to-day. For sixteen years I lectured on the principles of massage at the Orthopædic Hospital of Philadelphia, and am familiar with many extensive and excellent treatises on the subject. To these the reader is referred for details of how it should be performed. Suffice it to say that wide differences of opinion obtain as to the value of general massage. Those who deny its utility, it is safe to say, are not familiar with its actual clinical effects or procedures, hence incapable of estimating the quality of the product. If a physician, however learned in other departments, prescribes a series of powerful remedies of which he knows practically nothing, but leaves the dosage, etc., entirely to the dispensing chemist, he cannot expect definite effects. This is preeminently the situation of most who prescribe massage.

There is one way, and only one, whereby one can learn what an individual can do and how to do the work; that is by submitting one's own person, or part, to be operated upon. It is next in importance to watch the operation upon a patient and estimate its immediate as well as remote effects.

The points which the critic should bear in mind are many, but among the chief of these are: 1. The rate of movements; of paramount importance are deliberation, nicety of rhythm, and confident gentleness; overrapidity is usually disturbing. 2. Depth and graduation of pressure, this should be nicely adjusted, and increased to the degree and amount required. 3. Quality of skin touch; whether dragging on the surface, pulling on superficial structures, haphazard, or what is correct

The most skillful hands, however, are not necessarily the best. Robert H. Hubbard, of Chicago, who is certainly the best, tells me that he has seen the late Dr. J. M. Little, who was a very good physician, but whose skill

firmly holding the surface tissues, seizing in turn layer after layer, with increasing grasp, while proceeding deeper, as the séance progresses, using the upper tissues to influence those underneath, till the lowermost are reached. 4. The length of time consumed. The customary full hour is often too much; an adept can do all that is needed in forty to fifty minutes, often less; more is fatiguing, often exhausting to frail persons. Subjects who "enjoy all they can get" are welcome to it; nevertheless, even then it may readily induce hurtful byeffects. 5. The kind and degree of exposure of the parts has much to do with the results. Each part should be covered immediately after treatment with a warm fabric, usually a blanket. Some persons suffer violent vasomotor reaction after massage, become chilled, or sweat profusely, or experience an extreme prostration. 6. General massage is exhausting to many invalids, especially to convalescents from infection, or to especially fragile persons, and in proportion as subjective overtension is maintained. It is an evidence of capacity in an operator, more often instinctive than acquired, to induce and maintain complete relaxation in the tissues of the subject.

It is not to be expected that a physician will himself wish to apply general massage or only occasionally. It is more likely that he will have occasion to apply localized pressures, as for sensory disorders, or *passive movements* of limbs, stretchings, and overstretchings, rotations, torsions, etc., which consume only a few minutes, demand little exertion and induce little fatigue.

These procedures are, to my mind, of almost equal utility with general massage, often of much greater. As a part of special forms of treatment, which an educated physician is best fitted to apply, e. g., for occupation neuroses, "writer's cramp," or the painful states in joints variously caused and diversely labelled, or to overcome byeffects of traumata, the milder forms of neuritis, sciatica, deepseated backaches, etc., these pressures, or passive, adjusting, elasticizing movements are of the utmost value.

*Hints as to How Passive Movements Should Be Performed.*—A few words as to how these should be given are justified. The patient should become completely relaxed; well directed suggestion will initiate this. Take up each limb, move it gently about in its normal excursus, bend and turn, then *drop it*, repeating until it falls readily with its full weight, unhindered by any conscious or unconscious tension. So of the head and neck. Next pull gradually on the limbs in turn till each is brought out to the full relaxable limit, as of the shoulder or hip tissues. Next, holding firmly the shoulder structures with one hand, or those of the hips, supporting and moulding these, haul away on the limb in its continuity, moving it through its normal excursus, one position after another, until it be made to describe passively all the attitudes it can naturally be made to assume. After this is done the limb may be (if desired to overcome contractures, or to stretch the nerves) forced with advantage a little beyond its customary positions till a slight discomfort, or perhaps moderate pain, is induced, held for three or four seconds, and carried back to a comfortable position. Gentle twistings

(torsions) should be also used, often two or three leverage actions. Finally deep, "distributed pressures" should be made on the tender point "to scatter the lymph" and the pain.

These devices are exceedingly valuable for a large variety of reasons, which could be adduced did space permit.

The mobility of the vertebral column should often come in for education, too. So also of the thorax.

To induce full mobility of the backbone it is well to cause the patient to sit on the bed, examining table, or even the floor. The physician may force the body forward and down, hands on the shoulders, or the head, or by exercising traction on the arms, to any degree desired. A number of ailments manifested by rigidities, or parasthesias, in the back can thus be removed. I have cured people of distressing backaches, suffered from for many years, by this treatment. There was often also an acquired scoliosis from traumata, and this, too, can be thus corrected. Sciatics, especially old ones, can often be permanently relieved by this means.

While it would carry one too far afield to relate at length the kinds and qualities of relief the physician can himself afford, through the laying on of hands, it may be permitted to offer a few final comments. Possessing myself rather more manual dexterity than common, this tempted me to become interested in the possibilities of hand treatments years before the public were oversupplied with "specialists" professing to "accomplish wonderful results." Accident led me to profit by the teaching of an excellent Swedish masseur named Rubesam. Much literature is available, and, if judiciously culled, full of rewards. Working some years in the physiological laboratory trained me to *look to the basic sources of both normal and morbid human activities* in interpreting the natural history and phenomena of disease. By this means I acquired the habit of *associating effects with fundamental causes*, and of looking as deeply as possible for primary principles of therapeutics. It was early found that a variety of painful states were amenable to treatment by simple, yet purposeful, manipulations. Vasoconstriction and vasodilation can be readily thereby influenced, waste products hurried into the eliminating channels, not so much by direct squeezing (massage) as by reflex stimulation through the central vasomotor substations in the cord.

So many desired effects are attainable by such simple acts that it is strange the profession has neglected to observe and make use of the vasomotor reflexes more constantly. The body is like a piano or harp, to be played upon at will. All that is needed is to work out the principles on a practical physiologic basis. I have learned from all sources, and most from John P. Arnold, who for seven years was demonstrator of physiology in the University of Pennsylvania. For example, he showed me how to promptly cure my daughter of a lameness which had resisted the efforts of the best surgeons.

The sphere of applicability of manual treatment grows larger all the time; nevertheless, I hope I am equally cognizant of the limitations.

For a long time my colleagues and personal friends adjured me to hold my peace about my convictions. I, however, hold and express such defi-

nite opinions on the indispensability of drugs that my sanity suffers no serious challenge.<sup>2</sup>

By a five or ten minutes' use of my hands I am often able to so supplement other remedial agents as to relieve, often permanently and in a vastly shorter space of time than formerly, a large variety of ailments, sufferings, and diseased states, so that I feel impelled to urge attention to these valuable measures upon all practising physicians.

1504 PINE STREET.

# IS STERILIZED MILK A SAFE FOOD FOR INFANTS?\*

BY E. MATHER SILL, M. D.,  
New York.

This question I shall endeavor to answer in the following paper largely from my own experience, but substantiated and emphasized by the experience of others.

Some six years ago my attention was drawn to this subject from the fact that such a high percentage of infants fed on sterilized or pasteurized milk were found to be diseased or abnormal. Investigations have been closely followed up from that time to the present.

We are all agreed that upon the proper feeding of the infants of to-day depends the health of the succeeding generation and the general physical condition of the nation, for the infant of yesterday is the child of to-day and the man of to-morrow, and it lies in a large measure with the profession whether the infants of to-day and of the coming generations shall be a strong, sturdy, well developed lot, prepared to resist disease, and physically equipped for the hardships they will encounter in the world, or an ill nourished, poorly developed, undersized, inferior race with little power to resist disease. In short, it is our supreme duty to find out what is for their good and our supreme business not to be defeated in realizing that good.

Before going farther it would be well to define just what is meant by sterilized, pasteurized, and raw milk, as I shall make use of these terms constantly.

To become sterilized, milk is boiled or heated to a temperature of 212° F., which temperature is maintained half an hour.

To become pasteurized, milk is raised and kept at a temperature of 160° F. to 170° F. for twenty to thirty minutes.

By raw milk we mean milk just as it has come from the cow, unheated.

Observations show that the heating of milk only moderately alters the constitution of its ingredients by disintegrating the organic union of the proteids and mineral salts. In this disintegrated state the nutritive quality and digestibility of the milk are impaired. Hence starvation and atrophy of the tissues and consequent diminution of cell growth.

If pasteurized milk is a perfectly safe food it would be universally adopted, but, besides changing the chemical ingredients and composition of the milk, it destroys the harmless bacteria, many of

which kill off the harmful kind, and thus the milk is a better culture medium for the virulent or disease breeding varieties.

We are consuming bacteria in other foods constantly. They are necessary to make our cheese, in the form of yeast to raise our bread. They are found in large quantities in the cream which makes our butter, and in numerous other substances, and in fact are necessary for the production of certain of our daily foods. So that the idea of having everything sterile before eating is wrong, impossible, and unhealthy.

Dr. Freudenreich tells us that fresh raw milk has germicidal properties, and, according to his experiments, the bacillus of cholera dies in an hour when put into fresh cows' milk, the bacillus of typhoid fever in twenty-four hours, while other germs die at the end of varying periods, and milk that has been exposed to a temperature of 131° F. loses these germicidal properties.

Russell and also Freeman, after various experiments, conclude that a temperature of 140° F. (60° C.) for twenty to thirty minutes is sufficient to destroy the bacillus of tuberculosis, diphtheria, and typhoid fever.

Recent observations by Spolverini and Hippus have proved the presence of various ferments, both in mother's milk and cows' milk, and the weakening of these ferments by a moderate amount of heat (145° F.) and their destruction by a slightly higher degree. According to Spolverini, in sterilizing milk the following changes take place in the composition of the milk:

1. Expulsion of carbonic acid gas of milk, which stimulates the secretion of the gastric juice.
2. Diminution of the amount of lime and free phosphoric acid, increase of insoluble calcium phosphate, which is not absorbed, and precipitation of the antiscorbutic citric acid.
3. A large part of the lecithin in the nucleon is destroyed and precipitated as unabsorbable, inorganic compounds.
4. The casein is changed and rendered unabsorbable, and the soluble albumin is coagulated.
5. The fat globules unite into larger masses, that are less easily absorbable.
6. The ferments are destroyed, and thus are lost antitoxic and immunizing substances, and microbicidal compounds of great value to the child. These disadvantages result in the child being pale, with soft flesh, having a predisposition to intercurrent diseases and a lack of resistance to ailments, with rickets, showing disturbances of nutrition.

It has been stated that the germs of typhoid fever, diphtheria, scarlet fever, and consumption are frequently carried by milk. No doubt this is true in a few instances, but we all are familiar with the latest method of treating consumptives by giving several quarts of raw milk each day, and for years patients with the other diseases mentioned above have been fed on raw milk.

If we subject fresh milk that contains germs to heat, the milk still contains the dead germs and their toxins. Heat does not purify milk by killing the germs, and the toxins contained will cause disease.

What, then, is meant by a "safe" food? A safe

\*See the *Eastern Journal of Medicine*, November, 1906, p. 1000.

<sup>2</sup>Read before the meeting of the American Association of the Study of Diseases of the Digestive Tract, held at New York, Sept. 28, 1908.



food for an infant is one in which all the elements of the milk have been unchanged as to their organic union. Heating disorganizes these elements, devitalizing the milk and changing it from a *live*, fresh food to a *dead*, preserved food.

It being my privilege to have yearly under my care some 5,000 infants, I have had exceptional opportunities for studying the various methods of feeding, especially as we have our own diet kitchen for the modification, sterilization, and pasteurization of milk (nearly two hundred infants being fed daily). Careful observations have been made for a period of over five years on all the infants, about 25,000 in number, and accurate knowledge as to the exact method of feeding was obtained.

Of those infants that were fed on sterilized or pasteurized milk continuously or part of the time on one and part of the time on the other, ninety-seven per cent. developed scurvy or rickets or a combination of the two, the so called scurvy rickets of the English authors. These infants had been fed for a varying period of from three to eighteen months on the heated milk; pasteurized milk was given during nine months of the year and sterilized milk during the three summer months. This milk was all carefully modified to suit the age and digestion of each individual infant. About 20 per cent. of the infants had five feedings a day supplemented by breast feedings. These also had signs and symptoms of rickets, but in a degree less than those who were fed exclusively on pasteurized or sterilized milk. No infants fed on *modified raw* milk developed rickets or scurvy or any other disease due to improper feeding, such as anemia, malnutrition, marasmus, etc.

According to Koplik, manifestations of rickets may show in the *bones* at autopsy when no symptoms have shown during life, but these children had been fed on foods which are known to produce rickets. I have seen great numbers of infants with the earliest symptoms of rickets, and spongy or bleeding gums of varying intensity, but with no other symptoms of infantile scurvy, and also numerous other infants with purpuric hemorrhages and slight sponginess of the gums. The majority of these infants, it was found, were fed on sterilized or pasteurized milk, and promptly responded to the use of raw milk with no other treatment. The greatest number of my cases of scurvy have been of this mild type or early stage of the disease, but which were just as much infantile scurvy as those with more pronounced symptoms of periosteal hemorrhage, pseudoparalysis, pain, fever, prostration, etc.

These conclusions based on observations at our own laboratories are substantiated by investigations which I have made on infants fed at other laboratories and at home. It has been found that every infant suffering from rickets, scurvy, malnutrition, etc., that has come to our notice and that has not been fed on any of the patent baby foods has, however, been fed for varying periods on pasteurized or sterilized milk.

It would seem, then, that there was a common cause of disease in these cases, namely the use of sterilized or pasteurized milk.

Being anxious to know whether sterilization and pasteurization of milk was the entire cause of these

diseases raw milk was substituted with no other treatment, whereupon the children immediately began to improve.

Infants which were in good health when fed raw milk, were attacked with symptoms of rickets when sterilized or pasteurized milk was given.

Those who have had a large experience working among the poor of our city, and know the gross ignorance displayed by the mothers in the feeding of their infants, fully realize the fact that the reduced mortality from diarrhoeal diseases of recent years has been due not to the fact that the milk has been sterilized or pasteurized, but to the improved method of feeding by the modification of the milk to suit the age and wants of the child and putting the milk up in stoppered nursing bottles that are kept on ice until the time of using. Also a better grade of milk has been used.

It might be interesting to note here that T. M. Price, chemist at the Maryland Agricultural Experiment Station, made a series of experiments on calves to ascertain the comparative nutritive value and digestibility of pasteurized, sterilized, and raw milk. The result of these experiments showed that:

1. More fat and proteid were digested when raw milk was given than when pasteurized milk was given.

2. More proteid and fat were digested when pasteurized than when sterilized milk was given.

3. More proteid and fat were digested when raw milk was given than when sterilized milk was given.

4. Calves gained more when raw milk was fed than when pasteurized milk was fed, and still more than when sterilized milk was fed.

5. Calves lost on sterilized milk, were stationary or gained very slowly on pasteurized milk, and gained rapidly on raw milk.

6. Diarrhoea was set up in calves by the use of sterilized milk and stopped when raw milk was fed. Since these experiments show definitely the effect of sterilization and pasteurization of milk upon young animals it is natural to conclude a similar effect upon infants. The most characteristic feature distinguishing sterilized from raw milk is the state in which the albumin exists, and Richmond says that this is changed from a soluble to a colloidal form, and not more than 1 per cent. of albumin is found in sterilized milk in a soluble form, while in raw milk over 4 per cent. is in a soluble form. The appended table from Richmond's *Dairy Chemistry* shows the percentage of soluble albumin in milk at various temperatures:

Time of heating.	Soluble Albumin in fresh milk.	Soluble Albumin in heated milk.
10 minutes 60° C.	0.423 per cent.	0.418 per cent.
30 " " "	0.438 " "	0.42 " "
10 minutes 65° C.	0.395 per cent.	0.365 per cent.
30 " " "	0.395 " "	0.363 " "
10 minutes 70° C.	0.422 per cent.	0.269 per cent.
30 " " "	0.421 " "	0.253 " "
10 minutes 75° C.	0.380 per cent.	0.07 per cent.
30 " " "	0.380 " "	0.05 " "
10 minutes 80° C.	0.375 per cent.	None.
30 " " "	0.375 " "	None.

Koplik has shown by chemical tests that more nitrogen is assimilated by the infant from milk that has been subjected to little or no heat.

There is one apparent exception to what has been said in regard to raw milk, namely, I have seen cases of rickets develop in infants who were fed for

too prolonged a period on poor quality breast milk or poor quality and much diluted cows' milk, and here again we have the same or a similar condition prevailing that we see in the use of heated milk, namely, deficiency of proteids and salts. When these infants were given a milk of sufficient strength for their age immediate and permanent improvement was noted with a healthy, steady growth.

Then it would seem the above mentioned diseased conditions are brought about by deficiency and change of the proteid molecule and the alkaline earthy salts organically combined. This condition of unabsorbability being caused by superheat.

Landois, in speaking of rickets, says: "The normal nutrition of muscular tissue can only take place if sufficient supply of sodium chloride and potassium salts is provided in the food, as they are integral constituents of muscular tissue, otherwise the muscles atrophy and their reconstruction is prevented. In such conditions the central nervous system and the digestive apparatus also suffer, and the animals perish." This, no doubt, accounts for the frequent occurrence of convulsions in rickets.

**Conclusion.**—In closing it would seem then, after careful clinical observation of many cases substantiated by chemical research and bacteriological findings, that the conclusion to be drawn must be that the advantages of the raw milk, when properly used, far outweigh any advantages which highly heated milk may possess. And if milk is heated it should never be raised above a temperature of 140° F. for twenty to thirty minutes.

142 WEST SEVENTY-EIGHTH STREET.

#### THERAPEUTIC USE OF SOURED MILK.\*

By HAVEN EMERSON, M. D.,  
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The use of soured milk is based on three distinct properties:

1. The fact that pathogenic bacteria do not thrive in a medium that has a marked degree of lactic acid.

2. The process of carbohydrate and proteid disintegration occurring in the souring of milk makes a softer and more digestible and smaller casein curd, and a carbohydrate in a state of partial digestion.

3. Lactic acid activates peptic secretion and digestion.

The use of soured milk is indicated broadly as a preventive against the putrefactive process of proteid disintegration in the digestive canal. It is useful in the feeding of infants and invalids who are suffering from disordered digestion, especially of the fermentative types. It is safer than unsoured milk where the supply is not clean enough to be above suspicion. Its use has been proved valuable in the dietary treatment of pulmonary tuberculosis and in the modified food of healthy infants.

Chemically milk may be separated into classes, as: 1, Whole milk; 2, whey, that is, whole milk minus casein and fat; 3, skimmed milk, i. e., whole milk minus fat and a small amount of casein; 4, butter-milk, really the same as skimmed milk, but usually a term applied to soured skimmed milk.

Bacteriologically milk may be separated into classes, as: 1, Clean milk, i. e., free from bacteria; 2, pasteurized milk; 3, sterilized milk; 4, putrefactive milk, i. e., milk containing putrefactive bacteria; 5, pathogenic milk, milk containing pathogenic bacteria; 6, lactic acid milk, i. e., sour milk—(a) due to the presence of lactic acid bacteria with or without the presence of yeast, free from pathogenic and putrefactive bacteria, and (b) due to the presence of lactic acid bacteria with or without yeast, but accompanied by pathogenic, putrefactive, and harmless bacteria.

If we want to use soured milk we should demand: 1, Clean, whole milk. This is a necessary prerequisite if we wish to avoid the necessity of pasteurizing or sterilizing the milk before we start the process of souring. 2, The milk should be skimmed fresh, preferably by mechanical centrifugal separation immediately after chilling, subsequent to milking or during the process of chilling. 3, If the milk is not free from pathogenic or putrefactive bacteria it must then be sterilized, to put an end to the growth of pathogenic and putrefactive bacteria, and to enable us to control the results of our subsequent inoculation without the interference of undesirable organisms. 4, The milk should then be inoculated with an exact dose of biologically standardized bacteria. Probably the inoculation with bacteria should be accompanied by inoculation with known cultures of yeasts. The yeast is necessary: 1, To inhibit the overgrowth of pathogenic and putrefactive bacteria; 2, to add flavor which cannot be obtained without it, presumably by the production of aromatic substances such as esters; 3, to attack milk sugar after lactic acid has been formed in the milk, and produce alcohol and carbonic acid gas, which are valuable assistants in the digestion and absorption of milk and in making milk tolerated by irritable and congested mucous membranes.

It is believed that yeast cannot ferment milk by itself, but needs the preparation of the milk by lactic acid bacteria before it can itself be effective. Bacteria are necessary: 1, To prepare for the action of yeast; 2, to form lactic acid to an amount of, in some instances (e. g., *Bacillus bulgaricus*), as much as 2.8 per cent. of lactic acid; and, 3, to break up the proteid.

The yeasts which ferment milk rarely, if ever, cause disease processes, and their selection depends upon the flavors, the carbon dioxide, and the alcohol which they develop, and their availability for distribution and preservation.

The bacterial flora of the feces of humans and all domestic animals normally contains lactic acid souring bacteria, and the so called natural souring of cows' milk is due in all probability to the infection of the milk with the dust from stable manure.

Most pathogenic bacteria will produce lactic acid souring in milk. Pathogenic and nonpathogenic cocci produce lactic acid souring of milk. It is apparent then that the bacteria to be used for souring purposes must be selected from among the nonpathogenic varieties, and among these preference is to be given to those which produce a large and constant amount of lactic acid. At present the demand is apparent for a distinction between pathogenic and nonpathogenic cocci appearing in cows' milk, as some

\*Read at a meeting of the Society of the American Medical Association, December 4, 1906.

are useful, but all are at present under suspicion of being pathogenic.

After lactic acid souring or fermentation has proceeded to a certain point putrefactive processes get the upper hand, if putrefying bacteria are present in the milk used for souring. Some of these bacteria ferment lactic acid and destroy the proteids in the milk; thus at the same time we have an injury to the nutritive power of the milk and a neutralization of the useful acidity, so it will appear that a milk which at one time would be valuable and safe, at a little later date would have lost much of its value and some of its safety as the result of impure inoculation or of inoculation of unclean milk.

In inhibiting the growth of harmful bacteria in the milk there is no positive proof whether the yeasts or bacteria are more efficient, the important point being, apparently, a constant and considerable production of lactic acid to hold other microorganisms in check.

The mere presence of cocci in milk or in the "starter" or bacterial dose used to sour milk need not be considered as harmful or necessarily detrimental to the usefulness or safety of the milk. The value of soured milk will depend, then, upon the purity of the original supply, the promptness and cleanliness of its subsequent handling, the constancy of the amount and quality of the dose of the "starter," or activating combination of yeast and bacteria, the limitation of the resultant fermentation at the proper point, and the subsequent care of the milk at a constant low temperature.

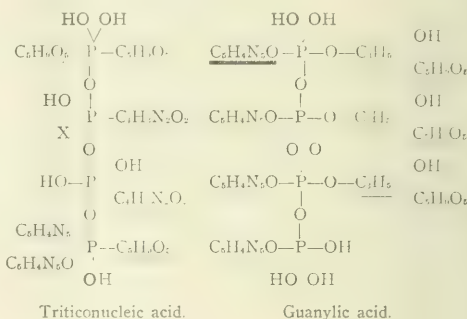
If we are to introduce soured milk into our households, as there is good ground for believing would be of advantage, or if we are to rely upon its use in the prevention or treatment of disease, we must not rely upon haphazard infection with undetermined amounts or kinds of yeasts or bacteria, but we must demand at least as high a standard of purity as is expected in whole milk, and as exact a control of the yeast and bacteria to be used as is maintained in the production and dosage of diphtheria antitoxine or tuberculin.

For facts which I believe to be correct as they are above presented I am indebted to Professor F. C. Wood, Dr. Hans Zinsser, and Dr. Charles E. North, who kindly answered my questions and put me right in matters in which they could speak with authority.

120 EAST SIXTY-SECOND STREET.

long suffered and continues to suffer from unfounded hypotheses which time will not permit me to specifically refute on this occasion.

Uric acid is not a product of the catabolism of proteids in general. It is a product formed by the destructive metabolism of a particular class of substances more or less closely related to proteids and usually found in combination with them; namely, those substances into the composition of which nucleic acids enter. As to what nucleic acids are, I may explain that they are organic compounds of a complex phosphoric acid containing in combination with the phosphoric acid, purin bodies and possibly other organic compounds, notably the pyrimidine and carbohydrate groups. As illustrative of their nature we have two nucleic acids which have been successfully studied and the composition of which is provisionally indicated by the following formulæ:



Triticonucleic acid has been isolated from the wheat embryo. The phosphoric acid portion is a combination of four molecules of orthophosphoric acid in which hydroxyls are replaced by: (1) Two molecules of purin bodies; (2) three molecules of the pentose sugar, l-xylose; (3) two molecules of a pyrimidine body, uracil; and (4) one molecule of an unidentified base, designated x.

In the formula the first, second, and third bodies enumerated are underlined by one, two, and three lines, respectively.

Guanylic acid is the nucleic acid obtained from the pancreas. It is made up of a phosphoric acid portion, much the same as in triticonucleic acid, with which are combined: (1) Four molecules of a purin body, and (2) three molecules of a pentose sugar united to the phosphoric acid by means of an intervening glyceryl radical. I have underlined the purin body once, the pentose twice, and the glyceryl radical three times.

Nucleic acids, differing in detail, but, so far as we know, similar in type to these illustrative examples, exist in the body almost wholly in combination with simple albuminous substances, forming the nuclein and nucleoprotein compounds that are present in all living cells, and, indeed, make up a large portion of the cell nucleus. Their interest to us at this time is that as a result of destructive cell metabolism, the nucleic acid compounds yield purin bodies which, as we have seen, enter so prominent ly into their composition.

#### URIC ACID; THE FORMATION, ELIMINATION, AND EFFECT ON THE GENERAL SYSTEM.\*

By E. E. SMITH, M. D., Ph. D.,  
New York.

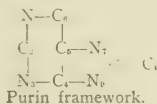
Professor of Physiology and Organic and Biological Chemistry in  
Columbia University, School of Medicine.

In directing your attention to the trinity of subjects assigned to me for this evening, I ask you at the outset that during this presentation you entirely rid your minds of previous theories, in order that the views here considered may make their own impressions upon your judgments. The subject has

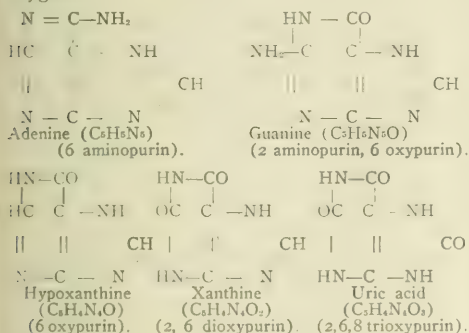
\*Presented at the New York and Connecticut  
Society, November 27, 1907.



The purins are closely related to uric acid, and, in fact, are transformed in the body into uric acid, itself a purin. In order to understand these changes we must consider the structure of the purins. They are all constructed on a plan most readily understood by considering their relation to the purin framework, representing the positions of the carbon and nitrogen atoms in the purin molecule:



For convenience of reference, the various positions in this framework are numbered from 1 to 9. Thus, we have the following purin bodies, which have been obtained from animal substances and whose structures are built up by substituting in the positions indicated the amino ( $\text{NH}_2$ ) group and oxygen:



The chemical changes by which these closely related purins are transformed into uric acid consist of two stages. First, the deamidizing of adenine and guanine, by which change the amino groups are replaced by oxygen, and there results, in place of the adenine and guanine, the closely related hypoxanthine and xanthine. Second, the oxidation of the hypoxanthine and xanthine, by which change these latter take on oxygen, and are directly transformed thereby into uric acid.

In order to fully appreciate the formation of uric acid in the body it is necessary not only to know the chemical transformations which we have now traced and which result in uric acid formation, but also the factors operative in producing these changes. Recent years have led biologists to the generalization that the chemical changes which constitute the activity of living cells are facilitated through the agency of those catalytic substances known as enzymes. It has been only in comparatively recent time that the name enzyme has suggested to us more than the activities of alimentation; now, there is good reason to believe that these agents are concerned in practically all the chemical changes of the body—in the constructive changes of metabolism by which the tissues are maintained and the destructive changes by which they carry on their work.

In purin catabolism five classes of enzymes may be concerned:

1. Proteolytic enzymes, which act upon the proteid compounds of nucleic acid, liberating the latter.
2. Nucleases, which facilitate the breakdown of nucleic acid with the liberation of purins. Of the importance and wide distribution in the tissues of these enzymes there can be no doubt, but specific knowledge of the nucleases is limited.
3. Amidases, which are concerned in the deamidizing of the aminopurins. These enzymes have been carefully studied. Not only is their existence known to us, but difference in action and distribution in various animals has been discovered. They have thus far been found in the spleen, liver, lung, muscle, thymus, and suprarenal; not in the intestines, blood, or kidneys.

4. Oxidases, which facilitate the oxidation of hypoxanthine into xanthine, and, subsequently, xanthine into uric acid. This enzyme is found in spleen, liver, muscle, and lung. Its action has been repeatedly demonstrated.

5. Uricolytic enzymes, found especially in the kidney and liver, and in lesser amount in muscle and bone marrow, the action of which is concerned in the processes by which uric acid, formed by the chain of chemical transformations which we have traced, is in turn destroyed—that is to say, oxidized to simpler products.

In the foregoing presentation of the purin origin of uric acid I have spoken of its derivation from the nucleic acid constituents of body cells. Uric acid from this source is designated as endogenous in contradistinction to exogenous uric acid, derived from the purins by changes entirely similar to those we have considered, but differing in origin in this particularly, namely, that instead of being derived from body cells it is formed from the purin containing constituents of the food. This is not only a possible source of uric acid formation, but a source in fact, one which under some circumstances may yield as much, or even more, than the endogenous uric acid. The distinction of endogenous and exogenous uric acid is, then, of practical as well as theoretical importance.

There remains to consider a third possible mode of formation, namely, the synthesis of uric acid. We know that in growth nucleic acid and its compounds may originate from purin free material, such an origin being, of course, necessarily synthetic. Why, then, may not uric acid be regularly formed in this way in man? The possibility becomes more plausible when we realize that such a mode of origin has been proved in birds. In man, however, no experimental proof of such origin has yet been adduced. Certain facts are explicable on the assumption of this source, but they are equally so on the basis of the purin source. In the absence of supporting evidence the view of the synthesis of uric acid in man remains an unnecessary and unsubstantiated hypothesis. We shall refer to the matter again in discussing the pathological increase of uric acid.

While, as we have seen, the chemical transformations and the dynamic factors of uric acid forma-

tion are pretty clearly appreciated, it must be acknowledged that it is not so well understood in what tissues and organs these changes occur. The wide distribution of the enzymes concerned suggests that uric acid formation is not limited to any one tissue or organ. Indeed, the interpretation of experimental observations calls for the recognition of uric acid formation as a widely distributed occurrence. Certain facts, however, render it probable that the formation of endogenous uric acid is especially abundant in muscle tissue. Thus, increased muscular activity is followed within an hour or two by an increased output of uric acid, while the perfusion of muscle with blood and Ringer's solution shows an increase of uric acid and hypoxanthin after exercise. Again, overfatigue is followed by a very considerable increase of uric acid output. It is probable, therefore, that ordinarily muscle metabolism leads to the formation of hypoxanthin, which by oxidation yields a large portion of the endogenous uric acid. We must also credit the muscles with greatest capacity to destroy the uric acid formed, the kidneys next, and then the liver, for, while muscle weight by weight is less active than the kidney and liver in the further oxidation of uric acid, whereby it is broken down into simpler products, yet the absolute quantity of the tissues in the body seems to give to muscle as a whole the greatest uricolytic capacity.

Considering the matter of the elimination of uric acid, it will be appreciated that the quantity that appears in the urine is not determined by any one circumstance, but is the resultant of the following operative factors:

1. The formation of uric acid (*a*) by endogenous purin metabolism; (*b*) by exogenous purin metabolism; (*c*) possibly in a slight measure by uric acid synthesis.
2. The destruction of uric acid by uricolytic ferments, particularly in muscle, kidney, and liver.
3. The retention of uric acid (*a*) by deposition in the tissues; (*b*) by limited excretory capacity.

In order to reach any conclusion in regard to uric acid elimination, it is necessary to know the amount excreted in twenty-four hours. This period represents the cycle of body changes. At particular hours such marked variation of the amount of uric acid excreted normally occurs as to rob such amounts of any value as indicating the uric acid elimination as a whole. If we pretend to any knowledge of uric acid excretion there is no substitute for accurate information of the quantity eliminated in twenty-four hours. The acidity of the urine is of no value as indicating a uric acid increase, since, on the one hand, uric acid is not a determining factor in the production of urinary acidity, and, on the other hand, the quantity of uric acid does not even vary directly with the acidity, but is quite as likely to vary inversely with it; in other words, the quantity of uric acid eliminated is in no way related to the urinary acidity. Equally valueless are the makeshift methods of determining the fact of uric acid increase without accurate determination of the amount present. Such procedures are indefensible—worse than valueless.

In this day of pretended scientific accuracy and popular misapprehension as to the significance of uric acid, the use of these methods certainly partakes of charlatanism. There is no emergency that demands such pretense of knowledge, and we owe it to our profession, our patients, and ourselves not to employ under the guise of science these or any other mere vagaries of the imagination.

Moreover, in our discussions of the subject and especially our presentations of facts as to cases, we should plainly indicate upon what our statements of the uric acid elimination are based, whether upon facts honestly determined or upon statements merely asserted or not completely established under the thin guise of clinical privilege. It is only by strict adherence to this principle that we can hope to establish the truth and escape the charge of fostering popular misapprehension.

But even the accurate knowledge of the amount of uric acid eliminated does not assure us of its correct interpretation. So many factors may influence the elimination as to call for the exercise of great caution regarding any conclusion as to the influence of a given factor. Considering the factors in the order enumerated, we have, first, the elimination of uric acid formed by endogenous purin metabolism. This amount is found to vary in different individuals from 0.1 to 0.3 gramme or perhaps more in twenty-four hours, but in health is fairly constant in the same individual, due, in all probability, to individual habits of life and to individual musculature. Moreover, within ordinary ranges of diet, there is no material influence of the quantity of food on the endogenous uric acid output, although with great reduction of diet the elimination is reduced.

In certain diseased conditions the production and elimination of endogenous uric acid may be increased. This is strikingly so at certain times in leucæmia, but not always. Again, we are apt to find an increased uric acid elimination, ascribable to increased endogenous formation, during the resolution of a pneumonic exudate; likewise, though inconstantly, in acute hepatic atrophy. In fact, whenever there is much destruction of the nucleoproteids of tissues, an increased elimination of endogenous uric acid is to be looked for, and, oftentimes, is found.

Variation in the amount of uric acid eliminated is due more commonly to the quantity of exogenous uric acid than to any one factor. This, as we have seen, is derived from the purins, free or in combination, contained in the ingested food. In man, about one half of these purins are eliminated as further oxidized products and one half as uric acid.

In order to allow for the fluctuation of the urinary uric acid, under the influence of the variable amount of food ingested, clinicians early employed the ratio of the uric acid to the urea as an index to the uric acid eliminated, taking advantage of the fact that the urea varies directly with the amount of nitrogenous food ingested. Thus, Herter and Smith, expressing the total nitrogen of the urine as urea, found that the uric acid urea ratio ordinarily varies in health from 1:45 to 1:65, being fairly constant in the same individual. As is expected in the

light of our present knowledge, the former figure was obtained with subjects on a purin containing diet, the latter with subjects on a purin poor diet. As we now know, the elimination of uric acid may be increased beyond this limit by the ingestion of food unusually rich in purins. The ratio, then, becomes an index to uric acid elimination only when the character of the diet is considered. The interpretation of the absolute amount of uric acid not only calls for consideration of the character of the diet, but also the exact quantity of purins contained therein. As will be appreciated, with diminishing amounts of ingested food of a given kind, since the absolute quantity of exogenous uric acid eliminated constantly diminishes while the endogenous uric acid remains constant, or nearly so, there is a relative uric acid increase, seen by an approach of the ratio to the unusual or pathological limit. This fact robs the ratio of any pathological significance when the absolute quantity of uric acid is below a certain amount. The writer empirically recognized this amount as 0.4 gramme, a figure which with our present knowledge of the cause of the limitation has remained as the lowest limit permitting any interpretation of the uric acid elimination by aid of the ratio.

Passing for the moment the possibility of uric acid formation by synthesis, we come to the consideration of the influence of uric acid destruction on its elimination. Experimental observations have entirely failed to substantiate the early view of clinicians that uric acid is a product resulting from lack of oxygen to oxidize nitrogenous products to the final, urea, stage. We now know that if the limitation of uric acid destruction causes an increased elimination, that it does so through inactivity of the uricolytic ferments and not through any deficit in the oxygen supply.

There is reason to believe that this factor is of very great importance in the production of the urinary increase of uric acid in many pathological states. This has been established with the greatest degree of probability by the results which follow the administration of large quantities of alcohol. Early experiments by the writer in Chittenden's laboratory showed that the ingestion of much alcohol decidedly increased the elimination of uric acid in dogs; later experiments by Beebe showed that this only occurred when the ingesta contained purins, suggesting that the increased elimination results from a failure of the uricolytic ferments to further oxidize exogenous uric acid formed, this failure, most likely, resulting from hepatic or renal uricolytic insufficiency from the action of the alcohol. The same explanation probably applies to the increased uric acid elimination which has been observed to follow the administration of certain other drugs, notably the salicylates which Herter and Smith and others have found to increase uric acid elimination. Moreover, it affords a reasonable explanation of the increased uric acid elimination observed in the pathological states in which digestive derangements, notably gastrointestinal toxæmias, appear. This includes many cases commonly classed as neurotic, such as neurasthenia, epilepsy, certain insanities, etc.; also many cases of so

called chronic rheumatism, arthritis; in fact, cases of any disease with a gastrointestinal disturbance and presenting a uric acid increase may find an explanation of such increase at least in part in the uricolytic failure to destroy the exogenous uric acid. It is not probable that this failure is in all instances limited to the uric acid of exogenous origin. Thus, the uric acid increase following extreme fatigue is most likely derived from diminution in the destruction of the uric acid formed in muscle and therefore may be attributed to uricolytic failure.

Before leaving the subject of diminished destruction of uric acid by failure of enzyme action, let me return to the part uric acid synthesis may play in those cases of increased elimination which we have just been considering. Peculiarly enough, these are mostly, and perhaps all, cases in which the morbid processes concerned afford products capable of yielding uric acid formation by synthesis. We are, therefore, confronted with the question whether the increased uric acid elimination is in truth due to diminished destruction by uricolytic failure or to increased uric acid formation by synthesis. In a former communication the writer expressed the opinion that the latter process contributes largely to the result. With our present knowledge of the subject, an hypothesis suggests itself that is not only consistent with known facts, but is in keeping with our knowledge of enzyme action. The last few years have revealed the fact that enzymes possess a reversible action. This was first demonstrated with the fat splitting ferments, which, while they split up fat into glycerin and fatty acids in the absence of these products or when present in limited quantity, on the other hand, when the products of the splitting action are present in sufficient amount, the ferment not only fails to exercise its fat splitting function, but actually acts in the opposite direction, combining the glycerin and fatty acid to form neutral fat. There is some probability that the uricolytic enzymes have an analogous mode of action, the relative quantity of the products of uric acid destruction, or, what may be the same thing, products of morbid processes which are capable of being built up into uric acid, determining the rate of action of the uricolytic enzyme, and, perhaps, if the quantity of such products be sufficient, actually reversing the direction of action and leading to the synthesis of uric acid instead of its destruction. If this be so, the products of morbid processes and the overproduction of lactic acid in extreme fatigue increase uric acid elimination by limiting uric acid destruction through a diminution of the action of uricolytic enzymes and possibly in extreme cases by increased uric acid formation through synthesis. The acceptance of this hypothesis does not prevent the recognition of some degree of limitation to uricolytic activity by the direct inhibitory action of drugs and toxins.

It is well established that in a limited number of diseased conditions there is an excess of uric acid in the blood and perhaps the tissues. The cause is uncertain. Diminished renal secretory capacity, excessive production, fixation in the blood and tissues,



are all to be considered as possible causes. There is no proof of diminished renal secretory capacity excepting clinical facts, which are these: First, a diminution in the uric acid eliminated at a time when there is an increase in the blood. This happens for several days before a gout attack and in some cases of nephritis. While the evidence is far from conclusive, it seems to suggest in these cases retention by limited excretory capacity. Yet the possibility of the uric acid being held in the blood in some form that cannot be eliminated must be admitted. At all events, in these cases the formation of uric acid is undesirable, because of the tendency to deposit in the tissue, on the one hand, and the demand on the kidneys to which these organs are unable to respond, on the other. It is to be emphasized, in this connection, that these cases of uric acid retention are numerically relatively inconside-  
rable. The disturbances in uric acid metabolism are in the main due to excessive formation and deficient destruction in the ways we have already discussed.

The third section of our subject, the effect upon the general system, can be briefly presented. Uric acid is possessed at most of a very slight degree of toxicity. Aside from the instances where it is deposited in the tissues, as tophi, infarcts, or as embedded crystals, and produces mechanical injury, it is not known to cause any pathological condition. It is eliminated in increased amount in many pathological states, but this is the result of processes already discussed rather than evidence of its aetiological relation to such disease conditions. But as an infarct or calculus or in the form of irritating crystals we cannot question its injurious action. As to the relation of uric acid deposits to the slight local necrosis which accompanies their deposition there is reason, though inconclusive, to attribute the necrosis to the action of the urates. The fact that joint cartilage has a special affinity for urates seems established, and it is reasonable to believe that the deposition results because of this affinity and because of the excess of uric acid in the blood. The cause of the excess may be increased formation, diminished destruction, and, probably most important, diminished elimination.

26 EAST TWENTY-NINTH STREET.

#### INTERNAL MEDICINE: SOME OF ITS PRESENT ASPECTS AND ACHIEVEMENTS.\*

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The work of much less than a generation has wrought a revolution in medicine. Great discoveries, fundamental in their influence upon the practice of the healing art have followed each other in bewildering succession. The telephone, the phonograph, and wireless telegraphy are not more startling in the domain of physics than antitoxines and vaccine therapy in that of medicine. Amid this great upheaval of fact and theory many attractive questions offer themselves for consideration; ques-

tions which will continue important until practical medicine has adjusted itself to its new and ever changing environment. Instead of selecting any one particular question for discussion, I have decided to ask your attention to some aspects of the special field of internal medicine which has at least kept pace with surgery in the remarkable advances of the last two or three decades. If its conquests have been less dramatic they have been none the less real. To those whose mental vision can see things in their true perspective, disregarding for the moment the glamour of the amphitheatre and the flash of the footlights even the dramatic element is there, although the action is necessarily slow.

An internist, for instance, has to deal with a heart disabled by toxic or other causes, or a brain, or a stomach the functions of which are impaired to the point of disability, or a metabolism in which chemistry has run riot. These are fairly representative problems which he has to meet.

Now, if it were a gallstone in the common duct, or a removable neoplasm anywhere, the patient could be put on the operating table, and the real battle could be over in thirty minutes, although it might take thirty days for the smoke to clear away. But here is an organ that has perhaps suffered from slowly acting causes, which have produced nutritional changes to all intents and purposes structural in character. Associated with these changes there are almost certainly more or less widespread perversions elsewhere. Everything must be taken into account, and a definite plan of campaign marked out. The patient becomes an ally, more or less reliable, and through weeks and perhaps months of waiting the campaign moves on. The result may be, as I have repeatedly seen, and as every clinician of experience has seen, a more or less complete restoration of function, and return to health. The clinical picture before and the clinical picture after present a contrast just as striking as that of any surgical case, the difference being one of method and time. These are facts and points of view which I believe to be worth emphasizing in this connection, because of the tendency (which is fast disappearing) to belittle the methods and results of internal medicine, when, as a matter of fact, no such sentiments should exist on the part of either surgeon or internist, because each needs the help and should rejoice in the achievements and triumphs of the other.

The terms internal medicine and internist or internalist have acquired a new significance within the last few years. The many scientific discoveries and appliances which have been given a clinical application, together with the technical skill and knowledge required in dealing with the more difficult problems of diagnosis and therapeutics have placed internal medicine in the list of specialties. It is just as impossible for the general practitioner to master this field as it is for him to become an expert general surgeon or ophthalmologist. No one can esteem more highly than I do the splendid character and sterling qualities of the family adviser. It is inconceivable that his position can ever be shaken or his functions usurped. He must ever continue to be what he is now, the high priest of the domestic sanctuary across the sacred precincts of which he should pass with uncovered head and unsullied

\*Read at the meeting of the North Western Ohio Medical Association at Toledo, Ohio, December 13, 1907.

heart. He should know something of all the specialties; enough to decide whether or not his patients need the special diagnostic and therapeutical resources of any one of them. This is very generally recognized with reference to surgery, ophthalmology, laryngology, and a few others, and the time has certainly arrived when it should be recognized with reference to internal medicine.

The man who devotes himself exclusively to internal medicine has a field which will tax his abilities to the utmost, no matter of how high an order they may be. This is recognized by the leading medical men of the world. Professor Osler, for instance, in the introductory chapter to the first volume of *Modern Medicine*, says: "The profession should learn to recognize the worker in internal medicine as a man who has to devote so much time to his studies that it is impossible for him to take general practice, and in a way he is a specialist, in the broad sense of the term, like the surgeon." No general practitioner worthy of his calling would think of letting a patient die of a ruptured extrauterine gestation or lose an eye from an acute glaucoma without endeavoring to secure for the patient the best skill available. The conditions and results in such cases as these are so striking that every one, layman and physician alike, recognizes the necessity of prompt action. The limitations and obligations of the general practitioner are clearly defined and fully recognized. Now, if what I have said is correct then the limitations and obligations of the general practitioner with reference to a small percentage of cases falling within the particular domain of internal medicine in its limited sense are equally plain, and the patient, for instance, with a stomach, brain, or heart disturbance of severe and unusual type; or with an obscure nutritional or metabolic disorder is fully entitled to the privilege, if he chooses, of having such advantages as may be derived from such a comprehensive knowledge of the recent advances along these lines, as is only possible to the specialist.

To speak of the achievements of internal medicine is to conjure up the clinical experience of the ages, out of which it is an evolution, and the entire array of physical sciences, which internal medicine has made tributary to its special requirements. To trace the one or catalogue the other would be impossible on this occasion, and only a few illustrations can be offered.

Consider, for instance, the liver in its clinical aspects. One of the jokes which we are fond of cracking at the expense of our predecessors is that for them the liver, like a mantle of charity, covered their ignorance of the real pathology of many of their cases. This was really true, but it is strange how close their intuitions or accident led them to the present attitude of scientific medicine. It is true that the ground is entirely different. Then it was empirical; now it is accurate, scientific knowledge. Taking advantage, for instance, of physiological investigations, we avail ourselves of the phenomena of alimentary levuloseuria, to which I will refer more at length later, as an accurate test of the very important glycogenic functions of the liver, which it is believed bears a very close relationship to its antitoxic function. The significance of the

last named function is established by a variety of facts, clinical and experimental. I may mention the much greater effect produced by almost any toxic material thrown directly into the general circulation by the subcutaneous route, than when reaching it through the portal circulation and liver; and especially the phenomena of the Eck fistula, by means of which the portal blood is carried past the liver into the inferior vena cava, thus entirely robbing it of the detoxicating processes of the liver cells, and leading in consequence to the most profound auto-intoxication, as shown by ataxia, epileptiform and tetaniform spasms, blindness, etc. While these different liver functions (as well as others of which we know little or nothing at present) are distinct entities, yet they must be mutually more or less interdependent because of their anatomical associations. It has been shown, for instance, that if a small twig of the hepatic duct is ligated the glycogen disappears from the lobules from which it is derived. The contention, therefore, of von Noorden and Straus that jaundice, which is probably always due to obstructive disease in the biliary passages, does not interfere with the glycogenic function, must be received with reservation. It will thus be seen that, taking advantage of data such as those just recited, together with other quite familiar facts relating to the biliary and other functions of the liver, we are able to attack the associated clinical problems along clear cut lines in a manner which would have been impossible a generation ago.

The clinical study of the heart offers another example of the striking progress made in so many departments of internal medicine. From Laennec to Mackenzie, less than a century, reads like a romance. It was a great advance when the normal sounds of the heart could be heard and interpreted, and still more when pathological variations were recognized by a combination of clinical study and work in the autopsy room. Step by step the great work has proceeded, and is proceeding. The introduction of graphic methods constitutes the greatest single step, purely clinical in character, since the time of Laennec. By means of these methods several cardiac events can be simultaneously recorded on moving slips of paper. The rate of motion being known, the absolute time occupied by these events and their time relations to each other can be accurately determined. A comparison of these findings in pathological cases with those which normally prevail gives information of the highest value to the clinician. It has been found, for instance, that the ventricle should contract within a certain average time after the contraction of the auricle. The lengthening of this period, which can be accurately measured whenever a recordable pulsation exists in the jugular vein, may be the first indication of Stokes-Adams disease, and may probably exist long before the characteristic syndrome appears. These methods are borrowed bodily from the physiological laboratory, as is the determination of blood pressure, variations in which are not only of great pathological importance, but have been brought to a greater or less extent under the direct therapeutical control of the clinician.

Neurology offers striking examples of the remarkable progress which has characterized internal medi-

cine in recent years. The variations of the electrical reactions of muscles, by means of which we are able to distinguish between the peripheral and central location of a lesion of the motor apparatus which is causing a motor paralysis, may be mentioned as a noteworthy application of physical laws and physiological phenomena to the elucidation of clinical problems. Such routine procedures become commonplace, and we lose sight of the profound scientific knowledge, the laborious research, and the logical analysis that have made them possible.

In like manner the localization of brain lesions, which is now possible in many cases, marks another great triumph of diagnostic methods based upon experimental and morbid anatomical studies. The examination of the cerebrospinal fluid obtained from puncture of the lumbar spinal canal, or general ventricular cavity of the brain, often gives accurate knowledge of the highest value. The intraventricular pressure can be directly measured, while the cytology and bacteriology of the fluid may easily clear up the pathology of an otherwise obscure case. And so on through chapter after chapter of clinical research, which has built the imposing structure of modern neurology, a department of internal medicine large enough and complex enough to easily accommodate the energies of any one.

The diseases of metabolism form a group the recognition of which as such would not have been possible a few years ago. Their importance is indicated by the prevailing view, which appears to be well grounded, that every function of every organ and tissue of the body is dependent upon certain chemical processes, the correct performance of which within the range of fairly well defined physiological variations is absolutely essential for the maintenance of that state which we call health.

Perversions of these chemical processes constitute disease, the manifestations of which may vary from transient languor to a rapidly fatal coma; from a fugacious pain in a nerve trunk to a widespread, multiple neuritis or a myocarditis or a nephritis. The whole subject constitutes one vast, dark continent, which has been explored a little here and a little there, with most encouraging and even at times brilliant results. Carbohydrate metabolism may be mentioned as one of the most important aspects of the entire subject, because of its essential relation to the dynamics of the body, and the consequently large quantities in which carbohydrates are taken. After absorption their transformation by the liver into glycogen, and their ultimate oxidation, or, as it is termed, glycolysis, are the two clinically important facts. The failure of the last named function is the basal fact in diabetes mellitus. It is frequently impaired in the absence of the outspoken diabetic syndrome, and can be directly tested by the presence or absence of alimentary glycosuria after giving definite amounts, usually 100 grammes, of glucose. This is an important point in the study of chronic nutritional disease.

Within a few years we have solved the problem of clinically determining the glycogenic function of the liver by the administration of sufficient levulose to produce glycosuria. If this function of the liver is intact the levulose will be converted into glycogen, which is dextrorotary; if not, the levulose passes un-

changed through the liver, giving levulosuria, as determined by the polariscope. This is a great advance in internal medicine, giving us positive information of one of the principal functions of this most important glandular organ.

In nitrogen metabolism I will only mention the important discovery that creatinin rather than urea correctly represents destructive tissue metamorphosis; and the rôle that the purin bodies, some of which are undoubtedly toxic, seem to play in morbid metabolism.

Reference should here be made to that phase of metabolism represented by the internal secretions. The thyroid, parathyroid, and adrenal bodies, and the pancreas, through their internal secretions, occupy a position of great prominence in clinical medicine, although it is probable that all other glandular organs in the body furnish similar secretions, with functions quite possibly of equal importance. The investigations of the thyroid bodies has, in the opinion of many, myself included, very nearly cleared up the pathology of exophthalmic goitre and myxœdema. These syndromes are practically identical with hyperthyroidism and hypothyroidism. The cause of these changes in thyroid secretion is of course the undiscovered factor.

By the light of Ehrlich's brilliant generalizations antibodies have been produced in the blood of the lower animals which have a measurably successful therapeutical application as antidotes for the excessive thyroid secretion of exophthalmic goitre. What an achievement, to thus deliberately produce a chemical substance in the blood of an animal which does, without a doubt, combine with and render innocuous another chemical substance produced in morbid excess, with disastrous results, in man. The biochemical law which governs the production and operation of an antibody, antidotal to the active principle of thyroid secretion, is precisely the same as that which produces on neutralizing a bacterial toxine. These chemical bodies have never been isolated, and very possibly never will be; and we know therefore nothing of their chemical constitution, yet we are just as certain of their existence and can therapeutically manipulate them with about the same precision as though they were thus demonstrable. The medical aspects of exophthalmic goitre have been completely changed. In many cases we are getting striking results, although in others but little benefit accrues, indicating differences of pathology not yet understood.

On the other hand, myxœdema and cretinism have yielded brilliant results to thyroid feeding. Few more striking contrasts are ever seen than those offered by some of these patients before and after a course of thyroid treatment.

There is ground for hoping that Addison's, like Graves's, disease may be made to yield to therapeutical efforts based upon our knowledge of metabolism as influenced by the adrenal secretion. In one series of ninety-seven patients, about 17 per cent. were cured and about 32 per cent. improved, in a disease that is otherwise substantially always fatal. In nearly one half the cases no effect was observed. Here again, as in Graves's disease, there are possibly different types presenting unknown but fundamental differences in pathology.



Closely related to metabolic disorders are the phenomena of bacterial infections, and especially the defense of the organism against them. As already indicated, the same biological laws that govern the defensive operations of the animal organism against chemical poisons of metabolic or dietetic origin are concerned in bacterial processes. Antibodies are formed in response to any chemical poison that finds its way into the circulation. The very term poison is, however, open to objection. We know, for instance, that antibodies are formed to neutralize the secretions of the thyreoid gland. This occurs in perfect health while the gland secretion is normal in every respect. Now, it would be absurd to call an essential secretion the absence of which is the cause of so terrible a disease as myxœdema, and a fundamental fact in cretinism, a poison. Yet we have only to turn to Graves's disease to see how disastrous its excess may be. The broad fact which internal medicine possesses as one of its most valuable assets, and which is one of the most striking generalizations of modern science, those of the stellar universe not excepted, is that among the biochemical processes of the body provision is made for the formation of antagonistic chemical bodies capable of more or less completely neutralizing nearly every chemical substance which finds its way into the general circulation. The therapeutical application of these basal laws will widen with our mental vision.

But this is not all. The scheme is not merely defensive, but is offensive as well in the case of bacterial processes. Not only are the bacterial poisons neutralized by antidotal chemical bodies, but the bacteria are themselves directly attacked and destroyed in a variety of ways. I will only refer to one. Ten years ago Denys and Leclef made the remarkable discovery that chemical bodies in the serum prepared microorganisms for destruction by phagocytes. It was recognized as a brilliant scientific discovery but was not supposed to be of clinical interest. To-day, thanks to the labors of Wright and his followers, this great discovery is receiving daily clinical application all over the world, under the title of opsonic or vaccine therapy. We are able at will to increase the efficiency undoubtedly by increasing the amount of those chemical bodies that prepare bacteria for phagocytosis, and which, after Wright, we call opsonins. Its possibilities, especially in the chronic infections, like tuberculosis, can scarcely be overestimated. The technique will, we hope, be ultimately simplified so as to place it on a more practical basis, and permit of its wider use. While its limitations have scarcely been accurately defined, it is safe to say that it has taken a permanent place in the armamentarium of internal medicine.

Such are a few of the achievements of internal medicine, which, in its special sense, is simply clinical medicine specialized by a breadth of knowledge and technical skill, of which that possessed by the general practitioner forms a larger or smaller part according to his mental and material equipment. If time permitted the list could be greatly enlarged, but these are sufficient to indicate the progress already made and the character of the work now being done.

The future is full of promise, and the labor of those engaged in this fascinating but extremely arduous field of professional work will, there is good reason to believe, still further broaden both our knowledge of internal diseases and our therapeutic resources for their control. This is one of the greatest advantages of specialism everywhere. It is the concentration of thought and energy along special lines that has led to the greatest advances in the world's history. It is just as true in medical specialism as elsewhere.

In conclusion I cannot refrain from reproducing a paragraph quoted by a contemporary medical journal from the *New York Evening Post*. Coming from a lay source it is particularly gratifying, and shows a keen appreciation of medical affairs. The writer says: "Some of us forget, too, the developments in medical science due to the incessant labors of the specialist. To him we owe the prodigious advances of medicine and surgery in the last generation, the incalculable alleviation of suffering and the saving of life. The perfection of an antitoxine may take the best thought and energy of a specialist for fifteen or twenty years. The resulting benefits to mankind, as in the case of diphtheria antitoxine, cannot be reckoned in money. An inventor who should expend half the time and skill on a contrivance of infinitely less intrinsic worth might easily win a fortune. But the medical specialist reaps no reward whatever, beyond, perhaps, a slightly increased practice, due to his added prestige. Often, indeed he deliberately sacrifices his practice, or even his life, to the advancement of science. For every new discovery in medicine and surgery, every new specific, every new process or device is at once offered freely to the whole world. The doctor who makes a secret of his drugs or operations is instantly ostracized. Generalizations are dangerous," concludes the writer, "but it is safe to say that no one class of men has given mankind so much and received so little material reward as the medical specialist. His greatest recompense is the consciousness that he is the servant of the ideal."

407 WEST MAIN STREET.

#### INDICATIONS FOR WATER IN CHILDHOOD.\*

By MAX BARBOUR, M. D.,  
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A child is an adult in miniature. All the physiological laws operative in the grownup are similarly operative in the infant, while most of the diseases affecting the adult are also affecting the young. Therefore, all those principles underlying the study of the proper care and treatment, both in health and disease, of the adult patient must likewise be applicable to the study of the care and treatment of the infant patient.

Barring such conditions to which only children are subject, we may safely consider this question from a general standpoint, leaving the particular diseases of childhood for special consideration.

Physiologists tell us that the animal body consists of almost 70 per cent. of water. Admitting this to be true, it would seem plausible to believe that this

\*Read before the League of Medical Societies.

quantity is necessary in order to carry on the normal physiological processes of the animal economy in proper condition. For similar reasons it would also appear plausible that should this quantity in any way be greatly reduced or diminished, either through normal processes of the body—such as exhalation, perspiration, and excretion—or through abnormal processes—such as fevers, diarrhoea, or loss of blood—this lost quantity must immediately be resupplied. Failure to do so will inevitably disturb the normal physiological balance and will result in bodily disorders of various forms.

Should such a withdrawal of water be permitted to be unduly prolonged, the disorders will assume such grave dimensions that life itself may ultimately be terminated. For life cannot be sustained without a constant renewal of all elements requisite for normal physiological processes.

The rôle which water plays in the animal economy is distinct and definite and is vitally important. It cannot be replaced by any other ingredient, and must in itself be of sufficient quantity to be utilized to advantageous purposes. Among its most important functions may be mentioned that it enters into chemical composition with all tissues of the body; and all tissue changes depend entirely upon a sufficient quantity of water. It forms the chief ingredient of all the fluids of the body and maintains a proper degree of dilution. It moistens the variety and serous surfaces and prevents friction and such other symptoms as will result from drying. It furnishes the blood and lymph with a proper fluid medium by which food may be carried to distant parts of the body and the waste products removed, thus promoting normal tissue changes.

Elasticity and pliability of muscles, nerves, cartilage, tendons, and even bones depend mainly on the amount of water they contain. Water also serves as a distributor of bodily heat and regulates the body temperature by the physical process of absorption and elimination. In fact, all protoplasmic activity is greatly impaired and may even entirely cease when a lack of water becomes felt. And truly has an eminent author expressed himself that "the cells of the body are aquatic in their habit." From the cursory enumeration of facts pertaining to the physiological rôle of water in the animal economy, it becomes evident that its normal percentage must at all times and under all circumstances be properly maintained, so that bodily functions be not materially interfered with.

Under normal conditions and in a proper degree of health, this supply is ordinarily furnished partly by the food and partly by the drink we are daily consuming. An overindulgence in the use of water—provided it is not carried to excess—will scarcely, if ever, be productive of any deleterious consequences. Such excess is ordinarily only of a temporary character and is immediately relieved by the increased glandular activity. And, instead of exerting an unfavorable effect, enhances excretion and metabolism. Should this increased ingestion of liquid be continued for some time, its favorable effect will only be augmented and made lasting. For a plentiful supply of water increases the volume of blood, stimulates the activity of the glandular structures, increases the action of the kidneys, and pro-

motes sweating. Hence the tissues of the body will be more abundantly supplied with blood and more readily rid themselves of any dead or inactive tissue cells. The salivary, biliary, pancreatic, and intestinal juices will be increased, and improved digestion and assimilation will result in consequence.

By an increase in the flow of urine, the kidneys are washed and cleansed of any toxic substances that may be found there. Moreover, by taking much water into the stomach, it dilutes the food and helps digestion, or, if the stomach is empty, it washes out of it any possible mucus; and, what is still more important, by its mechanical pressure, excites peristalsis, and, passing into the intestinal tract and acting in a like manner, produces a mild laxative effect. The perspiration is increased and a larger amount of aqueous vapor is exhaled from the surface of the lung. In consequence of these activities, the used up material of the body is speedily removed, and the organism is enabled to take up a larger quantity of new nutritive substances. Body weight is thus easily gained. Hence the popular lay idea that "water is fattening" can well be explained upon this ground.

Contrasting the results attained by a deprivation of water and by a liberal supply of same, we find the following conspicuous facts preponderately in favor of the latter. An insufficiency of water will dry up the secretion of the glands, arrest its activity, and diminish its quantity, thereby inhibiting digestion and other physiological processes; while a plentiful supply will engender increased activity and impart additional tone and vigor. Insufficient water will diminish the volume of the bloodvessels, inspissate the quality of the blood, and lessen the quantity, thereby inhibiting the circulatory power with probable results of forming thrombi in the smaller veins of the distant parts of the body, such as the brain or legs. Should the thrombus lodge in the brain, convulsion will follow, especially in children, and if in the leg, gangrene is apt to set in. A liberal supply of water will prevent such calamitous consequences.

Abundant supply of water increases the elimination of urea and carbonic acid; relieves the kidneys from undue irritation and injury; removes the waste product from the tissue and enhances metabolic activity; while a deficiency of water diminishes the quantity of urine, retains the degenerative tissue products, and causes absorption of ptomain products from the gastrointestinal tract, kidney, and other glands. The advantages derived by a plentiful supply of water cannot, therefore, be overestimated. Its indications are not only clearly defined, but peremptorily imperative.

Fortunately Nature has provided a safe guide by which a deficiency of water is readily detected. The condition of the system known as "thirst" is an exact exponent of the dryness of the tissue and a clear indication for the ingestion of liquid. The individual thus suffering is guided by his personal inconvenience and instinctively supplies the necessary quantity and keeps the body in a normal physiological equilibrium. But the physiological equilibrium can properly be maintained only in the grown ups, who feel their wants and know how to satisfy them. But the matter assumes an entirely different aspect when the question of childhood comes to be considered.

A child cannot in so many words ask for water, nor does it even understand the pangs of thirst. Yet it is clearly certain that the child requires water to carry on the physiological processes of its rapidly growing system as surely as an adult. In fact, it needs more water than the adult. According to Holt and Jacobi, the child requires, proportionately to its weight, six to eight times as much water as the adult.

Considering the physiology of the child, there are sufficient data to warrant the administration of infant's food in a very diluted form, even to the extent of 80 to 90 per cent. According to Holt, such a percentage of water is normally constituting the foods of all young mammals. Its use becomes apparent when we learn that this amount is really needed to dissolve certain ingredients in the food, such as sugar and salts; keep other substances in suspension, such as proteids; and also to emulsify fats.

Another and very important consideration, which is too frequently overlooked, is the child's digestive power. The child's stomach does not secrete as plentiful a supply of pepsin as does that of the adult. And the meagre quantity that is secreted is not always completely utilized, unless a liberal quantity of water is added. This is especially true in artificial feeding, where the albumin will often remain unchanged unless the child will be given some acidulated water.

According to Thompson, "One of the most universal dietetic failures is neglect to take enough water into the system." I have had many occasions to observe the correctness of his assertion. The very frequent occurrence of vomiting in children after having taken the breast I have frequently allayed with no other medicament than the administration of a few teaspoonfuls of water. The water, of course, should, for safety's sake, always be boiled. The idea is ordinarily entertained that the milk is in itself sufficiently diluted and requires no additional dilution. But those who think so forget that when the milk reaches the stomach it turns into curd, which is almost a solid, and with the child's feeble digestive power and with the meagre quantity of pepsin supplied, digestion will be considerably hampered unless water be given. And should this state of affairs continue for some time, irritation and subsequently inflammation of the gastric mucosa will follow.

From these facts we can see the rationality of advising mothers and nurses who take care of children to give them water and plenty of it. A glass of water during the twenty-four hours for an infant of several months is none too much. This amount should vary according to season and to certain physical conditions of the child. During the hot summer months, the child will require much more water than during any other time. In a state of perfect health, the child may receive a little less water, but during certain morbid conditions the quantity should be either considerably increased or considerably diminished.

It is not within the scope of this paper to state the therapeutical value of water in each particular disease, but I will only outline certain indications in a few diseases, leaving the physician to exercise his good judgment in the definite case under his

consideration. The morbid states in which water is particularly indicative are those that are accompanied by pyrexia. Fever consumes a great deal of water from the tissues, diminishes the secretory power of the various glands and especially lessens the secretion of the saliva and gastric juice. It also inhibits the absorbing power of all the mucous membranes. By giving enough water to the child, it will restore the loss sustained through the fever, enhance the glandular activities, and by diluting the food, the gastrointestinal tract will more readily be able to absorb the nutriment and maintain the vitality of the child.

In gastrointestinal disorders, a condition very frequently occurring in childhood, water is of inestimable value. Most of the cases of gastric disorders are due to overfeeding. The pernicious habit of giving the child the breast or food whenever it cries has led to many an ill consequence. Many mothers will not appreciate the fact that "a child may be thirsty without being hungry at the same time." And if food instead of water is given, the delicate stomach of the child will be overloaded, irritated, and inflamed. The treatment is simple—give less food and more water.

In the various forms of diarrhoea, particularly the summer diarrhoea, with stools numbering fifteen to twenty a day, or in protracted and chronic forms of diarrhoea, the reason for administering large quantities of water is selfevident, for watery stools abstract the fluid from the system, diminish the blood pressure, and cause a decided depression in the vital powers. The loss of liquid thus sustained must of necessity be rectified, either by administering water by mouth or per rectum.

By imbibing a quantity of fluid we raise the arterial tension, reinforce the bloodvessels, supply the dried up tissues with the adequate amount of fluid, enhance metabolism and counteract the depressing effect of the diarrhoea. In cases of general inanition or where metamorphosis is very slow, water will prove a decided benefit by increasing elimination of waste products and engender greater physiological activity of the system. In conditions where the urine is scanty and of a high specific gravity, water will wash out the kidneys from irritating substances and protect them from undue injury.

In irritability of the bladder due to concentrated or acid urine, water will prove an unquestionable beneficial remedy. In laryngitis and bronchitis, ingestion of water will moisten the bronchial mucous membranes, liquefy the viscid expectoration, and act as a mild expectorant. There are many other conditions where the beneficial use of water is clearly evident. But they all rest upon the same physiological principle, viz., the endeavor to restore the system to as close a normal physiological process as possible. Upon the same ground and for similar reasons, the use of water should be restricted in all such conditions where it will tend to deviate from the normal physiological process.

Conditions where water in children are contraindicated are but too numerous. Many more are found in adults and especially in the aged. Atherosclerosis, aneurysm, cardiac insufficiency, dilatation of the stomach, etc., are certainly conditions



where abstinence from water is highly reasonable, but childhood being free from such diseases, such contraindications are out of consideration. There are, however, certain conditions where the restricted use of water is clearly advisable. Such cases as edema or pleuritic effusion where the extravasation of fluid into the tissues is great, water is certainly contraindicated. In cases where there is a high arterial tension with congestion or inflammation in certain organs, such as the brain in meningitis, or the lungs in acute lobar pneumonia, an increased ingestion of water will aggravate the condition by additionally distending the bloodvessels, and the withdrawal of water is unquestionably the proper treatment. In fact, in any condition where there is congestion in important organs as a result of acute inflammatory processes, the use of large quantities of water is contrary to good judgment.

Barring such conditions the use of water in children, both in health and disease, is certainly underrated to the lamentable disadvantage of the child. Water being so simple and commonplace a drug that it seems to be below dignity to devote to it any amount of attention. Hence, its proper treatment in our works on therapeutics is sadly omitted. Yet if doctors, nurses, and mothers would give "our little ones" water more often, there would be less occasion to give drugs so often. Between the two, I would rather see the child be the reservoir of the harmless, yet all beneficent, water than a receptacle for an infinite variety of drugs which at best leave but an undesirable impression.

1037 SOUTH FIFTH STREET.

#### CONTRACTED PELVIS AS A CAUSE OF DYSTOCIA.\*

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Actual or relative deformity of the pelvis occurs with sufficient frequency to make it a common factor in causing dystocia during labor. All dystociæ are due to some defect in the powers, the passenger, or the passages, and this latter cause is the least comprehended by the practitioner, yet actual contraction of the pelvis showing from one half to one inch deficiency in the anterior posterior diameter occurs in about 6 per cent. of American born women and a relative contraction is present in a larger percentage. Fortunately both for the woman and the child the degree of contraction is slight. It is, however, these slight degrees of contraction which produce foetal malpositions which result in the dystocia so commonly met. Marked contraction, though rare, is more easily recognized, and the physician is therefore more able to cope with the complication.

The build of the woman, the history of her previous labors, the high position of a tumor, some degree of pendulous abdomen, the malposition of the foetus, and the nonengagement of the presenting part, all point to a disproportion between the passages and the passenger, and should suggest to the attendant the necessity of careful investigation.

The ability to recognize deformities of the female pelvis by pelvimetry is as necessary an accomplishment for the accoucheur as percussion and auscultation is to the internist.

The practitioner and many teachers are wont to discredit pelvimetry, failing to appreciate that its value is relative and suggestive, rather than accurate. For the birth of the child depends, not only on the size of the pelvis, but the size of its head, the degree of its adaptability, the character of the labor pains, and the resistance of the maternal soft parts.

The purpose of these remarks is to briefly sum up our position in the management of labors in contracted or relatively contracted pelves.

Contraction, whether actual or relative, can in most instances be recognized before labor by abdominal examination, noting the high position of the tumor, the marked protrusion of the abdomen (a pendulous abdomen in a primipara is always significant of a misfit), the frequent occurrence of malpositions, the high position of the presenting part, and finally by cephalometry and pelvimetry. In multiparæ the history of previous labor should put the attendant on his guard.

When labor has actually begun, the question which presents itself is, Can this child pass through this pelvis, and how?

Before going into the management of labors occurring in abnormal pelvis, I wish to take up a few minutes by directing attention to some simple points in pelvimetry and cephalometry, both actual and relative, too often passed over by the attendant as scientific rather than practical.

The external conjugate or diameter of Baude-locque simply serves to indicate the probability or improbability of pelvic contraction. An external conjugate of 16 cm. or under always means an anterioposteriorly contracted pelvis. When this diameter is between 16 and 19 cm., the pelvic inlet is contracted in more than 50 per cent. of the cases. When above 21.5 cm., it is almost certain that the inlet is ample.

This diameter, which is measured from the fossa below the spinous process of the last lumbar vertebra to the front of the symphysis, about one eighth of an inch below its upper edge, averages in the normal pelvis 20.25 cm. The relation of the iliospinal 10 inches or 26 cm. to the ilioecristal 11 inches or 29 cm. is all important, for the former should always measure less than the intercristal, in a normal or generally contracted pelvis, while in a flattened pelvis the interspinal is often equal to or greater than the intercristal in length. Occasionally external pelvimetry, and the suggestive data thus gained is unavailable for one reason or another, and the practitioner must fall back on the only reliable measurement in the true pelvis, the diagonal conjugate, which is measured from the summit of the subpubic arch to the promontory of the sacrum; from this the conjugate vera may be estimated by deducting from one half to three quarters of an inch, depending upon the depth, the inclination, and the thickness of the symphysis. It is safer, however, always to deduct three quarters of an inch. A rough, yet practical, way of estimating the true conjugate is to estimate the diagonal conjugate by digital examination, basing such estimate on the ease with which

the promontory can be reached. (If it cannot be or can just be touched with the middle finger, the anterior-posterior may be considered normal, while if the promontory can be reached with the index finger the pelvis is contracted, and the contraction is in proportion to the ease with which the promontory may be reached.)

When extreme accuracy is demanded, as when it is necessary to decide between hebotomy during labor or an elective Cæsarean operation, Hirst's pelvimeter for measuring the distance between the upper outer edge of the symphysis and the promontory, and then deducting the measured thickness of the symphysis, seems to leave but little room for error. The outlet diameters may be accurately measured.

After determining the size of the pelvis, its relative capacity must be estimated by noting the size, compressibility, and malleability of the fetal head, for an normal pelvis may be an insuperable obstacle if the child is large. In primiparæ when there is a normal relation between the head and the pelvis, the presenting part descends into and engages in the pelvic cavity during the last week or two of pregnancy, consequently when the head is not engaged in a primipara at the beginning of labor something must be wrong. *This rule has no exception.* Any of the following causes will prevent the head from being found engaged: a contracted pelvis, a large head, a small child, excessive liquor annui, malpositions of the fetus, multiple pregnancy, and placenta prævia. Vertex presentations are 10 per cent. rarer in contracted pelvis than when the pelvis is normal; abnormal presentations increase in frequency with the degree of contraction. Face and transverse presentations possess a peculiar significance in primipara, as such a malposition always suggests disproportion.

Before labor, Stone's method of estimating the biparietal diameter of the fetal head is of great practical value. He measures the occipitofrontal diameter with a pelvimeter through the abdominal wall, making no deduction for the thickness of the parietes—2 cm. is subtracted from the occipitofrontal if this diameter is 11 cm. or less—and the resultant is the biparietal; when the occipitofrontal is over 11 cm., 2.5 cm. are subtracted.

When labor has begun or is in progress, and the head remains unengaged—with the occiput to the posterior in semiflexion or in some degree of extension, which is always an evidence of dystocia—the attendant may gain an excellent and accurate idea of the relative size of the head and pelvis by adopting the following modification of the so called Mueller's method:

With the patient on a table, anæsthetized, and in the Walcher position, her bladder and rectum empty, the vulva and the hands of the operator properly cleansed, one hand is introduced through the vulva and passed into the vagina, or, if necessary, into the uterus, the head is seized, flexed, and rotated in such a way that the sagittal suture is either in an oblique or the transverse diameter at the brim. With the head held in this position by the vaginal hand, the external hand attempts to crowd it into the superior strait by suprapubic pressure; if it enters and can be made to engage there (the

disproportion; failure to engage usually signifies actual or relative contraction).

When contraction of the pelvis is recognized before labor, the pregnancy may be interrupted before the fœtus has attained its full size by the induction of premature labor, or the pregnancy may be allowed to go to term, and the labor managed along normal lines with postural aid until some complication shall arise to threaten the life of mother or child, or the pregnancy may be terminated by premeditated intervention for the purpose of protecting mother and child, practised before or at the onset of labor, as version, hebotomy, or Cæsarean section.

Every case of labor in a contracted or a relatively contracted pelvis presents such distinct and definite indications, that it is difficult to formulate inflexible rules for its management. The writer's practice in this class of cases is briefly as follows:

If the conjugata vera measures as low as 9 cm., it is a safe plan to induce labor at the thirty-sixth week or thereabouts. Such a child has had but little added risk, and such a procedure is much the safest plan for the mother, for the induction of labor, if done properly, should have no maternal mortality. It will be contended that many women with a conjugate of 9 to 9.5 cm. will deliver themselves spontaneously at term, and while we know this to be true, the majority will experience abnormal delay and difficulty in labor, with added risk to both child and mother. Even in a pelvis with a conjugate of 8.5 cm. I practise induction at the thirty-sixth week and consider it the operation of choice. If, however, the conjugate measures 7.5 cm. or less, premature labor four weeks before term cannot be expected to assure spontaneous delivery, and the viability of the child is less as we get further from term. Cæsarean section, on the other hand, offers the greatest advantages, done at or shortly before term as an elective operation.

If the patient is seen for the first time in labor, or the deformity is not recognized until labor has already begun, it is well to permit the labor to proceed, noting the character of the pains, the moulding and adaptation of the head, and allow, if possible, the engagement of the head by natural forces. It is permissible in most cases to wait for full or almost full dilation of the cervix, noting the woman's pulse, temperature, her general condition, and the height of the retraction ring, and the thinning out or distension of the lower uterine segment, to avoid the possibility of uterine rupture. Should the head fail to engage by natural forces while the cervix is dilating, it is my practice to attempt to fit this head to the pelvis by the modification of Mueller's method already described, taking advantage of the Walcher position during the manipulation—should this fail to secure the entrance of the head into the pelvic inlet, Nature and forceps, in my opinion, should give place to podalic version, when the conjugate is not below 8.5 cm.—as the smaller end of the wedge represented by the child's head is engaged in the contracted inlet, the head may be guided through the successive diameters with great facility, for not only is the vault compressible by the overlapping of the parietal and occipital bones, but by traction of the body and pressure on the head, from above, through the abdominal walls

greater force in the proper axes can be exerted than with forceps. If in the judgment of the operator the danger to the child is too great by version, either because of the large size of the child or because the pelvis is less than 8.5 cm., hebotomy or Cæsarean section must be employed, the latter always in pelvis of 7 cm. or less, provided, of course, that the child is living.

Perforation in contracted pelvis has a large field when the child is dead or dying, particularly when the woman is exhausted and has a high retraction ring. The operation simplifies the delivery and should be elected. It must be remembered, however, that embryotomy should only be attempted in pelvis above 7.25 cm., and is safer as the antero-posterior diameter is larger.

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### THE NERVOUS AND MENTAL MANIFESTATIONS INCIDENT TO SCHOOL LIFE.

BY WILLIAM RUSH DUNTON, JR., M. D.,  
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So much has been written upon the subject under discussion that it would seem useless to spend any prolonged time in introducing it, as doubtless much of the literature is familiar to you. Less than a week ago a paper by Dr. Hollopeter appeared,<sup>1</sup> which had been read several months earlier, in which he makes a special plea for the physician to interest himself in the subject in order to educate the parents to a proper conduct or oversight of the child's mental and physical health. Dr. Hollopeter makes a very interesting comparison between the standards established for certain school grades in 1888 and the present, showing that there has been a considerable advance in the intellectual requirements of school children. He believes—and I think the majority of physicians will agree with him—that there is great danger in advancing the intellectual standards, as a considerable degree of mental overstrain may result, with the consequent mental impairment of the child. In some schools it is possible that the danger line has been transgressed. Dr. Hollopeter makes a special plea for the backward child, alleging that the teacher should bestow greater attention upon him than upon his more brilliant brother, and, as a gauge of the capacity of the child for learning, Dr. Hollopeter suggests that the attention be used, and in this I heartily concur. There are many other good papers upon the subject, and I should like briefly to refer to them, but time does not permit, and it is presumed that a number of them at least have been read by you.

It must be remembered that for a considerable part of the child's school life he is passing through a critical period, that of adolescence, and that overstrain occurring then will usually be attended by far more serious consequences than overstrain occurring later.

Concerning teaching, in *Adolescence*, page xii, Dr. Stanley Hall says: "Reading, writing, draw-

ing, manual training, musical technique, foreign tongues and their pronunciation, the manipulation of numbers and of geometrical elements, and many kinds of skill have now their golden hour, and, if it passes unimproved, all these can never be acquired later without a heavy handicap of disadvantage and loss. These necessities may be hard for the health of body, sense, mind, as well as for morals, and pedagogic art consists in breaking the child into them sometimes as intensely and quickly as possible with minimal strain, and with the least amount of explanation or coquetting for natural interest, and in calling medicine confectionery. This is not teaching in its true sense so much as it is drill, inculcation, and regimentation. The method should be mechanical, repetitive, authoritative, dogmatic. The automatic powers are now at their very apex, and they can do and bear more than our degenerate pedagogy knows or dreams of. Here we have something to learn from the schoolmasters of the past back to the Middle Ages, and even from the ancients." I hardly think that the majority of physicians will agree with Dr. Hall in his opinion, and personally I feel that it is through just such means that the child is subjected to overstrain.

In all probability an inquiry made among this company for the purpose of determining what is considered an ideal school life would bring forth many different opinions, and we should doubtless have some difficulty in coming to an agreement as to what constitutes the ideal conditions under which a child should study, but I think that the majority of persons who have investigated or thought upon this subject will agree that attainment of the following will go far toward reaching an ideal. In the first place, after having submitted to all laws of hygiene by providing a healthy place in which the child may study, we must see that the hours of study are not too long and that they are interrupted by periods of play, which not only permit a relaxation of muscles but also a relaxation of the attention. The child may not be conscious of any feeling of effort, but we know that to a greater or lesser degree it is present, and must be ended before it has gone too far. Second, the manner of learning should follow as closely as possible the natural method of thought, and by association "facts and figures" should be acquired rather than by arbitrarily making memory impressions, as most of us learned the multiplication table. As an illustration of how little the child may learn from this arbitrary memory method I would say that some time since I was talking with a teacher in this city concerning the progress made by a child in whom I happened to be interested, and who had, up to her thirteenth year, been educated in one of the public schools of Pennsylvania, and was told by the teacher that, while the child apparently did fairly well, in reality she did not, and, as an example of her comprehension of history, he stated that, while this pupil knew that Sir Walter Raleigh was one of the courtiers of Queen Elizabeth, she probably did not appreciate the fact that Sir Walter Raleigh was a man. This child was apparently bright and most certainly could not be classed as mentally defective, so that I am forced to conclude that the method of instruction in her case was not what was required. As a third require-

<sup>1</sup>Published in the *Journal of the American Medical Association*, New York and Chicago, Vol. 1, No. 1, p. 1, 1917.



ment of ideal study conditions, there should probably be not more than twenty nor less than ten pupils under the charge of a teacher, although on this point I do not speak so positively, as I have not had an opportunity to experiment; but it seems to me that a teacher cannot well control more than twenty scholars, and a less number than ten does away with a feeling of rivalry or of companionship, which may be made of considerable value. Fourth I would place the teacher, not because I do not believe he is most important, but because experience has proved that, even although he may have mannerisms or methods which are distinctly bad, we find that the pupils learn despite them. The personal influence of a teacher is tremendous, and in many cases serves to make or mar the pupils, but in just as many perhaps this influence is without any but temporary effects. In our list of requirements for an ideal school life it seems that the teacher occupies a varying place. If we can have a perfect one he should be placed first, but if he has imperfections he may be placed last.

In this discussion it is hoped that we physicians may learn something from the teachers in order that we may instruct parents, and also that we may be able to show the teachers how certain diseases may have mental effects which interfere with the pupil's power to acquire knowledge. Besides the introduction of the subject, my own part includes mention of the nervous and mental diseases which we may find in school children, and which have a direct effect upon the pupil's ability to learn or which may affect his fellows.

In the first group I would place chorea, which is undoubtedly the most important of the nervous diseases met with among school children, because it is so frequent, and because parents and teachers do not seem to recognize the fact that the subject of even the mild forms shows defects of memory and attention which are sometimes interpreted as being due to sulkiness or ill temper. It is the wisest course to withdraw the child from school, as his best interests are thus served, and the other scholars are not liable to develop tics or habit spasms, as they may, by watching his movements.

This last statement also applies to the subject of tics and of epilepsy, and probably it is the companions of the subjects of these last diseases who should be most considered by the teacher rather than the individuals themselves. Both the ticer and the epileptic should be so seated that they are not observed by the other pupils, and if the epileptic has an attack during school hours he should be laid upon his back, the clothing loosened about his neck, precaution taken to prevent his biting his tongue by the insertion of a piece of wood or some other form of mouth gag between his teeth, and after the convulsion has subsided he should be permitted to rest quietly until consciousness returns and he is able to go home. The resumption of the interrupted school work as soon as the convulsion has subsided will go far toward dispelling the mental shock to the pupils occasioned by the convulsion. Should the epileptic have frequent attacks, he should not be allowed to attend the general school, but should be forced to attend a special school or special class. The teacher should bear in mind that frequently these patients

have an irritable disposition, and that following the convulsion there may be a condition of automatism in which the patient is not responsible for his acts. It should also be borne in mind that there is usually mental dulling, which is frequently increased, I regret to say, by the injudicious administration of bromides by the physician, and that the epileptic must therefore be regarded in many instances as a backward child.

Hysteria with its multiform manifestations may be encountered, and the teacher can wield a tremendous influence for good in these cases by inculcating habits of proper mental hygiene.

Nervous exhaustion, or neurasthenia, may be met with, and here the most conspicuous symptom may be the tendency to fatigue, both mental and physical.

These are the principal nervous diseases which the teacher may encounter, and in all of them the attention may be used as an index of the power of the child to learn, although the memory will also serve as an additional point for observation.

Of the mental diseases but two are commonly met with among school children, and these are imbecility and dementia præcox. Of the former there may be all grades, from the one who is but little above the idiot to the one who is bright intellectually but deficient in moral sense, the so called moral imbecile. It is a condition which is unfortunately fairly common and easy to recognize, so that it needs but to be mentioned.

Of dementia præcox, on the other hand, there is so much that should be said that I am not going to make the attempt, as there is not sufficient time, and instead I am going to recommend that you all read a paper by Dr. Smith Ely Jelliffe entitled *The Signs of Prædementia Præcox: Their Significance and Pedagogic Prophylaxis*, which appeared in the *American Journal of the Medical Sciences* for August, 1907 [cxxxiv, p. 157], and which contains all that I want to tell you and more. I am sure that by a perusal of this paper you will be helped more than you could by any brief résumé of the subject which I would have to give you at the present time.

**Proposed Chinese College of Medicine.**—Consul W. T. Gracey writes to the Department of Commerce and Labor from Tsingtau that it is reported that, according to the wishes of Viceroy Chang Chitung, a college of medicine is about to be opened at the Chinese capital. Preliminary plans include the following measures: As the school is to afford the highest medical training for the young men of the entire Empire, it shall not employ men on its faculty who do not come with the highest possible recommendations. In accordance with Chinese ideas the course is to be divided into three years of old Chinese medical practice and six years of modern Western training. At the end of these nine years there is to be a thorough examination, and then three more years of study and trial practice shall be demanded before the students shall be qualified doctors. This examination must also be passed by people who are now practising on certificates from existing medical schools. No one who does not hold a literary rank of a fixed grade (*shên*) shall be allowed to take these examinations, regardless of where he studied.

## Our Readers' Discussions.

## A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXX.—How do you distinguish alcoholic stupor from other conditions resembling it? (Closed January 15, 1908.)

LXXI.—How do you treat gallstone colic? (Answers due not later than February 15, 1908.)

LXXII.—How do you treat fracture of the patella? (Answers not later than March 10, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXIX has been awarded to Dr. Maurice A. Walker, of Dillon, Montana, whose article appeared on page 164.

## PRIZE QUESTION NO. LXIX.

## THE TREATMENT OF POST PARTUM HÆMORRHAGE.

(Concluded from page 216.)

Dr. Glenn I. Jones, of Boston, remarks:

My experience has taught me that this formidable sequel is not so rare as to permit the obstetrician to attend a woman in labor without being fully armed to cope with it.

*Precluding and Preventative Measures.*—A thorough knowledge of the causes of this most frightful of obstetrical complications precludes the proper appliance of preventive measures, which is better than cure.

The predominating causes tending to post partum hæmorrhage and the conditions that are treated to cure the condition are: 1. Incomplete separation of placenta. 2. Retention of cotyledon. 3. Total absence or deficient uterine contraction. 4. Cervical lacerations. 5. Distension of bladder or rectum (causing sympathetic uterine inertia). All the other ætiological factors are simply predisposing conditions to one of these causes.

A thorough history of previous pregnancies and labors, an accurate, detailed gynecological and obstetrical examination of patient before impending labor, and an intelligent consideration of woman's general physical condition should all be of incalculable value in the preventive and precluding treatment.

The time of occurrence of hæmorrhage suggests the cause of bleeding, and I shall consider the condition as primary and secondary.

Primary hæmorrhage occurs before extrusion of placenta after childbirth, and is due to incomplete separation of placenta or cervical tears.

Secondary hæmorrhage occurs after expulsion of placenta, and is generally caused by retention of cotyledon, inertia uteri, or cervical tears.

A firm and permanent contraction of uterus, with hæmorrhage, occurring immediately after birth of child, before placental delivery, indicates bleeding from a severe tear. On the other hand, if uterus does not firmly contract and retract, bleeding must be looked upon as due to partial separation of placenta, retention of cotyledon, or atony of uterine musculature.

Some cases of post partum bleeding undoubtedly occur through the overconfidence of the accoucheur, who, accustomed to the monotony of normal labors, overlooks the following minute rules in the management of the third stage:

a. Observe the condition of uterus after birth of child.

b. Avoid resorting to Crede's method of expulsion until condition of fundus indicates complete separation of placenta.

c. Knead uterus immediately after delivery of child, to prevent relaxation.

d. Examine placenta immediately after expulsion to ascertain its integrity. If any defect is observed, immediate digital exploration of uterine cavity with removal of remnants should be done.

e. Empty bladder and rectum before labor.

*Actual Hæmorrhage.*—Hæmorrhage having occurred it is imperative that it be checked immediately, since the amount of blood lost is rapidly dangerous to life.

1. Before extrusion of placenta, (a) knead fundus firmly; (b) if uterus does not respond, placenta should be expressed by Crede's method and kneading continued; (c) this failing, manual removal with digital curettage becomes necessary; (d) have nurse or assistant make firm pressure over abdominal aorta in region of bifurcation.

2. After extrusion of placenta, ascertain cause and institute proper treatment. If due to lacerations, ligate bleeding vessel and do primary repair. If indications point to retention of particles of placental tissue, remove by digital curettage.

In all cases give fluidextractum ergotæ 5j by mouth and 3ss subcutaneously (in thigh) immediately. Follow this by morphine sulphate gr. ¼ subcutaneously. Have nurse or assistant massage breasts, lower head of bed, and knead uterus vigorously.

If hæmorrhage is not controlled, hot intrauterine douches of decinormal saline solution or hydrargyri chloridum corrosivum 1 in 40,000, followed by saline solution at temperature of 110° to 115° F., should be given until return contains no tinge of blood. This agent acts most efficiently, producing hæmostasis and irritating the uterus to forcible and permanent contraction.

Hæmorrhage persisting after these measures should be treated by tightly packing the uterus with sterile gauze.

Bimanual compression, producing temporary ante-flexion, limiting the cavity of the uterus, and stimulating contraction, is sometimes quite efficient in allaying the hæmorrhage. In all manipulations requiring the introduction of foreign substances into the uterine cavity the most rigorous aseptic tech-

nique should be observed. After hæmorrhage is checked the patient should be kept absolutely at rest, the foot of the bed elevated, abdominal binder firmly adjusted to abdomen, and fluidextractum ergotæ ʒj administered one hour after delivery.

If the loss of blood is sufficient to cause alarming symptoms in patient's general condition, prompt resort to diffusible cardiac stimulants is essential. Convalescence is always hastened by the administration of decinormal saline solution, fʒiv with spiritus frumenti fʒij by rectum every three hours. For the secondary anæmia following the loss of blood, iron and arsenic should be given in combination, such as:

R Liquoris acidi arsenosi, ..... f5 j;  
Tr. ferri chloridi, ..... f3 vj;  
Acidi hydrochlorici dilut., ..... f3 iv;  
Aq. menth. pip., ..... q. s. ad f3 vj.  
M. et Sig.: A dessertspoonful every four hours.

*Dr. E. William Ryon, of Wilmington, Del., observes:*

Post partum hæmorrhage is an acute condition, and must be met, in a majority of cases, by heroic measures. I will divide the treatment into prophylactic and active treatment.

*Prophylactic.*—If you get the history of a hæmophilic, give calcium chloride for three months prior to delivery, and be prepared for trouble. If patient is anæmic, run down, and poorly nourished, give iron manganese and tonics, advising fresh air, exercise, and nutritious diet.

If the patient is syphilitic, give the specific treatment all through pregnancy.

During the second stage of labor we should neither make a rapid delivery nor tedious one, unless special causes demand otherwise. Be careful to avoid great tension on the cord, looking out for cord around neck or body or limbs. Make a slow and careful delivery of the after birth by Credé's method. Don't give too much chloroform or ether.

2. *Active Treatment.*—Mechanical.—Grasp the uterus from the outside, as in Credé's method, and run a stream of hot water (120° F.) into the vagina.

If these measures do not control the hæmorrhage quick enough, place the hand into the uterus and clean it out, removing clots, secundines, etc., at the same time running our stream of hot water into the vagina. Remove hand from uterus during contraction and introduce our hot sterile water (120° F.) into the uterus. While working in the uterine cavity with the hand and injecting hot water, keep the other hand over the uterus on the abdomen, as in Credé's method. Most cases will be controlled by these measures, but if not, proceed to pack uterus and vagina with sterile gauze, removing it in about six hours. Ice, vinegar, and acetic acid are used as a styptic and (ice) to promote vascular contraction, but are not so good in general practice because of difficulty of being sure of their sterility.

While we are attending to these measures we have the pillows removed and the buttocks elevated or foot of bed raised. Also hot water bottles are placed around patient.

*Medicinal.*—We should try to give the medicinal

treatment at the same time as the mechanical. Give hypodermatically some reliable preparation of ergot. Also strychnine and atropine hypodermatically, being guided by patient's condition, giving boldly in urgent cases. Whiskey, camphor, aromatic spirits of ammonia, caffeine, etc., all have their place, but we usually use those stimulants we have at hand and give them hypodermatically, for we have little time to send out for medicine in most cases.

I have found enteroclysis and hypodermoclysis of normal salt solution valuable in nearly all cases. Venoclysis and transfusion are excellent in severe cases, where much blood has been lost and where it is possible to give them.

The after treatment consists of nutritious broths and meat juices and other easily assimilable foods; stimulants in most cases, carefully regulated, and replacement of lost blood where great amounts have been lost. The treatment is prescribed presuming that we have no great tears or trauma of parts. If the circular artery of cervix is torn or other vessels ruptured, keeping up the hæmorrhage in spite of our measures, we should at once proceed to close the tear by suturing.

Other cases of post partum hæmorrhage from exceeding exceptional causes are hardly frequent enough to call for discussion in this paper.

*Dr. Alfred T. Hawes, Lynn, Mass., says:*

The mortality of the third stage of labor is greater than that of the other two stages. Since hæmorrhage is probably the most common emergency of this stage, the physician should be fully prepared, before he enters the lying-in chamber, to meet this emergency with proper treatment.

The most important is the preventative treatment. If the possibility of hæmorrhage is kept constantly in mind, there are many things which can be done which will make its occurrence less likely. The labor should be carefully watched, and the patient should not be allowed to go too long without assistance. Exhaustion of the patient or of the uterus is productive of inertia of the uterine muscle.

During the second stage, there may be strong contractions of the uterus, but the patient cries out instead of using her abdominal muscles and bearing down. The contraction of the uterus, without the help of the abdominal muscles, may not advance the head and the condition may tend toward exhaustion. Relief may be obtained by the administration of an anæsthetic for a few moments, and as the patient comes out from the influence of the anæsthetic she will use her abdominal muscles to good advantage.

As soon as the shoulders are born, one hand should follow down the fundus and make sure that the uterus is contracting. While the physician is tying the cord and attending to the baby, an assistant should keep a firm hold on the fundus. After the baby is born, the quality which is required of the physician is "patience." Many cases of post partum hæmorrhage occur because the physician is in too great a hurry to get home.

Gentle pressure only should be made on the fundus before the placenta is born, and unless excessive bleeding occurs, which requires the immediate delivery of the placenta, there may be a wait of one



half hour before the placenta is delivered. Great care should be used in delivering the placenta, since retained portions of placenta and membranes are prolific sources of hæmorrhage.

After the placenta has been delivered, the fundus is to be held for one hour. The fingers are placed behind the fundus and the thumb in front, and gentle massage should be kept up to stimulate the uterine muscle. The vaginal entrance should be kept in view, and any increase in the quantity of blood will call for more vigorous manipulation of the fundus.

As soon as the uterus is empty, ergot should be administered. The tonic contraction of the uterus produced by ergot has four principal advantages: (1) It prevents post partum hæmorrhage; (2) it prevents after pains; (3) it diminishes the danger of air emboli; a uterus contracting and relaxing is apt to suck in air from the vagina; and (4) it diminishes the danger of sepsis; a firmly contracted uterus is less likely to become infected than a relaxed uterus filled with blood clots and retained lochia.

After the fundus has been held for one hour and the uterus has maintained good contraction, it is safe to apply the abdominal binder. This should be pinned from above downward in order to make downward pressure on the uterus. If pinned from below upward, it tends to lift the abdominal wall and the abdominal contents away from the uterus, thus allowing room for it to easily enlarge. The binder should be wide enough to come below the trochanters of the femur. If it does not do this, it always slips up and is useless for support.

As an additional security, a towel made into a roll may be placed over the fundus, underneath the abdominal pad. This roll should not be placed straight across the top of the fundus, as the fundus may be deflected to one side or the other and the pad would tend to push it farther to one side. The pad should be in the shape of a horseshoe and should embrace the fundus and sides of the uterus.

If these precautions to avoid hæmorrhage are carried out, the physician can wend his way homeward, feeling reasonably sure that he will not be called back in haste to attend the patient.

The different causes of post partum hæmorrhage need not be taken up here, as this paper has to do with treatment alone. Suffice it to say that any condition which favors bleeding should be avoided or removed if possible.

But whatever the underlying cause may be, the immediate cause of the hæmorrhage is "failure of the uterus to contract firmly."

The treatment, therefore, may be condensed into four words, *make the uterus contract*. How can it be done?

The most efficient stimulant to cause contraction of the uterus is mechanical irritation.

When an excessive amount of blood is seen issuing from the vagina, the fundus should immediately be grasped with the fingers behind and the thumb in front and kneaded vigorously.

If the excessive flow is not controlled by this method, the next procedure is to give an intrauterine douche of sterile water at a temperature of 110° F. If an intrauterine douche tube is not at hand, a syringe may effectively be brought about

by elevating the douchebag and allowing the stream of hot water to be injected forcibly against the cervix.

In cases in which these measures do not suffice to control the hæmorrhage, the operator carefully and quickly inserts his sterile right hand into the uterus. The movements of his knuckles on the walls of the uterus will soon produce firm contraction. At the same time, his left hand should knead the fundus and compress the abdominal aorta.

Such measures as carrying oil of turpentine, vinegar, ice, etc., into the uterus are not aseptic, to say the least, and are to be condemned. So, also, the various styptics which are sometimes recommended can control only capillary hæmorrhage and would have no effect on the hæmorrhage from one of the larger vessels in the uterine wall.

Let it be repeated that the best stimulant to contraction is mechanical irritation, and if hæmorrhage is not controlled by the hand in the uterus or tends to recur when the hand is withdrawn, the physician should proceed without further delay to pack the uterus with gauze.

A jar of sterilized gauze should have been previously prepared, but if it is not at hand, a strip three inches wide may be torn from a clean sheet, placed in a dish of water and boiled for twenty minutes and may then be used as packing for the uterus.

The instruments needed to pack the uterus are the volcella forceps and the uterine dressing forceps. The ordinary uterine dressing forceps, on account of its sharp point, is an element of danger from the fact that the point may be pushed through the fundus. Forceps with blunt points are much safer. There is very little danger that the cervix will contract so as not to admit the blunt forceps, and they are far safer than the pointed ones so generally used.

After the uterus has been packed, the abdominal binder and the pad over the fundus should be firmly applied. The uterine packing should not be left more than six or eight hours, as it very quickly becomes foul. When it is removed, another packing should be ready to replace it if necessary.

After a severe hæmorrhage, the patient may show signs of the loss of blood, and treatment for this condition should be at once instituted. The pillows should be removed and the foot of the bed elevated. The patient should be covered with hot blankets and surrounded with hot water bottles. While the uterus is packed, there is no danger that the external heat will increase the hæmorrhage.

If the condition of the patient demands it, normal salt solution should be administered. The general practitioner, without skilled assistants, is sometimes at a loss to know how to make sterile salt solution, but by keeping in mind the following points, he may obtain all he needs by using the utensils found in almost every household: 1. Scrub the inside of a double boiler with sand soap and rinse it in clean water. 2. Pour into it two quarts of hot water from the teakettle and add four small teaspoonfuls of table salt. Dissolve the salt thoroughly. Add a little more water, to allow for evaporation, so that after boiling for twenty minutes the quantity will be two quarts. 3. In another dish place a handful of absorbent cotton and a tin funnel, which is usually found in every kitchen. This is to filter the salt solu-

tion after it is boiled. The rubber douchebag and the salt solution needle are to be wrapped in a towel and placed in the dish to boil. 4. After boiling for twenty minutes, the salt solution should be filtered through the sterilized cotton in the funnel into the douchebag, and is then ready for use. If it is too hot, it may be cooled by letting cold water run over the outside of the bag.

The salt solution may then be given in sufficient quantity under the breast or may be injected slowly into the rectum.

The rate and quality of the pulse should be carefully watched and stimulation given as needed. The drugs which are of most value in the condition following hæmorrhage are adrenalin, digitalin, and strychnine.

The severer forms of post partum hæmorrhage are fortunately rare, and with the exception of cases in which there are pathological changes in the blood, the hæmorrhage can be controlled. But it is necessary for the physician to be constantly on his guard and to be prepared to meet the emergency with prompt treatment.

*Dr. S. A. Agatston, of New York, says:*

Prophylaxis is important. Attend to general health during pregnancy by improving appetite, if necessary urging the consumption of plenty of good food, exercise and tonics if required. If labor is prolonged, find out cause and remove it possible. Thus, make sure that the bladder and rectum are evacuated. Examine carefully to ascertain if presentation is normal, and if not, correct same according to the requirements of the case. If the uterus simply shows tendency to weakness and relaxation, give strychnine sulphate, gr. 1/30. If the patient is exhausted, it is a good plan to give chloral hydrate 15 gr., as we often find that after a good rest the uterus contracts with renewed vigor. During the birth of the child order the nurse to follow the fundus and continue to hold it after the child is born. Better than Credé's method of expression of placenta after fifteen minutes is to gently massage the uterus until the latter empties itself after thorough separation. It takes longer, but is safer. Examine the placenta carefully to ascertain whether all the membranes came away. If, after taking all the precautions, there still is hæmorrhage with relaxation of the uterus, massage the fundus vigorously and express all the clots, and if necessary introduce your hand into the uterine cavity and remove them, incidentally feeling for a possible placenta succenturiata. If hæmorrhage still continues, give hot douche (water at 116° to 120° F.) with 2 to 5 per cent. acetic acid. As a final resort pack the uterus with sterile gauze, or in the absence of the latter, with strips of clean linen or clean towels. The packing should not remain in longer than twenty-four hours. If the uterus is not relaxed and hæmorrhage is present, it is due to the laceration of the cervix, and it is necessary then to repair the tear, taking good care not to close the os too much, as that would cause retention of lochia. If hæmorrhage has been excessive, we may have to make use of saline infusion, hypodermic, and saline enemata. Administer fluid extract of ergot.

## Therapeutical Notes.

**Vertigo of Gastric Origin** is treated by Becker (*Merck's Archives*, x, 1) by regulating the diet, putting some patients on an exclusive milk diet, and encouraging them not to worry. While he does not deem medication of great importance, he advises the administration of a simple tonic bitter before meals, *e. g.*, ten drops of the tincture of nux vomica in water, and after eating, at intervals of one hour, the following prescription:

B Diluted hydrochloric acid, ..... M ℥ss  
Powdered pepsin, ..... gr. v  
Sodium bromide, ..... gr. x  
Peppermint water, ad ..... ℥ss

M.

As a laxative he prescribes one teaspoonful of sodium phosphate to be taken in a glassful of hot water before breakfast.

**The Use of Sea Water in Medicine.**—In a recent number of the *Répertoire de pharmacie* (*British Medical Journal*) Carles gives an interesting account of the use of sea water in medicine. In addition to common salt sea water contains many important mineral substances, the total solid matter amounting to 3.2 to 3.8 per cent. Some of these substances are present only to an infinitesimal extent, but in biology the value of a substance is not necessarily dependent upon its actual size or quantity. It has been shown that various marine plants have the power of extracting from sea water minute quantities of compounds of iodine, bromine, arsenic, boron, manganese, lithium, fluorine, rubidium, cesium, and other elements. Hence it was not unreasonable to suppose that the higher animals might derive benefit from the assimilation of even minute traces of these physiologically active substances. The employment of sea water as a remedial agent dates back to the time of Hippocrates, and modern physiological investigations have led to its reintroduction into medicine. Thus it has been shown that if a portion of the blood serum of a dog be replaced by an artificial serum the most suitable serum for the purpose is sea water, isotonic with the natural serum. Sea water has been given by the mouth and by injection with good results in cases of dyspepsia, loss of appetite, and tuberculosis. In general the appetite was improved and strength was rapidly regained. In order to obtain the best and most immediate results it is necessary to observe certain precautions. The sea water must be natural, as it is impossible to imitate so complex a liquid. Indeed, it has been proved that sea salt, when redissolved in distilled water, lacks some of the properties of natural sea water, exerting a tonic action upon a dog when injected subcutaneously. It must be freshly collected, as it loses carbon dioxide on standing, with precipitation of some of its salts. It should be taken from the open sea remote from rivers and other sources of pollution. It should be sterilized by filtration, as heat dissociates the bicarbonates and destroys the natural equilibrium of the liquid. When required for subcutaneous injection it should be diluted with water to the same concentration as normal blood serum. Distilled water is not suitable as a

diluent, as it sometimes causes pain. It is better to dilute the sea water with natural potable water in the proportion of 2 parts to 5. In conclusion, Carles points out that this method of treatment is not invariably suitable, and that it rests with clinical experience to indicate the cases in which it may advantageously be employed.

**Some Applications of Resorcin.**—The value of resorcin in the treatment of certain dermatoses receives appreciative consideration in an article published in *La Presse médicale* for January 11th. Being a phenol, isomeric with pyrocatechin and hydroquinone, having the chemical formula  $C_6H_4(OH)_2$ , its internal use has been abandoned. Like aristol, chrysarobin, [pyrogallol], ichthyol, and sulphur, resorcin acts as a reducing agent by uniting with the oxygen of the tissues with which it is brought into contact. It exerts a keratolytic action on the cutaneous surface and hardens the mucosum, thus hastening desquamation. If the action is prolonged an alterant effect is produced on the cells lying below the rete mucosum, and blistering and secondary exfoliation may ensue. It is this property possessed by it on which is based the keratolytic exfoliative treatment of Unna. In parasitic diseases of the skin resorcin cures (1) by a mechanical removal of the disease germs; (2) by a direct antiseptic action, and (3) indirectly by its power of depriving aerobic germs of the oxygen necessary for their development. In cases of follicular eczema, seborrhoea of the scalp, pityriasis, etc., the following ointment is applied at night and washed off with soap and water in the morning:

B Resorcin, ..... gr. x to gr. xv;  
Wool fat, ..... 5v.

M.

Sabouraud's application is more complex, being composed as follows:

B Resorcin, ..... gr. x to gr. xv;  
Ichthyol, ..... .ââ gr. xv;  
Precipitated sulphur, }  
Oil of cade, ..... gr. lxxv;  
Wool fat, ..... 3viis.

M.

Unna's exfoliative resorcin paste has the following composition:

B Resorcin, ..... gr. 5v;  
Zinc oxide, ..... gr. lxxv;  
Precipitated silica, ..... gr. xv;  
Benzoinated lard, ..... 3viii.

M.

The paste is allowed to remain in contact with the skin for a few minutes only.

Another property possessed by reducing agents like resorcin when applied in mild strengths for any length of time is to contract and atrophy the vessels of the derma, especially if it is made to penetrate the tissue, which is made possible by using glycerin as a vehicle and abrading the skin. Advantage of this is taken in the treatment of nonneoplastic warty growths in the deep folds of integument caused by continued local irritation, as for instance the fungous excrescences that develop in the labia pudendi, prepuce, scrotum, perinæum, nipples, umbilicus, etc. In these cases the best method of treatment is to scrape the parts with a bistoury or curette, and cut away any protruding growths, and afterwards apply for two or three days a glycerin solution of resorcin of the following strength:

B Resorcin, ..... 5iiss to 5iii;  
Glycerin, ..... 5iij.

M. Sig.: External use.

The resorcin may be also applied as a powder in the following combination:

B Resorcin, ..... gr. xv;  
Bismuth subnitrate, ..... gr. lxxv;  
Powdered talcum, ..... 3x.

M.

A solution of resorcin in flexible collodion is useful for application to certain parts of the body, the following proportions being recommended:

B Resorcin, ..... gr. xxx;  
Flexible collodion, ..... 5v.

M. Sig.: External use.

**The Use of Iodine-Formic Acid Solution in the Treatment of Phthisis.**—In a paper contributed to the *Journal of the American Medical Association* for February 1st, Stern describes the method of preparation and mode of administration of the iodine-formic acid solution which he uses in the treatment of chronic ulcerative phthisis. The solution is made according to the following process:

A. To make the "mother preparation" (10 per cent. glycerioiodoformic acid) take:

Iodine, q. s. (an excess, formic acid, taking up a certain quantity only).  
Formic acid, 40 per cent. (sp. gr. 1.200), ..... 25 c.c.;  
Glycerin, ..... q. s. ad. 100 c.c.

The dissolving process must ensue in the cold formic acid and may be hastened by agitation.

B. To make 1 per cent. iodoformic acid, take:

Glycerioiodoformic acid (10 per cent.), ..... 10 c.c.;  
Distilled water, ..... 90 c.c.

C. To make glycerioiodoformic acid dil. (for internal administration) take:

Glycerioiodoformic acid (10 per cent.), ..... 10 c.c.;  
Glycerin, ..... 90 c.c.;  
Distilled water, ..... 1,400 c.c.

The iodine formic acid solutions should be kept in dark colored glass stoppered bottles and scrupulous care should be exercised to prevent any contamination of the solutions, especially with organic matter (dust).

The dose of the diluted solution (C) given internally is one tablespoonful, representing one c.c. of solution B.

For intramuscular injection the one per cent. solution of iodoformic acid is exclusively employed, 10 drops being injected, half into the left and half into the right interscapular muscle bundles. This dose is repeated for three or four days, after which the dose is increased to twenty drops for a similar period. Following this the dose is increased to 30 drops, injecting it every other day for two or three weeks. A specially constructed syringe is used, the barrel and piston being of glass. The barrel should be graduated and, if possible, have a capacity of three cubic centimetres. Excepting the needle, and possibly the finger rests, nothing but glass should enter into the construction of the syringe. The piston must be ground to fit snugly into the barrel. The injection site is prepared by cleaning with ether and placing a few drops of the iodine formic acid on it. Ether in sufficient quantity exerts also a local anæsthetic effect, which property is of decided value in intramuscular injections of any solution. The needle, of course, has to be inserted from above downward and should meet the body (seen from above) at an angle of about 75 degrees.



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## A NATIONAL DISGRACE.

There are some articles which we do not yet produce in the United States of a degree of excellence equal to that of similar products made elsewhere; it may be that there are a few in the production of which we never shall make a very close approach to foreign competitors. For example, our textile fabrics, save those made of cotton, are well known to be inferior; we must still resort to older countries for fine silks, linens, flannels, and the general run of woollen goods. No harm can come from our frankly acknowledging this.

On the other hand, we make some things that are superior to those made in other countries, and we turn out many articles that are almost if not quite as good as can be found anywhere in the world. This was amusingly illustrated by something that occurred recently in New York. A party of gentlemen had been dining in a French restaurant and one of them remarked that it was many years since he had tasted sparkling Catawba, but that his memory of that American wine was pleasant. It was suggested that Catawba was probably to be had in a neighboring café kept by a producer of native wines. Thereupon the company adjourned to that resort and called for a bottle of sparkling Catawba. When the wine was brought it was found to bear the label "Moselle." It was remarked to the waiter that he had misunderstood the order. "Oh, no," said he, "this is Catawba, all right." It was found to be an excellent wine, but probably it was difficult

to sell it to advantage under its own name, so pervading is the snobbery which insists that everything fine must have been imported.

Another incident of like import was the recent arrival at the port of New York of several thousand empty cheese boxes from France, with their French labels, designed as receptacles of "Camembert" cheese made in the State of New York, to be employed to deceive the public. We have nothing to say against such cheese itself; it is of the same type as the French Camembert, and perhaps it would be judged by most of us to be quite as good as the same style of cheese made in France. It might even be allowable to call it Camembert, but it could not honestly be marketed under that name without some qualifying designation to show that it was of American make. To represent it as having been made in France would be fraudulent.

But it is not with the element of commercial fraud that we are here concerning ourselves. The worst of the whole misbranding business, apart from the substitution of injurious for wholesome products, is its inevitable bolstering up of the disgraceful feeling that we Americans are not justified in holding any of our home productions in the highest esteem. That affectation needs to be rooted out, and in the long run the process will be powerfully aided by recent national legislation, but State legislation, not only in New York, but elsewhere also, is needed to supplement that enacted by Congress. Let us freely admit our shortcomings, but let us at least give our products the chance to win under their own names whatever approval they may be found to deserve.

## FEED THE HOSPITAL PATIENT.

Our abhorrence of the slop diet system of treating acute disease must be well known to our readers, for we have harped on it persistently. The prescription of low diet stands on no substantial basis of clinical observation; it is simply a feature, and an unpleasantly prominent one, of the traditional notion—almost ineradicable, it sometimes seems—that a sick man can hardly be helped except by making him as miserable as possible. The old plan was to rob him of as much blood as he could give up without at the same time giving up the ghost, salivating him with enormous doses of calomel, nauseating him with antimony, and forbidding him to assuage his sufferings by drinking water, at the same time seeing well to it that he should get the minimum of nourishment. The practice is not so old that many of us do not remember its invariable enforcement. Fortunately, all these ridiculous measures have been relinquished save the one relic of starvation. But this is founded on a sincere if mistaken purpose.

to benefit the patient, and it is not our present intention to speak further of it. What we have to say now concerns a policy that takes little if any account of the patient's welfare, one of pure niggardliness.

In almost all our hospitals the food provided for the patients is abominably repulsive. It is furnished in abundance, and we do not doubt that it is for the most part nutritious. With a trifling increase of expense it might be made appetizing, and nobody will deny that a sick man's inclination to take food ought to be encouraged rather than smothered. With what feelings of repugnance must such a man spoon into his mouth a lukewarm decoction of turnips, waste his already enfeebled energy in chewing a leathery steak, or seek to retrieve from his plate a portion of custard that seems bent on floating away in the whey that oozes out from it! We are not advocating green turtle soup, stewed terrapin, *pâté de foie gras*, plum pudding, and burgundy for the hospital patient's dinner, but we do insist that the plain but good material furnished ought to be prepared in an attractive form.

As regards our hospitals, cookery seems to be a lost art—at all events one that is ignored. Proper attention to the marketing will procure unexcelled roasting pieces of beef at a moderate cost, and the slices ought to come to the wards in better condition than that in which they are ordinarily to be obtained in expensive restaurants, for the patients all dine at a fixed hour, so that the meat has not to be kept warm for an indefinite length of time, whereby the life is steamed out of it. It will not do to say that the patient comes from the slums and has never been used to good living; he is sick, and it would be the part of wisdom to induce him to eat heartily during his convalescence, so as to shorten his necessary stay in the hospital. Moreover, the story he would tell on returning to his old haunts would go far toward dissipating the dislike of the poor to being sent to Bellevue or "the island."

#### THE METALLIC FERMENTS IN THERAPEUTICS.

As is well known, Professor Albert Robin, of Paris, has experimented largely during the last five or six years with certain preparations of the heavy metals, gold, silver, platinum, and palladium. These are apparently in solution, but actually suspended in a state of minute subdivision. Examined with a microscope in the usual way, in the preparations employed, the separate metallic particles are invisible, but if examined by reflected light with the ultra-microscope, they become clearly evident as minute bodies less than one two millionth of an inch in diameter, and endowed with an extremely active

Brunonian movement. Their method of preparation, their physiological effects, and their therapeutic uses are fully considered in Robin's monograph (*Les Ferments métalliques*, Paris, 1907). Briefly Robin passes an electric current (D. C. 110 v, 3 a) through chemically pure water, the terminals of the selected metal being sufficiently near to permit the passage of a spark. As the sparks pass the water gradually colors, finally becoming violet in the case of gold or black if platinum terminals are used.

In carrying out physiological experiments with the various "solutions" Robin noticed that there was a striking resemblance between their effects and those produced by certain ferments of organic origin, notably an increase of metabolic activity. And one very remarkable effect of the administration of these ferments was the great increase of urinary indican, both in normal subjects and in cases of disease. We can hardly conceive of this being due to any increase of intestinal indol, and we are forced to conclude that the substances must possess some special depurative function in connection with this body.

Therapeutically, Robin employs his solutions, if they may be called such, either in intravenous injections of 5 c.c. or deep intramuscular injections of 10 c.c. The author's most brilliant results have been in connection with pneumonia, acute articular rheumatism, and septicæmia. The immediate effects were prompt defervescence and rapid recovery. In chronic affections beneficial results were not so evident.

#### THE EPILEPTIC VOICE SIGN.

The oft repeated declaration that Hippocrates nearly if not quite completed the clinical description of epilepsy has not wholly prevented further efforts in this direction. Now and then we note that not unimportant advances are made to a clearer understanding of this strange disease. It may not seem so peculiar as would at first appear that no study has ever been made of the epileptic voice, when one realizes that only during the past few years has it been possible to study the normal voice carefully by anything like a scientific method. Our thanks for this latter consummation are due in greater part to the Carnegie Institution and to Dr. E. W. Scripture in particular. By what is known as the air puff method Scripture has found it possible to study the voice accurately in both health and disease.

Equipped with this method, Clark, Scripture, and Pierce have undertaken to study the characteristics of the epileptic voice.<sup>1</sup> Many clinicians have noted

<sup>1</sup>Scripture and Clark, *Researches on the Epileptic Voice*, Proceedings of the New York Neurological Society, November 12, 1907.

the monotonous, breathy tone of the epileptic voice without being able to catch exactly another elusive feature which Clark and Scripture have analyzed. The method is so novel that it deserves comment. Briefly stated, it is as follows: The patient speaks into a mouthpiece that covers his mouth rather tightly. The mouthpiece is connected with a small recording capsule that registers the vibrations on a rapidly revolving smoked drum or kymograph. The character of the resulting curve can be illustrated by an example. In the records of the words "most-ly, at night," with the sounds like (m), (o), (l), (y) the larynx vibrates. These vibrations produce wavy lines in the record. A long wave is produced by a slow vibration, a short wave by a quick one. Slow vibrations correspond to low pitch, quick ones to high pitch. Each wave of the record is measured and the pitch is calculated. For example, the first six vibrations of (m) measure 1.3, 1.2, 1.1, 1.0, 1.0, 1.2 mm. The calculations give a pitch of 110, 119, 130, 143, 143, 119 vibrations to the second. That is, the first vibration corresponds to a tone of 110 vibrations, the second to a somewhat higher tone, the third gives a still higher one. A line connecting the top of the ordinates is termed the "melody plot." Every vowel in normal speech has a rising and falling melody. In the epileptic voice the vowels run along on even tones. It is a form of "plateau speech," as they have termed it.

The authors say that, when once explained, the epileptic voice defect may be recognized at once. In an analysis of cases one can, by a little practice, they maintain, diagnosticate the disorder by the voice alone. The authors demonstrated the voice signs and showed a record of diagnosis in 75 per cent. of a trial test in 100 cases. There appears to be no parallel in any other nervous disorder tested by the authors. Many of the cases were entirely free from the effects of bromides. All grades of severity of epilepsy have been under study. It would appear that the voice sign is dependent upon the brain deterioration of the epileptic, upon which the mental stigmata, as shown in slowness, awkwardness, and dementia, also rest. The voice sign ought to be of diagnostic value, and is worthy of statistical study in the many State colonies and hospitals for epileptics.

#### THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The one hundred and second annual meeting, held in Albany last week, marked the continued usefulness of this organization. The election of Dr. Trudeau to the presidency for the coming year augurs well for a year of efficient work. Dr.

Trudeau is himself an organizer of conspicuous capacity, and his professional renown in connection with the present campaign against tuberculous disease will make his presidency distinguished. The movement in favor of holding the annual meetings in each of four large cities of the State in turn was favored by the committee to which it had been referred. From every point of view except that of the tradition which credits the legislature with a sort of paternal requirement that all the meetings shall be held in Albany, and during its own session, the project seems to us highly worthy of consummation. Surely there is much to be learned in Buffalo, Rochester, and other large towns of the State of New York, and the accommodations in them are ample.

#### THE "MELODY CURE" FOR STUTTERING.

Some weeks ago Dr. E. W. Scripture, of Columbia University, explained before one of the medical societies of New York a method of curing stuttering by training the afflicted person to put a varying intonation into his speech—in other words, to sing it. He seems to have developed and systematized this procedure, but we presume that he would be the last to allege that he had made a "discovery" of the device, as some of the newspapers declare, for the principle itself was long ago put into practice, though the use of it may have been known to but few persons. It certainly appears to offer a distinct prospect of overcoming an embarrassing defect.

#### ABBREVIATIONS OF PHARMACOPEIAL NAMES.

In the course of an address recently delivered before the New York College of Pharmacy, Professor J. P. Remington, of Philadelphia, chairman of the Revision Committee of the *United States Pharmacopæia*, made an incidental reference to the question of abbreviations of pharmacopeial names which was in effect a defense of the lengthy titles which have been given in the pharmacopæia to some of the newer remedies. The professor said that, as a matter of fact, the average prescriber never used the full name of a drug, but prescribed it, and soon came to know it by some abbreviation, "acetphen" being the abbreviation which he used for acetaminophen, while hexamethylenamine became in his memory and in his prescription merely "hex." It seems to us that the common use of such an abbreviation may induce the committee to refuse from adding to the pharmacopæia any other name the name of which begins with "hex."



## GENERAL ANÆSTHESIA WITH SIMULTANEOUS ARTIFICIAL SEQUESTRATION OF A PORTION OF THE CIRCULATION.

In a recent issue of this journal we adverted editorially to the fact that this procedure, advocated a few months since by Professor Klapp, of Berlin, had been proposed and practically applied by a New York neurologist, Dr. J. Leonard Corning, twenty years before. Corning's papers, as then stated, were published in the *New York Medical Journal* for October 22 and December 24, 1887. It is a pleasure to note that since the appearance of our editorial and after reading Corning's papers, Professor Klapp has published a brief article in the *Therapie der Gegenwart* for January, 1908, Heft i, page 47, in which he unreservedly gives Corning entire credit for the priority of the discovery.

## A UNIFORM CATHETER SCALE.

The American Surgical Trade Association has published cards showing the standard catheter scale as prepared by a committee of that organization. These cards give the sizes in millimetres and also give the arbitrary numbers by which these sizes are indicated. We congratulate the association upon its excellent work in the preparation of these cards, which will undoubtedly be welcomed by physicians generally, offering a relief from the uncertainty which has existed hitherto regarding the method of designating the sizes in catheters. We understand that dealers in surgical instruments will be prepared to furnish these cards to physicians on application.

## Obituary.

CARL VON VOIT, M. D.,  
of Munich, Germany.

The death of Dr. Carl von Voit, the distinguished physiologist, is reported from Munich, Germany. Born in Amberg, Bavaria, on October 31, 1831, he studied medicine at the universities of Würzburg, Göttingen, and Munich, and was graduated in 1854. Two years later he became assistant to von Bischoff at the physiological institute. Having been admitted as Privatdozent to the medical faculty of his alma mater in 1857, he was appointed assistant professor in 1860, and in 1863 was elected professor of physiology, when von Bischoff resigned from this chair, reserving for himself the department of anatomy. Thus von Voit had held the professorship of physiology at Munich for nearly forty-five years. He has been one of the leaders of this branch of medical science in Germany. In 1865 he founded, with von Pettenkofer and von Buhl the *Zeitschrift für Biologie*.

The writings of von Voit treat especially of the theory of general metabolism and nutrition, and his theories and teachings have laid the foundation for the modern conception of the physiology of metabolism.

Although the recipient of many high honors, Dr. von Voit always remained unassuming, quiet, and retired. He was equally beloved by his colleagues and by his pupils, to whom he was not only a teacher, but a friend and adviser. With von Voit dies the last member of that medical faculty of Munich which made the Bavarian capital so celebrated, not only in Germany, but also abroad.

WILLIAM STRATFORD, M. D.,  
of New York.

Dr. Stratford died on Friday, January 24th, at the age of sixty-four years. He was a graduate of the Medical Department of the University of the City of New York of the class of 1876. He practised medicine for a number of years, but subsequently concentrated his attention on natural history, of which he was the professor in the College of the City of New York at the time of his death. He was active also in the athletic affairs of the college. He was an attractive gentleman, and those who knew him well were exceedingly fond of him.

## News Items.

**Changes of Address.**—Dr. J. B. Rankin, to 177 Onderdonk avenue, Ridgewood, Brooklyn, N. Y.

**The Wisconsin State Board of Health and Vital Statistics** held its annual meeting on January 29th, and re-elected Dr. William F. Whyte, of Watertown, president, and Dr. C. A. Harper, secretary.

**Maryland Tuberculosis Sanatorium.**—Senator Moore has introduced into the Maryland State Legislature a bill appropriating \$175,000 for the Maryland Tuberculosis Sanatorium. Two years ago an appropriation was made, but this sum has been exhausted.

**The Sixth Lecture in the Harvey Society Course** will be given by Professor Joseph Jastrow, of the University of Wisconsin, at the New York Academy of Medicine on Saturday, February 8th, at 8:30 p. m. The subject of the lecture is Subconsciousness.

**Surgeons with Experience for Ambulance Duty.**—A bill has been introduced into the State Legislature by Senator Sohmer which provides that no surgeon in any hospital in the city of New York shall be called upon for ambulance duty unless he shall have served at least six months in a hospital.

**Kings County Medical Society.**—At a recent meeting of this society, the following officers were elected to serve for the year 1908: Dr. Onslow A. Gordon, president; Dr. J. M. Van Cott, vice president; Dr. Henry G. Webster, secretary; Dr. John R. Stivers, treasurer; Dr. James R. Warbase, director of the library.

**Kentucky Midland Medical Society.**—At the annual meeting of this society, held recently in Midway, Ky., the following officers were elected for the ensuing year: President, Dr. Neville M. Garrett, of Frankfort; vice president, Dr. Josephus Martin, of Cynthia; secretary and treasurer, Dr. George P. Sprague, of Lexington.

**Syracuse, N. Y., Academy of Medicine.**—At a meeting of this academy held on Tuesday evening, February 4th, the programme included the following papers: A Case of Maldevelopment of the Uterus and Vagina, by Dr. M. D. Bristol; Caloric Value in Infant Feeding, by Dr. A. C. Mercer; and Appendicectomy, with Description of a Method, by Dr. T. L. Deavor.

**Diphtheria at the Rahway Reformatory.**—According to a report submitted to Dr. George B. Wright, Commissioner of Charities and Corrections, there is an epidemic of diphtheria at the reformatory at Rahway, N. J. On February 3d there were ninety-nine cases in the institution, an increase of fifty cases in three days.

**Richmond, Va., Academy of Medicine and Surgery.**—At a meeting of this academy, held on January 28th, Dr. E. C. Levy read a paper on the Importance of the Cooperation of the Medical Professional in Municipal Public Health Work. Dr. A. W. Freeman read a paper on Preliminary Studies of Typhoid Fever in Richmond.

**A New Hospital for New York.**—A bill has been introduced into the Legislature authorizing the Board of Estimate and Apportionment of the City of New York to appropriate \$1,000,000 for the erection of a new public hospital in New York. The bill also provides for the appointment by the Mayor of a commission to obtain the site and prepare plans for the new hospital.

**Rochester, N. Y., Academy of Medicine.**—The regular meeting of the Section in Obstetrics, Gynecology, and Pædiatrics was held on Wednesday evening, February 5th. The paper of the evening, entitled *The Clinical Significance of Glycosuria During Pregnancy*, was read by Dr. J. Whitridge Williams, professor of obstetrics at Johns Hopkins University Medical College.

**Buffalo Academy of Medicine.**—A stated meeting of this academy was held on Tuesday evening, February 4th. The programme of the evening, which was furnished by the Section in Surgery, included a paper by Dr. Edward L. Keyes, Jr., of New York, on the Treatment of Acute Prostatitis and Allied Complications of Gonorrhœa, and a paper by Dr. Vertner Kenerson on Inguinal Hernia.

**In Memory of Dr. Senn.**—Memorial services in honor of the late Dr. Senn were held in Chicago on Sunday, February 2d, under the auspices of Rush Medical College, the Northwestern University Medical School, the College of Physicians and Surgeons, Chicago Medical Society, Chicago Surgeons' Association, and the Nicholas Senn Club. Dr. Edmund James James, of the University of Illinois, presided.

**Scientific Society Meetings in Philadelphia for the Week Ending February 15, 1908.**—*Monday, February 10th.*—Section in General Medicine, College of Physicians; Wills Hospital Ophthalmic Society. *Tuesday, February 11th.* Philadelphia Pædiatric Society; Botanical Section, Academy of Natural Sciences. *Wednesday, February 12th.* Philadelphia County Medical Society. *Thursday, February 13th.* Pathological Society; Section Meeting, Franklin Institute. *Friday, February 14th.* West Branch, Philadelphia County Medical Society.

**Elmira, N. Y., Academy of Medicine.**—At the regular meeting of this academy, which was held on Wednesday evening, February 5th, the following papers were read: *The Chemical Purity of Drugs*, by Dr. S. E. Palmer, of Elmira; *Backward Displacement, with Abortion*, by Dr. Elliott T. Bush, of Horseheads; *Report of a Case*, by Dr. Alfred J. Westlake, of Elmira. The officers of the academy are as follows: President, Dr. Ross G. Loop; vice president, Dr. Alfred J. Westlake; treasurer, Dr. Charles G. R. Jennings; and secretary, Dr. Frank L. Christian.

**The Obstetrical Society of Philadelphia.**—At a stated meeting of this society, held on Thursday evening, February 6th, Dr. Collin Foulkrod read a paper on the Toxæmia of Pregnancy; Dr. John B. Shober reported a case of Nephroureterectomy for Tuberculosis, Hysterectomy, Appendectomy; Dr. Theodore A. Erck reported a case of Nephroureterectomy and a case of Resection of the Cecum for Tuberculosis; and Dr. E. A. Schumann read a paper on Tuberculosis of the Uterus with Pyometra. The discussion was opened by Dr. Charles P. Noble, Dr. Barton C. Hirst, and Dr. Wilmer Krusen.

**The Massachusetts Association of Boards of Health.**—The annual meeting in Boston on January 30th, and elected officers for the ensuing year as follows: President, Dr. Henry P. Walcott, president of the State Board of Health; first vice president, Dr. S. H. Durum, of the Boston Board of Health; second vice president, Dr. Charles V. Chapin, of the Providence, R. I., Board of Health; secretary, Dr. James C. Coffey, of Worcester; and treasurer, Dr. James B. Fields, of Lowell. Rhode Island, having no State association of its own, has joined the Massachusetts association.

**Nassau Hospital.**—It was reported recently that the Nassau County Hospital, Mineola, L. I., would close on account of financial difficulties, but at a meeting of the Executive Committee of the Nassau Hospital Association it was decided to keep the institution open. The committee has a plan under consideration whereby \$120,000 can be raised by bed endowment, and a large sum has already been sent in. If, however, the committee finds it impossible to continue the operation of the hospital on the new basis, it is said that the Catholic Diocese of Long Island may take over the property, assuming the mortgage, the endowment, and all the liabilities.

**American Society of Sanitary and Moral Prophylaxis.**—A regular meeting of this society will be held at the New York Academy of Medicine on Thursday, February 13th, at 3:30 p. m., under the auspices of the Committee on Education. Dr. G. Stanley Hall, president of Clark University, will read a paper on the Needs and Methods of Educating Young People in the Hygiene of Sex, and Mr. Frederick S. Curtis, principal of the Curtis School for Boys, will read a paper on *Several Years' Practical Experience in Educating Boys in the Hygiene of Sex*. Among those who will take part in the discussion are Professor Thomas L. Balliet, Professor Seligman, and Dr. J. P. Warbasse.

**Medical Society of the Missouri Valley.**—The semi-annual meeting of this society will be held in Lincoln, Neb., on March 19th and 20th, and the programme is now open for contributions. Titles should be sent to the secretary early, as all papers will appear on the programme in the order in which they are received, and the number of papers is limited to twenty-five. The officers of the society are: President, Dr. O. Beverley Campbell, of St. Joseph, Mo.; first vice president, Dr. W. F. Milroy, of Omaha, Neb.; second vice president, Dr. C. O. Thienhaus, of Milwaukee, Wis.; secretary, Dr. Charles Wood Fassett, of St. Joseph, Mo.; treasurer, Dr. Donald McRae, of Council Bluffs, Ia.

**City and Village Sanatoria in Illinois.**—The bill providing for the establishment of sanatoria for tuberculous patients in cities and villages of Illinois, which was known in the Illinois Legislature as Senate Bill No. 598, has become a law, as we are informed by a telegram from Dr. J. A. Egan, secretary of the Illinois State Board of Health. The bill provides that any municipal government may levy a tax not to exceed four mills on the dollar annually, the sum collected to be known as the Tuberculosis Sanatorium Fund, which is to be used for the establishment and maintenance of public sanatoria for the benefit of such of the inhabitants of the city or village as may be afflicted with tuberculosis.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending January 18, 1908, there were during the week 715 deaths from all causes, as compared with 638 for the corresponding week in 1907. The annual death rate was 17.21 in 1,000 of population. The principal causes of death were: Apoplexy, 8; Bright's disease, 45; bronchitis, 28; consumption, 71; cancer, 29; convulsions, 3; diphtheria, 15; heart diseases, 51; influenza, 56; intestinal diseases, acute, 28; measles, 2; nervous diseases, 27; pneumonia, 124; scarlet fever, 15; suicide, 14; typhoid fever, 9; violence, other than suicide, 22; whooping cough, 2; all other causes, 166.

For the week ending January 25th there were 687 deaths from all causes, as compared with 735 for the corresponding week in 1907. The annual death rate in 1,000 of population was 16.54. The principal causes of death were: Apoplexy, 8; Bright's disease, 37; bronchitis, 22; consumption, 81; cancer, 25; convulsions, 8; diphtheria, 7; heart disease, 53; influenza, 49; intestinal diseases, acute, 35; nervous diseases, 28; pneumonia, 132; scarlet fever, 12; suicide, 9; typhoid fever, 9; violence, other than suicide, 23; whooping cough, 2; all other causes, 147.

**Popular Lectures at Johns Hopkins University.**—The committee on public education of the Medical and Chirurgical Faculty of Maryland have made arrangements for a course of lectures to be delivered at Johns Hopkins University on Saturday evenings during February and March, with the exception of February 2d. The lecture on February 1st was given by Dr. Charles O'Donovan, of the Board of Health in Town and County, and on Saturday evening, February 8th, Dr. Hyram Woodhull, will deliver an address on *Eight and School Life*. The remainder of the series is as follows: February 12th, *Tuberculosis*, by Dr. William

S. Thayer; February 20th, Modern School Life and its Effect upon Health, by Dr. Warren H. Buckler; March 7th, Preventive Medicine, by Dr. William H. Welch; March 14th, Milk and its Relation to Disease, by Dr. John Ruhrah; March 21st, What the City Does in the Prevention of Disease, by Dr. C. Hampson Jones; March 28th, Public Water Supplies, by Dr. Marshall Price.

**The Health of Philadelphia.**—During the week ending January 11, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Typhoid fever, 104 cases, 14 deaths; scarlet fever, 55 cases, 0 deaths; chickenpox, 62 cases, 0 deaths; diphtheria, 112 cases, 7 deaths; cerebrospinal meningitis, 6 cases, 2 deaths; measles, 88 cases, 4 deaths; whooping cough, 17 cases, 0 deaths; pulmonary tuberculosis, 121 cases, 69 deaths; pneumonia, 206 cases, 144 deaths; erysipelas, 11 cases, 3 deaths; septicaemia, 2 cases, 1 death; mumps, 6 cases, 0 deaths; cancer, 10 cases, 0 deaths. The following deaths were recorded from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 9; puerperal fever, 3; tetanus, 1; diarrhoea and enteritis, under two years of age, 14. The total deaths numbered 705 in an estimated population of 1,532,738, corresponding to an annual death rate of 23.90 in 1,000 of population. The total infant mortality was 133; under one year of age, 107; between one and two years of age, 26. There were 48 still births—25 males and 23 females. The total precipitation was 0.87 inch.

**College of Physicians of Philadelphia.**—At the regular meeting, held on Wednesday evening, February 5th, the evening was devoted to a symposium on aneurysm, papers being read as follows: A Case of Multiple Sacculated Thoracic Aneurysm Successfully Treated by Wiring, by Dr. James M. Anders; Sacculated Aneurysm of the Arch of the Aorta Ruptured into the Superior Vena Cava, without Symptoms of Venous Obstruction, by Dr. Joseph Sailer; The Pathogenesis of Aneurysm of the Aorta, by Dr. Joseph McFarland; The Early Symptomatology of Aneurysm of the Aorta, with Special Reference to the Differential Diagnosis, by Dr. J. Dutton Steele; The X Ray Diagnosis of Aneurysm of the Aorta, by Dr. Henry K. Pancost; The Wiring Operation in the Treatment of Aneurysm of the Aorta, and the Influence of Drugs Before and After the Operation, by Dr. Hobart Amory Hall. The honorary librarian announced the addition of fifty-two volumes to the library during the month of January, and the curator of the Mitter Museum announced the addition of one specimen to the museum. A committee has been appointed to secure a portrait of the late president, Dr. Arthur V. Meigs.

**Meetings of Sections of the New York Academy of Medicine.**—The Section in Neurology and Psychiatry will meet on Monday evening, February 10th, at 8:15 o'clock. Dr. William B. Pritchard will present two cases of Major Hysteria, and Dr. M. G. Schlapp will present a case of Unusual Tonic Muscular Spasm and a case of Hemiatrophy of the Face. Professor Joseph Jastrow, of the University of Wisconsin, will read a paper entitled Mental Abnormality as Exaggeration of Temperament. This paper will be discussed by Dr. Carlos F. MacDonald, Dr. William Mabon, Dr. Smith Ely Jelliffe, and others.

The Section in Public Health will hold a meeting on Tuesday evening, February 11th, at 8:15 o'clock. Dr. George A. Soper will read a paper on the Objects of Ventilation; Professor William H. Hallock, of Columbia University, will read a paper on the Principles of Ventilation; and a paper on the Application of Ventilation to Buildings will be read.

At a meeting of the Section in Paediatrics, which will be held on Thursday evening, February 13th, at 8:15 o'clock, the following papers will be read: The Indications for Stimulants in Paediatric Practice, by Dr. Sara Welt-Kakels; the Use of Analgesics in Paediatric Practice, by Dr. Le Grand Kerr, of Brooklyn; the Place of Hydrotherapy in Paediatrics, by Dr. Friedrich K. W. Grosse; the Principles of the Climatic Treatment of Children, by Dr. F. W. Wachenheim. The discussion will be opened by Dr. Henry Koplik.

The following programme has been arranged for a meeting of the Section in Otolaryngology to be held on Friday evening, February 14th, at 8:15 o'clock: Presentation of patients: A Case of Carcinoma Springing from the External Auditory Canal, by Dr. Emil Gruening; four cases showing the Results of Ossiculotomy, by Dr. W. H. Haskin;

current Fibroma of the Lobule, by Dr. G. B. McAuliffe. Presentation of specimens: A wet specimen of temporal bone, by Dr. W. H. Haskin. Reports of Cases: A case of Meningitis of Otic Origin, by Dr. P. D. Kerrison; a case of Cerebral Abscess with Aphasia, by Dr. B. F. Knause.

#### Society Meetings for the Coming Week:

**MONDAY, February 10th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, February 11th.**—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Schenectady, N. Y.; Practitioners' Club of Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine).

**WEDNESDAY, February 12th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Richmond County, N. Y., Medical Society.

**THURSDAY, February 13th.**—New York Academy of Medicine (Section in Paediatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.

**FRIDAY, February 14th.**—New York Academy of Medicine (Section in Otolaryngology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

**Personal.**—Dr. Lee K. Frankel, for nine years manager of the United Hebrew Charities of New York, has tendered his resignation, to take effect on May 1st, in order to undertake important investigations on behalf of the Russell Sage Foundation.

Dr. Howard L. Kaucher will hereafter be associated in practice with Dr. C. R. P. Fisher, at 224 Somerset street, Bound Brook, N. J.

Dr. Herbert Leslie Burrell has been appointed John Homans professor of surgery at the Harvard Medical School.

Dr. T. A. Williams has taken up his residence in Washington, D. C., after having spent two years in the study of nervous diseases in Paris and other European countries. He has been requested to give a course of instruction, embodying the more recent researches of the French school in the diagnosis and treatment of the psychoneuroses. The number of pupils will be limited, as individual attention will be given to each and the whole day devoted to study.

**Charitable Bequests.**—By the will of Adeline S. Lyon the Rush Hospital, St. Christopher's Hospital, and the Kensington Hospital for Women receive \$1,000 each. The Visiting Nurse Society, Gwynedd Home for Convalescing Children, Northern Day Nursery, Children's Aid Society, and the Children's Country Week Association receive \$500 each.

By the will of William H. Burns the Frankford Hospital receives \$25,000 for permanent improvements.

By the will of Lucy Emily Carr, the Somerville, Mass., Hospital receives \$5,000.

By the will of Frances E. Koons the Hahnemann Hospital Philadelphia, will receive \$3,000 for the endowment of a free bed.

By the will of Mrs. Elizabeth S. Folsom the Exeter, N. H., Cottage Hospital will receive \$10,000.

By the will of Joseph Hegle, the Little Sisters of the Poor, of Philadelphia, will receive \$500, and St. Vincent's Orphan Asylum receives \$200.

By the will of Bridget Reilly, her residence is given to the Philadelphia Protector for Boys. St. Vincent's Home, the Maternity Hospital, the House of the Good Shepherd, St. Joseph's House for Industrious Boys, and the Home for Children and Infants, Philadelphia, become reversionary legatees.

By the will of William Jones, the Columbus State Hospital, Columbus, Ohio, receives \$3,630.

By the will of James Lambert the Pennsylvania Hospital receives \$50,000 and the Free Hospital for Poor Consumption, at White Plains, N. Y., receives \$10,000.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

January 30, 1908.

1. An Insidious Type of Nontuberculous Pyelonephritis.  
By ARTHUR L. CHUTE.
2. Adenoids and Tonsils. From the Standpoint of the General Practitioner, with Special Reference to an Examination of the Throat in Chronic Systemic Infections and a Consideration of the Question of Status Lymphaticus in these Cases.  
By HENRY GLOVER LANGWORTHY.
3. Division of the Posterior Spinal Roots for Amputation Neuralgia.  
By PHILIP COOMBS KNAPP.
4. The Reform of Expert Medical Testimony.  
By L. C. SOUTHARD.
5. Spina Bifida,  
By BENJAMIN BRABSON CATES.

1. **An Insidious Type of Nontuberculous Pyelonephritis.**—Chute reports two such cases, which represent a class in which infection with a nontuberculous organism either ascends to the kidney, or if it does not ascend begins as a surface infection of the kidney pelvis, and in which the process of destruction is a slow erosion of the secreting tissue. The clinical picture in this type of pyelonephritis is that of cystitis. As the symptoms of cystitis persist, but without the great increase in frequency and pain that is often seen in tuberculous cystitis, the patient gets accustomed to the discomfort, and the process extends insidiously, in that there is the addition of no new or startling symptoms until the renal tissue is destroyed to such a degree that the patient has a deficient power of elimination. The duration of this insidious progression may be several years. The failure of the power of elimination and the appearance of symptoms that mark the true character of the process occurs only when both kidneys are involved to such an extent that they have a combined power of elimination that is less than that of one normal organ. At this time it will be too late to attempt operative measures successfully. The symptoms in these cases, during the time that it is possible to stay the process, point to the bladder, though the lesion is of the kidneys. Cystoscopy in these cases will be of great help to make a proper diagnosis. Early treatment by means of drainage is probably our most efficient means of treating these cases.

2. **Adenoids and Tonsils.**—Langworthy remarks that there are two points of interest in considering the question of the status lymphaticus in these cases. In regard to the first point, whether a diagnosis can be made during life, the author observes that it may be stated that a positive diagnosis is, to say the least, extremely difficult, if not impossible. The diagnosis is certain only when verified by a most careful autopsy. Nevertheless, such a disorder should be borne in mind, especially if attention is drawn to it by any suspicious circumstances. In considering the second point, whether cases of greatly enlarged adenoids and tonsils are more likely to fall in this class than individuals who are not so affected, Langworthy says that it would seem reasonable to suppose that cases of simple adenoid and tonsils should not in themselves present reasons for doubt or anxiety in this respect. It is only when they are associated with other stigmata

as, for instance, absence of pubic hair in an adult, frequent attacks of syncope, dyspnoea, and laryngismus stridulus, etc., that the possibility of a constitutio lymphatica should be considered. As the list of fatalities increases we find death from all manner of slight causes, such as antitoxine injections, bathing, convalescence from acute infectious diseases, labor, etc., and from both ether and chloroform. The best method of removal of tonsils and adenoid in these cases when they are but moderately enlarged and yet undoubtedly the cause of some disturbance consists in removing thoroughly the tonsil, including the capsule. It is the only method of procedure which can guarantee immunity from further infection. The tonsillotome so frequently used will not answer the purpose. It is about as surgical to leave large pieces of the tonsil in some part of the sinus tonsillarum as it is to excise but a portion of the appendix in an appendectomy. Incision, cauterization, or partial decapitation does not meet the condition. The offending organs should be eradicated by scissors, snare, or punch, and even the base curetted if necessary to secure a sound wall of tissue behind. The same applies to the adenoid, and, after the removal of the adenoid with whatever instruments are used, the nasopharynx should be carefully cleaned out with the finger until smooth and free from all offending shreds. Adenoids and tonsils rarely recur after this systematic attention. A so called regrowth in such instances is usually a fair evidence that the entire organ was never removed.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 1, 1908.

1. Conservative Operations on Bone Tumors, Based on the Clinical and Pathological Study of Their Relative Degrees of Malignancy.  
By JOSEPH C. BLOODGOOD.
2. The Conduct of a Plague Campaign.  
By RUFERT BLUE.
3. Gonorrhœa in Women.  
By H. J. BOLDT.
4. Unrecognized Gonorrhœa in the Female.  
By S. W. BANDLER.
5. Speech Results of Cleft Palate Operation.  
By GEORGE V. I. BROWN.
6. The Antimicrobial Action of Bromine.  
By GUY C. KINNAMAN.
7. Landry's Paralysis; Recovery, Partial Relapse, and Complete Recovery.  
By JOHN K. MITCHELL.
8. Nervousness: Its Significance and Treatment.  
By JOHN PUNTON.
9. Iodoformic Acid in Treatment of Chronic Ulcerative Phthisis.  
By HEINRICH STERN.

1. **Conservative Operations on Bone Tumors.**—Bloodgood remarks that there are two varieties of bone cysts. The dentigerous cyst is observed in the jaws. Undoubtedly it arises from an embryonic residue, mesoblastic or epiblastic, of the dental tissue. This cyst originates within the bony cavity of the upper or lower jaw, and in its growth expands the bone, producing a cystic tumor with a bone capsule. The cyst can be recognized only at an exploratory incision, when it is found that it usually contains only clear, viscid serum. In order to accomplish a cure, it is simply necessary to remove the membranous lining. The amount of bone capsule to be excised should be governed by the extent of the deformity; resection of the jaw is never indicated. The second variety of bone cysts occurs in the medullary cavity of the long bones, rarely in the short and flat bones. It differs from the dentigerous

cysts in the absence of a connective tissue capsule. The fluid is usually hemorrhagic. Islands of cartilage may be found in the bone capsule. Clinically there is a uniform expansion of the shaft, usually near the joint end, of slow growth. Fracture may be the symptom of onset. Union may take place, but the swelling does not disappear. The x ray shadow does not differ from that seen in any medullary tumor which produces in its growth bone absorption and retains a bony capsule. The benign nature of the lesion can only be ascertained with certainty at the exploratory incision. Curetting and drainage of the cyst will accomplish a cure. The adamantine epithelioma cannot be distinguished clinically from the dentigerous cyst when it arises within the bony cavity of the jaw, nor from the so called epulis, when it begins beneath the mucous membrane of the alveolar border of the jaw. At the exploratory incision the adamantine epithelioma can be distinguished from the dentigerous cyst by the coarse, white granular tissue filling the single or multiple cavities. This tumor must be completely excised with its bony wall, but in the excision one can keep close to the tumor. When the adamantine epithelioma occurs as an epulis, local removal with excision of the alveolar border of the jaw only is necessary. Giant cell sarcoma usually originates in the medullary cavity of the long bones, although periosteal growths have been recorded. It is the most common form of epulis, which may be looked on as a periosteal growth from the alveolar border of the jaw. One should not attempt curetting in these tumors unless there is a thick shell of bone. When this shell is thin, subperiosteal resection should be performed; when the periosteum and surrounding muscles have become infiltrated total resection is indicated. For the periosteal giant cell tumor local resection with chiseling of a zone of bone beneath is sufficient. The pure myxoma is a very rare tumor. It may occur as a medullary growth or as a periosteal exostosis. In the former it is associated with the bone shell; in the latter with a partial bony wall. The myxomatous appearance of the tissue is sufficiently characteristic to allow a diagnosis. This tumor should be subjected to the same treatment as giant cell sarcoma. There is no difficulty in recognizing pure enchondroma; it is benign, and local resection is sufficient. In myxochondrosarcoma the cartilage and myxomatous tumor usually occur together and most often with sarcomatous degeneration. The author has observed periosteal fibroma only in the jaw, when local excision is sufficient. Exostosis buritis is a benign lesion which clinically may resemble a rapidly growing sarcoma. The congenital small exostosis springing from the outer table of the bone gives no symptoms. The first rapid swelling observed by the patient is due to the filling of the bursal sac with fluid. Clinically there is a rapidly growing, tense tumor, apparently of periosteal origin. Unless x rays are taken from numerous directions the exostosis may be missed. This lesion is recognized at once if an exploratory incision is made.

6. **The Antimicrobial Action of Bromine.**—Kinnaman divides the results received from his experiments into two classes. The absolute death

sure to same; and the power of solutions to inhibit growth of microorganisms, depending also on strength of solution and time of exposure to same, exhibited as a forerunner of absolute death. A very wide range in efficiency of solutions is found to exist between *Streptococcus pyogenes* and *Bacillus anthracis*. The effectiveness of solutions is exhibited in three main groups: (1) Group 1, consisting of *Streptococcus pyogenes* and *Staphylococcus pyogenes aureus*, where the antimicrobial power is extremely well marked, being almost specific for both microorganisms, but of special importance for its effect on *Staphylococcus pyogenes aureus*; (2) Group 2, consisting of *Actinomyces* and *Blastomyces*, where less efficiency is shown, but where the effect is still very satisfactory; (3) Group 3, consisting of *Bacillus prodigiosus*, *Bacillus tuberculosis*, and *Bacillus anthracis* plus spores, where there is a very considerable slump in efficiency of solutions. On the spore forming *Bacillus anthracis* the effect is very unsatisfactory. Taking for consideration the inhibition in growth of microorganisms due to actions of solutions on them, which depends jointly on the strength of solutions employed and the time of exposure to same, the author says that in the cocci group, the inhibitory sphere, though vigorous and progressive in character, is very restricted because of the close approximation of the points at which inhibition and death occur. In the fungi group, from the same cause, the sphere of inhibition is again very restricted, though progressive in character. It presents a slightly greater range in inhibition than does the cocci group. In the bacilli group, where, from the tardy appearance of the death point, we would expect to find a long and progressive sphere of inhibition, we find just the opposite. Here, due to the tardiness of its appearance, we get an inhibitory sphere rather contracted in character and one which is markedly irregular in type, giving one the impression of being highly unreliable. Progressiveness in action is strikingly absent. In a solution of bromine, the author thinks, we have a germicidal agent that presents a peculiar selective action for certain groups of microorganisms, and then acts more or less indifferently toward another group. In other words, on cocci and fungi a 1 in 300 solution is effective in a brief time, thus exhibiting a very marked germicidal action on them. On the other hand, on bacilli, especially spore forming, the germicidal effect of solutions is disappointing, a one per cent. solution having to act for a very considerable period of time before death is produced. It differs from an ideal antiseptic in that it is hard to prepare, being extremely irritating to eyes and mucous membranes, and is very unstable, having to be kept in a glass retainer. Even then it loses its power gradually, hence fresh solutions have to be made frequently. As it is not markedly penetrating, it has to act for a considerable period of time to be effective on all microorganisms, and it coagulates albumin. But it is nontoxic and nonirritating in a strength that is effective, and does not produce an appreciable stain. It is necessary to use a one per cent. solution for the period of one hour to be effective.

9. **Iodoformic Acid in the Treatment of Chronic Ulcerative Phthisis.**—Stern, of New York, attributes the primary therapeutic effect of the



iodoformic acid in chronic ulcerative phthisis to a local condition. He bases this opinion on the following clinical facts, viz.: The pain in the chest, when present, is relieved after a few injections; the cough soon loses its paroxysmal character when the patient is under the influence of the drug; the expectoration, which may have been profuse, becomes scanty and attains a less purulent character, and the bacterial flora of the sputum (with exception of the bacillus tuberculosis) becomes perceptibly reduced after ten or fifteen injections. The elastic tissue fibres and the tubercle bacilli do not disappear so readily from the sputum, but in the majority of cases they are no longer found in it after from five to seven months' treatment with the iodoformic acid. The one per cent. solution participates in the removal of the decaying material from the lungs and tends to check ulceration and caseation. Its continued administration favors sclerotic metamorphosis of the margins of the ulcerating area and subsequent fibrosis and calcification of the entire diseased lung tissue. The mediate therapeutic effect of the drug is constitutional. Iodoformic acid seems to influence assimilation and anabolism in an independent and rather direct way, which is evidenced by the facts that the nourishment is better utilized and that the patient begins to gain in weight soon after the treatment is instituted and before any appreciable local changes have been brought about. Such local changes of improvement are, of course, preceded by the usually early relief of the symptoms. (See Therapeutical Notes, page 264.)

#### MEDICAL RECORD.

February 1, 1908.

1. Classification of Cases of Appendicitis.  
By JOHN J. McGRATH.
2. A Psychological Study of Hamlet.  
By JOHN W. WAINWRIGHT.
3. Cutaneous Tuberculin Vaccination in the Diagnosis of Tuberculosis.  
By WILLIAM J. BUTLER.
4. The After Care of Tuberculosis with Reference to Employment.  
By H. R. M. LANDIS.
5. Treatment of Cancer.  
By A. G. HENRY.
6. The Teaching of Physical Diagnosis.  
By O. L. MCLOD.
7. Congenital Irideremia with Cataract.  
By EDGAR S. THOMSON.

3. **Cutaneous Tuberculin Vaccination in the Diagnosis of Tuberculosis.**—Butler remarks that the cutaneous tuberculin vaccination commends itself because of its simplicity of application, and because it is unattended by any febrile reaction. The technique the author describes as follows: Make a 25 per cent. solution of old tuberculin in salt solution. A similar dilution is used in which one volume of a 5 per cent. solution of carbolic acid in glycerin is substituted for one of the volumes of salt solution. Place two drops, one of each solution, separated from each other by a space of two inches, on the outside of the arm, which should be prepared as is customary for vaccination. A small lancet, with a dull tip, which is about one sixteenth of an inch wide and placed vertically in a metal handle, is used to abrade the skin through the vaccine drops by a rotary motion, removing only upper layers of epidermis. The tip is then cleaned, and at a point midway between the vaccination marks a third abrasion is made, without any tuberculin being applied,

to serve as a control. If the reaction is positive a papule, varying in size from 5 to 20 mm. in diameter, at first bright red, later becoming a dark red with a slight areola, will appear at either vaccination point, in the first twenty-four hours; occasionally they are delayed to the second twenty-four hours. Sometimes little vesicles with turbid contents, later becoming confluent, appear over the inoculation site. These fade and disappear in course of several days, leaving at times a little pigmentation. In positive cases in which revaccination is practised similar reactions result. In localized tuberculous processes, as of the glands and bone, the reaction is especially marked in contrast to the milder reaction seen in persons who have healed foci. At the control point, and at all three points, in case the reaction is negative, the slight reddening that follows the scarification disappears in twenty-four hours without any further changes.

5. **Treatment of Cancer.**—Henry observes that the germ theory of this disease may be dismissed as being irrational and pretty thoroughly discredited. But that it is due to faulty nutrition, assimilation, and absorption we may fairly assume, and these conditions are brought about by one or more of a variety of causes. As regards nutrition, we recognize three ways which make for a departure from health—overnutrition, undernutrition, and faulty nutrition. By this last is meant that, while there may not be too much or too little food taken, the material composing it is deleterious. In the first case, that of overnutrition, too much food is taken, more than the body needs for its proper maintenance. As time goes on and this condition of things continues, the blood making organs become tired and manufacture less perfect material from which the "builders" at some one or more selected places begin to replace with imperfect or cancer cells the more normal tissues of the affected parts. As the eliminative absorbents fail to remove this imperfect material as fast as it is deposited, we have the growing tumor. Though less frequently, much the same conditions obtain in undernutrition. The blood making organs themselves are poorly nourished and furnish poor material for the building of perfectly healthy cells. By material which gives a faulty nutrition the author means all flesh foods which, containing toxins and poisons of various kinds, are totally unfit for human consumption and have much to do either directly or indirectly in bringing about a condition of things that goes to the building of cancers. If cancer is a local disease, it should not return after removal, as it usually does. On the theory that there is a general wrong condition of the blood making assimilative and eliminative functions, it is readily explainable; for usually nothing is effectively done after an operation for the removal of the growth to remedy the wrongs; and not only that, but the patient's strength is seriously sapped by the operation itself, if that operation has been accomplished by knife or plaster. Thus an early recurrence is to be looked for. The author thinks that cancer of the breast, when not too large and near the suppurative stage, can be treated with the greatest promise of success with electricity and massage, both local and general, together with a special diet from which all flesh foods are entirely ex-



cluded. The patient should always be under the physician's immediate care, at his residence or private sanatorium, where every detail of the treatment can be most thoroughly carried out.

# BRITISH MEDICAL JOURNAL.

January 18, 1908.

1. Note on the Preparation of Catgut for Surgical Purposes, By LORD LISTER.
2. Remarks on the Results of the Operative Treatment of Chronic Constipation, By W. A. LANE.
3. The Passage of Food through the Human Alimentary Canal, By A. F. HERTZ.
4. On a Special Form of Displacement and Dilatation of the Stomach, By T. S. SHORT.
5. Some Physiological Aspects of Gastroenterostomy, By H. C. CAMERON.
6. Ether Anæsthesia by the Open Method, By H. B. GARDNER.
7. The Conveyance of Whooping Cough from Man to Animals by Direct Experiment, By H. A. MACEWEN.

**1. Preparation of Catgut.**—Lister states that catgut used for surgical purposes should fulfill the following conditions: It should, after soaking in water or blood serum, be strong enough to bear any strain to which it may be subjected, and should hold perfectly when tied in a reef knot. It must not be so rigid as it lies among the tissues as to have any chance of working its way out by mechanical irritation. Nor should it be too quickly absorbed, but should be consumed so slowly by the cells of the new tissue that grows at its expense that, in the case of the ligature of an arterial trunk in its continuity, it may serve sufficiently long as a support for the substitute living thread in its embryonic condition. At the same time it is essential that the catgut be securely aseptic when applied. Chromium sulphate is an ideal substance for the preparation of catgut, with the exception that it is utterly untrustworthy as a germicide. This defect is easily remedied by the addition of a little corrosive sublimate. The preparing liquid must be twenty times the weight of the catgut, and is prepared by mixing the following solutions: (a) Corrosive sublimate, 2 grains; distilled water, 320 minims. (b) Chromic acid, 4 grains, distilled water 240 minims, to which is added enough sulphurous acid to give a green color. The catgut is kept twenty-four hours in the preparing liquid and is then dried on the stretch. But while the substance of the catgut is antiseptic as well as aseptic, its dry surface is liable to contamination by contact with septic material, and it is essential that, before being used, it is washed with some trustworthy germicidal liquid. The writer puts the catgut, like the instruments, in 1 to 20 solution of carbolic acid about a quarter of an hour before the operation is begun.

**3. Passage of Food Through the Pylorus.**—Hertz, as a result of his studies, concludes that the passage of food through the pylorus is not regulated by reflexes from the duodenum alone. When solid masses in the food are carried against the pylorus, it closes and remains closed for a time. The result is that indigestible masses remain in the stomach until all the fluid and semifluid contents have left, so that more time is given to the gastric juice to soften and break up the insufficiently chewed food. By a similar protective mechanism, fluids at higher or lower temperatures than that of the body leave

the stomach less rapidly. So that the stomach has a function which is not generally recognized; it protects the duodenum from abnormal stimuli by retaining food until it is changed so as to be less injurious to the delicate intestinal mucous membranes. Proper chewing will spare the stomach most of its work; it will divide the food into fine particles, dilute it, and bring it to body temperature. Stasis of food in pyloric ulcer is usually thought to be due to reflex spasm of the pylorus. More probably it is due to reflex inhibition of the relaxation which normally occurs on the arrival of a peristaltic wave. Indeed, it is doubtful whether spasm of the pylorus ever occurs.

**5. Gastroenterostomy.**—Cameron, from a study of the physiological phenomena in cases of gastroenterostomy, reaches the following conclusions: 1. On a purely milk diet, in nonmalignant cases, after gastrojejunostomy, there is a slight but definite diminution in the power of digesting and absorbing fat. 2. On a mixed diet, rich in fat, for the most part in the form of butter, this diminution in power disappears. 3. On a milk diet and on a mixed diet, rich in fat, the results are the same, whether there is obstruction at the pylorus or not. It is, therefore, improbable that the diminution in power of digesting milk depends upon whether the duodenum is or is not short circuited out of the alimentary canal. The cause must be common to both obstructed and nonobstructed cases, and is probably to be found in the regurgitation of alkaline bile and pancreatic juice into the stomach, and in the consequent reduction of gastric acidity, together with the inhibition of the rennin. 4. That in cases of recurrent intractable duodenal or gastric ulceration, an operation is indicated which will ensure the complete loss of the acid reaction of the stomach, while the benefit at present conferred in ulceration by gastroenterostomy is due to the partial loss of that reaction. That such an operation would consist in closing the proximal end of the bowel and implanting the distal directly into the stomach. That where gastroenterostomy is performed, the opening should be near the cardiac end of the stomach, and that the anastomosis should be simple, not Y shaped, nor with enteroenterostomy. 5. That the complete digestion of fats on a mixed diet is due to the specific stimulating effect on the pancreas of a hormone produced by the fats themselves. 6. A case of malignant pyloric obstruction, after partial gastrectomy and posterior gastrojejunostomy, showed complete power of dealing with fats.

**7. Conveyance of Whooping Cough.**—Macewen, by feeding a cat on sputum and vomited material from cases of whooping cough, found that two weeks later the animal became languid; after two weeks more it developed a choking cough which was always followed by vomiting, and still later a spasmodic cough with a well marked whoop. The conclusions drawn are as follows: 1. Whooping cough is beyond doubt an infectious disease. 2. The specific virus is contained in the sputum, or vomited material, or both. 3. Infection may take place either during the process of swallowing or by ingestion of the infective agent. 4. Cats are susceptible to whooping cough, and may therefore occasionally be the means of disseminating the disease.

## LANCET

January 18, 1908.

1. Erythræmia (Polycythæmia with Cyanosis, Maladie de Vaquez), By W. OSLER.
2. Tropical Abscess of the Liver, By T. R. BRADSHAW.
3. Note on the Preparation of Catgut for Surgical Purposes, By LORD LISTER.
4. Excision of the Cæcum and Ascending Colon with the Corresponding Lymphatic Area, By J. F. DOBSON and J. K. JAMIESON.
5. Legal Responsibility and Anesthetics, By D. W. BUXTON.
6. Arteritis Obliterans of the Lower Extremity with Intermittent Claudication ("Angina Cruris"), By F. P. WEBER.
7. A Note on Certain Pupillary Signs in Chorea, By F. LINGMEAD.
8. A Case of Imperfect Development: Acrania, By A. YULE.
9. Some Cases of Bone Cavities Treated by Stopping with Paraffin, By A. J. WALTON.
10. Electrolytically Produced Fluids Containing Hypochlorites, Their Manufacture, and the Rationale and Chemistry of the Process for Securing Stability, By F. W. ALEXANDER.

1. **Erythræmia.**—Osler reports a case of erythræmia—a disease characterized by cyanosis, enlargement of the spleen, and a condition of polycythæmia. The hands, feet, and face are cyanotic and of a dusky hue. The vasomotor instability is very marked, the hands and feet becoming dark blue when kept in a dependent position. The skin shows just the opposite condition to the *tache cérébrale*—along the line of irritation there is a vasomotor constriction in the small arterioles, and the line stands out as a band of anæmia. The spleen is usually markedly enlarged and its notch can be readily felt. The blood flows in a large drop from the finger or ear when pricked, and is sensibly richer in color and unusually viscid. For the recognition of the disease a blood count is necessary, not simply a blood examination, as in leucæmia. The essential feature—the polycythæmia—can be determined only by counting the number of red corpuscles in a cubic millimetre of blood. A true polyæmia, a plethora vera, is present. Many other additional symptoms have been noted, such as pains in the hands and feet, headache, and constipation. High blood pressure is the rule and sclerosis of the superficial arteries and a trace of albumin in the urine have been frequently observed. Post mortem, the following anatomical changes are found: A plethora vera; intense hyperplasia of the bone marrow, a myelomatosis rubra; and enlargement of the spleen, with histological changes, indicative of chronic passive congestion, a uniform hyperplasia of all its elements. It may be that the spleen participates actively in the process; neither it nor the lymph glands lose their power of making red blood corpuscles. But the essence of the disease is still a mystery, the over supply of red corpuscles, without any corresponding demand. Very little is known about the treatment of the disease. As a long experience with leucæmia has demonstrated, we have nothing at our disposal which controls the morbid processes in the bone marrow. When there are fullness of the head and vertigo, repeated bleedings often give great relief. Inhalations of oxygen are stated to have been very beneficial in some cases, relieving the

cyanosis and diminishing the number of red corpuscles, which in some cases rises as high as 12,000,000 corpuscles per cubic millimetre, over double the normal.

2. **Tropical Liver Abscess.**—Bradshaw states that the most noticeable features of tropical abscess, as distinguished from other forms of suppuration in the liver, are that it is most often a single abscess, that it generally attains a large size, and so gives indications of its presence, that it is not as a rule associated with general pyæmia, and is not dependent upon any antecedent coarse disease of the liver. This type of abscess is rarely found except in persons who have lived in tropical or subtropical countries, and it affects Europeans more often than natives. The exact causes which determine its formation are not exactly understood. Habitual overfeeding and indulgence in alcohol are credited with a share in its production, but the cause which overshadows all others by its frequency is the occurrence of dysentery. Whether bacillary dysentery in tropical regions can give rise to abscess, or whether the amœbic variety alone can do so, is still *sub judice*. While the contents of a large number of liver abscesses are sterile as regards bacilli, the majority of abscesses associated with amœbic dysentery do actually contain amœbæ. The successful treatment of tropical abscess by surgery depends on its being single, or at most double. The symptoms are often indefinite, comprising chiefly weakness and lassitude, loss of flesh, a sallow, muddy complexion, and sensations of chilliness or actual rigors. Pain in the right shoulder is a time honored symptom of abscess in the upper part of the right lobe of the liver, and is explained by radiation along a small branch of the subphrenic nerve, which communicates with the nerve to the subclavius muscle. Enlargement of the liver in an upward direction is almost pathognomonic of liver abscess, but it is not easy to recognize. The chief difficulty in diagnosis in abscess of the liver arises from its simulating disease of the right lung or pleura, or from its being complicated with actual effusion into the pleura.

6. **Arteritis Obliterans.**—Weber reports the case of a Russian Jew, aged forty-two years, suffering from obliterating arteritis of the left lower extremity, with intermittent claudication (*angina cruris*). His chief complaint was of cramplike pains in the inner part of the sole of the left foot (muscles of the instep) or in the calf of the left leg, which always attacked him after he had walked for three or four minutes, and obliged him to rest for a few minutes before going on. No pulsation could be felt in the arteries of the left foot. The essential cause of the arterial disease in these cases is unknown; possibly it is due to imperfect development. There is great analogy between the phenomena of arterial obstruction in the leg and those of *angina pectoris*. Just as there are cases of *angina pectoris* (pseudoangina) without organic disease of the coronary arteries, so there are probably also cases of intermittent claudication of the extremities without organic arterial disease—a *dysbasia intermittens angiospastica*, in contradistinction to *dysbasia intermittens arterioscleretica*.

## LA SEMAINE MEDICALE.

January 8, 1908.

The Neurites Which Occur in the Course of Cirrhosis of the Liver, By M. KLIPPEL and J. LHERMITTE.

**Neurites in the Course of Cirrhosis of the Liver.**—Klippel and Lhermitte allege that peripheral neurites may appear at very diverse periods in the evolution of an alcoholic cirrhosis of the liver. In some cases they seem to mark the commencement of the cirrhosis, in others they become manifest in the later stages of the disease. The two types, very different in their clinical aspect and in their lesions, are not of equal interest. In the one case the neurites are masked as it were by the multiplicity of the cachectic symptoms, while in the other they are from the first rendered prominent and striking by their intensity. The neurites which appear in the final stage of cirrhosis are not very frequent and are due to degenerative lesions, the character of which is striking as compared with the inflammatory character of ethylic polyneuritis. In all other forms of neuritis which are manifested during the course of cirrhosis the symptoms are extremely severe and the lesions on which they depend very pronounced. In other words in most cases of polyneuritis associated with alcoholic cirrhosis of the liver the neuritis is a classical alcoholic polyneuritis. Several cases are described and the literature on the subject is extensively quoted.

January 15, 1908.

Amaurotic Family Idiocy (Tay-Sachs' Disease),

By APERT.

**Amaurotic Family Idiocy.**—Apert has collated most if not all of the literature on this subject.

## AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

January, 1908.

1. The Diagnosis and Treatment of Cardiovascular Renal Disease, By J. TYSON.
2. The Treatment of Pneumonia Especially by Outdoor Air, By W. G. THOMPSON.
3. The Lenhartz Treatment of Gastric Ulcer, By S. W. LAMBERT.
4. The Diagnosis and Treatment of the Gastric Neuroses, By W. F. CHENEY.
5. The Diagnosis and Treatment of Infections of the Biliary Passages, with Special Reference to Cholelithiasis and Cholecystitis, By J. B. DEEVER.
6. Rupture of the Kidney, with Remarks upon Conservative Operative Treatment, By T. R. NEILSON.
7. Aspiration Drainage in the Treatment of Empyema, By W. S. SCHLEY.
8. The Röntgen Ray Treatment of Hypertrophied Prostate, By J. W. HUNTER.
9. The Treatment of Psychasthenia from the Standpoint of Social Consciousness, By J. J. PUTNAM.
10. The Curability of a Rare Form of Nocturnal Petit Mal by the Use of Large Doses of Bromide, By L. P. CLARK.
11. The Action of the Nitrites on the Heart, By W. de B. MACNIDER.
12. Otitis Media and Its Treatment, By E. C. ELLETT.

1. **The Diagnosis and Treatment of Cardiovascular Renal Disease.**—Tyson affirms that this association of diseased organs is of frequent occurrence. The arteriosclerosis or angiosclerosis invades especially the smaller vessels, and the associated hypertrophy of the left ventricle (less frequently of both ventricles) is due to effort to overcome arterial resistance, and to the stimulus of irritating blood. All the chambers of the heart may be hypertrophied. While general arteriosclerosis may

be primary, it is usually secondary to renal contraction. Albumin and casts usually appear early in the primary renal cases. In general arteriosclerosis there may be hyaline casts, but no albumenuria, while brain symptoms, anæmic symptoms, retinal changes, emaciation, and pallor appear early and are prominent. In the latter condition increase of blood pressure is less marked than in the former. The prognosis is more favorable when the heart disease is primary, even when there is extensive dropsy. Treatment may be helpful, but not curative. Sodium iodide, tincture of aconite, nitroglycerin, nitrites, and general massage are indicated for treatment. Rest in bed and milk diet are indicated, though the latter is contraindicated if the tissues are oedematous. Diuretics and hydragogue cathartics should be given when such a condition obtains.

2. **Treatment of Pneumonia Especially by Outdoor Air.**—Thompson refers to 128 cases of acute lobar pneumonia treated in the Presbyterian Hospital in New York in 1906, of which number forty-seven patients among those who recovered received no medicinal treatment. They were either on the roof or in small rooms in which the windows were constantly open. The author thinks the only rational treatment of pneumonia is the symptomatic one, and that in every case an abundant supply of fresh outdoor air is the first requisite. He thinks this method of obtaining oxygen infinitely superior to obtaining it from a metal cylinder after being superheated and then blown through stale water and an unpleasant rubber tube. He thinks the fear of the draught in the case of pneumonia is due to prejudice or inexperience. The open air treatment will not cure all patients with pneumonia, but it will do more for most of them than drugs. At the same time there are certain symptoms which call for the use of drugs, and when such symptoms are apparent the proper drugs should not be withheld.

4. **The Diagnosis and Treatment of the Gastric Neuroses.**—Cheney means by gastric neuroses those cases of stomach trouble in which there is constant complaint of discomfort during digestion, but no evidence of organic disease. Neurasthenia is usually an underlying cause. As to prognosis, one must bear in mind (1) that ulcer or malignant disease may be present, (2) that a cure depends largely upon change in the patient's mode of living. The treatment demands simplicity in diet and habits, slow eating with careful mastication, resting after meals, and avoiding worry. The quantity and quality of the diet is to be determined by analysis of the test meal. Hyperacidity, subacidity, or faulty motility will be revealed by such an analysis, and the proper diet and drugs will be formulated in accordance with such findings.

5. **Diagnosis and Treatment of Infections of the Biliary Passages, with Special Reference to Cholelithiasis and Cholecystitis.**—Deever divides the surgical treatment of these conditions into (1) the indications for such intervention, (2) the results of such intervention, (3) the contraindications. The indications are (1) repeated attacks of biliary colic, (2) dropsy of the gallbladder, (3) stone in common duct, (4) complications, especially the acute infections. Spontaneous cure of cholelithiasis



is rare, cure by medicines impossible. The same is true in regard to the adhesions excited by the disease. The results of surgical intervention in the author's series of 217 cases show death in thirty cases from all causes. The contraindications to surgical intervention are organic lesions of the heart, lungs, and kidneys, extreme age, anæmia, or slow coagulability of the blood, and cholæmia. Surgical treatment is absolutely necessary to a cure in most cases of chronic biliary infection, and if undertaken early offers far greater chances of success than when complications have occurred.

**6. Rupture of the Kidney.**—Neilson reports four cases in which this accident occurred which were treated conservatively, rather than by nephrectomy. He also analyzes the somewhat abundant literature of the subject, and finds that the advantage lies with conservative treatment. Surgical interference is called for to control hæmorrhage and prevent extravasation of blood and urine into the tissues and abdominal cavity, also to treat other organs which may have been injured simultaneously, and, finally, to place the injured kidney under conditions which shall be most favorable for repair, including the providing of means against the occurrence of infection. An operation, if indicated, should not be delayed. It goes without saying that the injury is so slight in many cases that an operation is not required. The conditions must be carefully weighed to decide between an abdominal or a lumbar incision. The pressure of gauze packing properly applied will usually control hæmorrhage, and drainage must be facilitated by the use of a sufficient number of rubber tubes. The injured kidney should be sutured if possible.

**8. The Röntgen Ray Treatment of Hypertrophied Prostate.**—Hunter notes the failure of medical treatment to relieve this condition, also the fact that radical removal of the organ is accompanied by high mortality. The application of the Röntgen ray is suggested in view of its atrophying action upon glandular tissues. This plan has been tried with success in a number of cases. The danger of exciting inflammation in the mucous membrane, which offers slight resistance to the rays, must not be overlooked. The author thinks the best results are to be obtained when the hypertrophy is only of the first or second degree, rather than in cases in which sclerosis is excessive. He believes this method is superior to all others for any except the oldest and hardest prostates, which must be removed surgically.

## ANNALS OF SURGERY.

January, 1908.

1. The Relation of the Mesocolic Band to Gastroenterostomy, By W. J. MAYO.
2. Intracranial Abscess Due to the Typhoid Bacillus, By E. B. GORD AND T. B. NICHOLS.
3. Isolated Fracture of the Greater Tuberosity of the Humerus, By H. L. TAYLOR.
4. A Contribution to the Diagnosis of Renal Tuberculosis, By R. P. CAMPBELL.
5. Excision of the Whole Left Lobe of the Lung for Sarcoma, By G. TORRANCE.
6. Splenectomy for Lacerated Spleen after Blood Transfusion, By A. H. BOWEN.
7. Splenectomy for Gunshot Wound of the Spleen, By E. H. FISKE.

8. Splenectomy in Banti's Disease with Report of a Case, By G. TORRANCE.
9. Splenectomy for Carcinoma, By MARY A. SMITH.
10. Gangrene of Appendix in a Three Weeks Old Infant, By C. H. DIXON.
11. Primary Sarcoma of the Prostate, By C. A. POWERS.
12. A Systematic Operation for Penile Hypospadias and Other Defects of the Urethral Floor, By G. F. LYDSTON.
13. Simple Fracture of the Carpal Scaphoid, By W. A. DOWNES.
14. Observations on the Treatment of Fracture of the Neck of the Femur in One Hundred and Twelve Cases, By J. B. WALKER.
15. The Open Method in the Treatment of Pott's Fracture of the Leg, By H. H. HEATH AND C. D. SELBY.
16. Punctured Fracture of the Skull, By G. G. ROSS.

**1. The Relation of the Mesocolic Band to Gastroenterostomy.**—Mayo denies that anterior gastroenterostomy has become obsolete, though its field of usefulness has been greatly diminished by the posterior method, by which the intestinal loop has been eliminated. By the anterior method from sixteen to twenty inches of jejunum must be looped around the transverse colon, and regurgitation of bile is often one of its annoying complications. In performing the posterior operation the author suggests that the operator locate the peritoneal suspensory ligament or band which extends from the transverse mesocolon to the upper part of the jejunum. Immediately above this band, in the mesocolon, is an area in which there are no important blood-vessels. The suspensory band having been stripped away, and a transverse incision made in the above mentioned area of the mesocolon, the posterior aspect of the stomach may be drawn through this opening and the denuded jejunum attached to it, the attachment thus being without strain or loop and following the normal direction of the jejunum.

**4. A Contribution to the Diagnosis of Renal Tuberculosis.**—Campbell analyzes eleven cases of this condition. In one a circumurethral abscess was the first objective sign, in three there was epididymitis subsequent to the primary renal symptoms, and in one there was pulmonary tuberculosis when the renal disease was discovered. In nine of the cases tubercle bacilli were found in the urine. All but two of the cases underwent nephrectomy, and the clinical diagnosis was verified. Two of the cases developed probable tuberculous disease after the nephrectomy, and another quickly succumbed to general miliary tuberculosis. The cystoscope aided in the diagnosis, ulceration, tubercles, or œdema being observed around the ureteral orifices. The ureteral catheter also permitted collection of urine from each kidney with certainty. With such assistants, and the possibility of an early diagnosis and a primary unilateral disease, the prognosis will be much better for the future than it has been.

**9. Splenectomy for Carcinoma.**—Mary Smith states that only four cases of this operation are recorded. In her case the points of interest were: 1. The development of malignant ovarian tumors probably about her thirty-seventh year, during or following pregnancy. 2. A long period of good health after the removal of these tumors and the diseased appendix. 3. The entire disappearance of the sagolike growths observed at the first operation, and the appearance of a similar growth in the spleen, replacing the splenic tissue. 4. Reappearance of the

colloid growth in the abdomen after splenectomy, having originated from that part of the spleen where the growth had burst through the capsule. 5. Only slight variations in the blood before and after operation. 6. No symptoms pointing to any particular organ as the cause of rapid emaciation and loss of strength.

## AMERICAN JOURNAL OF OBSTETRICS.

January, 1908.

1. The Role of the Gonococcus in Disease, By R. W. TAYLOR.
2. The Treatment of Terminated Ectopic Gestation. Report of Cases, Including One of Recurrent Ectopic Gestation, By C. A. STILLWAGEN.
3. Extrauterine Gestation. A Clinical and Operative Study of Over One Hundred Cases, By L. J. LADINSKI.
4. Management of the Puerperium from a Surgical Standpoint, By A. FLINT, JR.
5. Care of the Patient in the Puerperium, By F. A. DORMAN.
6. Treatment of the Puerperium, By S. MARK.
7. In Memoriam, By W. H. S. WOOD.

## 1. The Role of the Gonococcus in Disease.—

Taylor summarizes his exhaustive paper on the gonococcus as follows: 1. It attacks the human urethra, causing catarrhal and hyperplastic inflammation, which may result in chronic arthritis and stricture. 2. It invades the testes and their appendages and thus threatens sterility in men. 3. Though usually limited to the subepithelial connective tissue it may invade the venous and lymphatic radicles of the male and female genitalia and cause local and general disturbance. 4. The whole organism may thus be attacked, with much resultant suffering and disability. 5. It may cause septicæmia, with serious or fatal result. 6. Arthritis and rheumatism are constant concomitants, causing marked changes in joints, tendons, bursæ, and muscles. 7. After generalized systemic infection the heart may become seriously involved. 8. The gonococcus may be destroyed by the antitoxic influence in the blood serum. 9. The microbe, or its toxins, may cause serious changes in the cerebrospinal system. 10. Invasion of the pleura may occur, with resultant phlebitis. 11. The spleen may be attacked. Evidence of liver involvement has not yet been demonstrated. 12. Many cutaneous and mucous membrane lesions may be caused by the gonococcus. 13. Bone lesions may result from its virulent action. 14. The entire genitourinary tract in the male may be involved. 15. The mouth, nares, rectum, umbilicus, and eyes may undergo inflammation from this cause. 16. Infection of the female genitals may menace life and health. 17. The possible production of an inhibitory serum is undetermined. 18. The gonococcus causes gonorrhœa in the majority of cases. 19. It may be latent, but may also at any time become potential. 20. It is capable of producing the most far-reaching infections to which human beings are susceptible.

## 5. Care of the Patient in the Puerperium.—

Dorman considers the selection of a proper nurse as a prime consideration in caring for a puerperal woman. Massage of the uterus for an hour after delivery should be a portion of the duty of the physician, not of the nurse. An abdominal binder is

advised and the patient should not be restrained from moving from side to side if she wishes to do so. The nurse must be scrupulously clean and not too fussy, while using all measures conducive to the comfort and safety of the patient. Fluid diet should be given for two days. The bowels should be moved with a mild laxative not later than the third day. Salines should be used if the breasts become engorged, and heavy breasts should be supported with a suitable binder. The baby should not be kept too long at the breast lest the nipple become macerated. An ice bag to the breast will sometimes avert inflammation. Wet dressings of aluminum acetate are recommended for cracked nipples, and a nipple shield may be used if nursing is painful. Careful bandaging of the breast is advised in cases in which it may be necessary to arrest the flow of milk.

## THE PRACTITIONER.

January, 1908.

1. The Diagnosis of General Paralysis, By F. W. MOTT.
2. Lupus Erythematosus; Observations on its Ætiology and Treatment, By J. M. H. MACLEOD.
3. The Urethra:
  - (a) The Anatomy of the Urethra, By G. J. JENKINS.
  - (b) The Causes and Varieties of Urethral Strictures, By A. EDMUNDS.
  - (c) The Treatment of Stricture by Bougie, By H. LETT.
  - (d) The Treatment of Acute Gonorrhœa, By J. PARDOE.
  - (e) Gleet, Some Points in its Diagnosis and Treatment, By C. GIBBS.
4. A Review of Recent Work on Epidemic Cerebrospinal Meningitis, By C. B. KER.
5. The Arrest of Hæmorrhage after Labor, By J. H. E. BROCK.
6. Orthopædic Surgery, By A. H. TUBBY.
7. Subacute and Chronic Middle Ear Deafness, By M. YEARSLEY.
8. Ophthalmia Neonatorum, By S. MAYOU.
9. Membranous Rhinitis, By F. A. ROSE.

## 3b. The Causes and Varieties of Urethral

Stricture.—Edmunds considers two groups of causes for stricture. In one, including the congestive stricture and the spasmodic stricture, there is temporary obstruction in the mucous membrane or in the muscular tissues surrounding the urethra; in the other, including organic stricture, there is structural narrowing in the urethral lumen. The congestive stricture is always due to gonorrhœa, and is marked by pain and sometimes by spasm. The spasmodic stricture is due to inhibitory action of the hypogastric nerve, which not only obstructs the urethra, but diminishes the contractile power of the bladder. Of the organic stricture traumatism of the urethra is frequently a cause, including incised wounds, injuries from falling, kicks in the perinæum, fracture of the pelvis, laceration by foreign bodies. The largest number of strictures include those which follow gonorrhœal inflammation. Congenital stricture is of rare occurrence and is due to faulty development in one or more of the three portions of the urethra. Finally the operation of prostatectomy is occasionally followed by a true stricture, which may be very troublesome.

3c. The Treatment of Stricture by Bougie.—Lett observes that in this method of treatment confidence, perseverance, and gentleness are of the great-

est importance. The urethra is so delicate and sensitive that rough treatment is not usually forgotten or forgiven. In passing the bougie one should not forget that most of the lacunæ and follicles in which an instrument is likely to be entangled are on the floor of the urethra, and that it is there that the majority of false passages occur. One is especially reminded of the point where the urethra turns up into the membranous portion through the triangular ligament. A false passage can usually be avoided by hugging the roof with the point of the instrument. Strictures vary greatly, not only in their form, but in their tolerance of treatment. Dilatation is the treatment which is to be recommended in the great majority of cases of urethral stricture. Urethrotomy should be resorted to for impermeable, resilient, nondilatable ones, and for those in which fever or rigor follows any attempt at dilatation.

**3d. The Treatment of Acute Gonorrhœa.**—Pardoe considers two methods, the abortive and the expectant, the choice of treatment, depending upon the limitation of the infection to the anterior urethra or its spread along the entire length of the canal. The abortive treatment is effective only in cases which are seen within a day or two after the appearance of symptoms and before the discharge becomes purulent. It consists in cleansing the urethra, determining the extent of infection with the urethroscope (after the application of a local anæsthetic), and then the free application to the urethra of a 2 to 4 per cent. solution of silver nitrate. This may be repeated, if necessary, in forty-eight hours. If the disease has passed the initial stage, urethral irrigation twice daily, for ten days, with a weak solution of potassium permanganate, will often prevent its further progress. In the expectant method of treatment cleanliness of the penis and urethra is imperative, antiseptic lotions and plain hot water being frequently applied. The diet should be simple, alcohol should be abstained from, and the urine should be made alkaline. When the pain and scalding of micturition are ended the balsams are indicated. Irrigation with permanganate of potash solution should be practised several times a week.

**9. Membranous Rhinitis.**—Rose thinks that, notwithstanding the frequent descriptions of this condition, it is frequently overlooked even by specialists in nose and throat disease. A bacteriological examination of a culture from the nasal membrane or the discharge will usually reveal many diphtheria bacilli. It usually occurs in children who may be in fair general condition, running from the nose, slight bleeding, and nasal obstruction being pronounced symptoms. The mucous membrane of the nose is congested and covered with a more or less dense and tough membrane. The pharynx is usually normal in appearance. The disease usually continues four to six weeks. The patient should be isolated as in well pronounced diphtheria, antitoxin should be injected, and the nose irrigated. Removal of the membrane by force does no good, as it will immediately reform. Though this is considered a mild form of diphtheria and should be treated as such, it will not communicate to a susceptible person diphtheria in a severe form, but only a similar rhinitis or a sore throat with a small patch of exudate.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*One Hundred and Second Annual Meeting. Held in Albany, January 27, 28, 29, and 30, 1908.*

The President, Dr. FREDERIC C. CURTIS, of Albany, in the Chair.

**Meeting of the House of Delegates.**—The minutes of the last meeting were read and approved and the roll called answered. The PRESIDENT then read his report, in which he said that the principal event of the year had been the passage of the new law regulating the practice of medicine, and that the profession as a whole owed much to the society, and the society, in turn, owed as much to its committee for its earnest efforts. He called attention to the excellent work of the society in protecting its members in malicious malpractice suits. He earnestly recommended the various county societies to increase their membership and thus increase that of the State organization. He recalled its primary object, namely, "to bring together all reputable practitioners of the State once a year," and referred to the fact that meetings of district branches had been held for the first time this year. He advocated cooperation instead of competition and the union of different districts in their scientific meetings. The business meetings of course must be held separately.

He advised that a committee be appointed to confer with a similar committee of the Bar Association to improve the present status of medical testimony, also that another committee be selected to continue the work in the matter of ophthalmia neonatorum.

For a century the meetings of this society had been held at this time and at this place (Albany), but the winter season was the worst of the year for physicians to convene, and Albany was not the geographical centre of the State. He asked if one permanent meeting place was really desirable. He recommended that the annual meetings be held in the fall and at different cities in the State each in its turn.

**The Report of the Secretary, Dr. WISNER R. TOWNSEND,** showed a total membership of 6,154 against 5,695 last year. During the past year the secretary had attended all the branch meetings but one, and spoke of the high order of scientific attainment shown. He referred to the great possibilities that this district branch system possessed, the value of the district branch presidents as delegates to the State organization, because he would be "aware of the local needs and conditions and of what should or should not be attempted." He urged each member of the society to try to bring in at least one physician who was not now a member. The secretary advised the county societies in the future to see that registration was properly kept up and so obliterate the unregistered list, recommended the State society to pay the expenses of its delegates to the national society, and suggested that the president be requested to send delegates to the meetings of societies of adjoining States.



**The Report of Dr. A. G. Root, Chairman of the Committee on Legislation,** showed that sixty-four bills had been introduced into the legislature last year, of which number eighteen had become laws.

Of the sixty-four, twenty-one were general medical bills, of these, fifteen died in committee, four became laws, and two did not receive the governor's signature. Three of the sixty-four were so called ice bills, referring to the gathering and sale of ice from polluted sources. All these bills died in committee. Eight of the sixty-four were labor bills, referring to the health of factory children and working women and the general hygiene of the working classes. Of these, two died in committee and six became laws. Seven of the sixty-four had reference to the tenement house legislation in New York city. Five died in committee and two were signed by the governor. Twenty-five of the sixty-four were bills relating to pharmacy, the sale of drugs, poisons, cocaine, etc. Of these, eighteen died in committee and seven became laws.

**Prize Essays.**—Dr. A. JACOB, chairman of the committee, reported that during the past year no essays had been presented.

**The Treasurer's Report,** by Dr. ALEXANDER LAMBERT, showed a surplus of \$10,717.30.

**The Committee on Public Health** recommended that a laboratory be equipped in each county seat for the examination of secretions and excretions, also that the State laboratory at Albany be enlarged and charged with manufacturing all the antitoxine and vaccine virus used by the State and that the State furnish this free of cost to those needing it, or at least at cost prices; also that the society actively cooperate with the State Department of Health in the passage and administration of a law for the reporting and registration of all cases of tuberculosis in the State. The committee called attention to the necessity of providing special hospitals for the care of the advanced cases of tuberculosis in every centre of population. It also commended the action of the State making it imperative to cease discharging raw sewage and other deleterious matter into streams or lakes or upon the land in the drainage area of streams or lakes that could pollute the waters used as a source of water supply.

**The President's Report** showed a decrease of twenty-five per cent. in the number of malpractice suits, and at the same time the number of paid up memberships in the society had increased. He said that the arrest in the number of malpractice suits was being speedily accomplished. For the past two years there had never been a single dollar received by plaintiffs in suits where the physician had asked of the society and received malpractice defense.

**The Special Committee on Meetings** recommended that the State be divided into four divisions, and that the State society meet in each of these four sections in its turn. This was referred to a committee, to report at the next annual meeting.

**Officers for the Ensuing Year** were elected as follows: President, Dr. Edward L. Trudeau; vice-presidents, Dr. A. G. Root, Dr. John Wheeler, and Dr. M. C. Hawley; secretary, Dr. Wisner R. Townsend; treasurer, Dr. Alexander Lambert; chairman

of the Scientific Committee, Dr. George H. Neuman; chairman of the Committee on Public Health, Dr. J. L. Heffron; chairman of the Committee on Legislation, Dr. F. Van Fleet; chairman of the Committee of Arrangements, Dr. W. J. Nellis; delegates to the American Medical Association, for one year, Dr. R. F. Weir, and Dr. Charles Jewett; for two years, Dr. W. R. Townsend, Dr. D. C. Moriarta, Dr. C. B. Angell, Dr. J. C. Bierwith, and Dr. Albert Vander Veer; alternate delegates for two years, Dr. Thornton, Dr. Brown, Dr. Little, Dr. Glass, Dr. Dunning, and Dr. Stover; alternate delegates for one year, Dr. J. A. Fordyce, Dr. A. H. Terry, Dr. W. T. Mulligan, Dr. C. G. Rossman, and Dr. Burrols. Mr. J. T. Lewis was reappointed the attorney for the society.

#### SCIENTIFIC SESSION.

**The President's Address.**—This was upon Questions of Broad Consideration Outside of Technique that Concern the Organized Medical Profession. He spoke of the significance of the annual meetings as the mirror of the year's attainments. He referred to the constantly changing methods of work and to questions of ethics, policy, and responsibility, as for the most part due to such gathering as the present one. He spoke of the value of organization, and said that, while the work done in the laboratory and college was of great importance, it was valueless until it was turned into the current of common life and passed along and became thereby a stream of influence helpful to humanity. As in the address to the delegates, he referred to the primary object of these meetings, "to associate all the reputable physicians of the Commonwealth and ostracize the unworthy." He urged that self respect, mutual improvement, and obligation to mankind be the actuating and animating motives of the society. He referred to the Medical Practice Law as the culmination of earnest and untiring efforts for the past twenty-five years and to democracy as the chief asset of the organization. He would bring every reputable practitioner in, simply drawing the line against those who for a very definite reason were thought unworthy, and so fulfill the purposes of the fathers. The organization, he believed, should take in all, give all a chance of expression, make its floor an open forum and its executive body as free as a New England town meeting; such an association of united men in county and State would always win good men to its membership and have its way so long as its purposes were high.

Obligation, the president stated, was the inevitable offspring of capacity, and it was his purpose to indicate how admirably this society was fitted for the work which devolved upon it. The public was dependent upon the medical profession, and the medical profession was apt to forget its obligation to the people. The people at large were more apt to obstruct than aid in the work for their safety. He emphatically condemned commercialism in medicine; called upon history to bear witness to the material value of sanitation, and pointed out how the mortality had been reduced one half in diphtheria and one third in diarrhoeal troubles. He viewed it as a function of this society to direct popular thought, create sentiment, establish county

health officers and laboratories, and recommend more teaching in sanitation, for sanitation must primarily come from the medical profession. He referred to the question of alcohol as one within the scope of the State organization, and believed it one of the most tremendous. Even its therapeutics he thought worthy of careful scrutiny. He also touched upon the still prevalent but also preventable disease ophthalmia neonatorum. He believed active work for its prophylaxis to be one of the obligations of the society. He lamented the present status of medicolegal testimony and said that measures were under way by means of which he hoped the present deplorable situation would be very much improved. In closing Dr. Curtis said: "But let us as a body of a learned profession never be unmindful of the fine old French motto, 'Rank imposes obligation.'"

**Nihilism and Drugs.**—Dr. A. JACOBI believed that a physician should be judged by his knowledge and not by his cures, and so bring medicine to the dignity of a science and not an art. He referred to the attitude of Oliver Wendell Holmes, who said: "It is not of the slightest interest to the patient to know if two or three cubic inches of his lung are hepatized," etc., and to the more modern William Osler, who advised students and physicians to be skeptical of the *Pharmacopæia* and counseled them to study people and learn to manage them, and said that it was the best doctor who knew the worthlessness of medicines. Dr. Jacobi expressed the belief that we owe much to the writings of Dr. Osler, but that we should be wary of all his sayings because of their widespread influence. He (Dr. Jacobi) wished that Dr. Osler had said: 1. Be critical of the *Pharmacopæia*. 2. He is the best doctor who knows the worth of medicines. 3. Study your fellow men and learn to serve them.

Dr. Jacobi then showed the impracticability of the one drug rule. He cited the "mixed treatment" of syphilis as a striking example of many drug methods. The cachexia could not be treated by any one drug, but by a union or combination of many, such as quinine, ergot, iron, etc. He urged practitioners not to treat the disease, but the man or woman. He then referred to the expectant as practised by many. He cited a case of spastic encephalitis in which a specialist was called in and said: "Let me see her in six months." He, being called in subsequently, advised potassium iodide, massage, hydrotherapy, etc., and the child was greatly improved in six weeks. Thus the actual treatment of a month with drugs had proved superior to the expectant treatment of six months.

He regarded the expectant treatment as a sin of omission which frequently arose to the dignity of a crime. It was apt, in his opinion, to render men callous. The expectant treatment of diphtheria was cited as being especially bad, and drugs, vigorous stimulation with alcohol, and local antiseptics were strongly advocated.

As to drugs, he believed cardiac stimulation by means of digitalis, strophanthus, sparteine, strychnine, ammonia, and musk indispensable in the heart failure of pneumonia, and they often were really life saving. He urged large doses when required. As to the dose for any particular age, he recommended

giving as much of a remedy as the case demanded. He considered the injection of morphine over the seat of pain better than into the arm, but also deemed it far better in the arm than in the stomach. Contrary to the general opinion, Dr. Jacobi believed opium to be well borne by children, because of their indolent nervous systems due to lack of higher development. Belladonna, too, must be given in full sized doses to obtain the best results.

The speaker believed no case of chronic tuberculosis properly treated unless guaiacol was used. Whether it acted upon the stomach, improving and stimulating it, or antagonized the toxine was as yet unknown, but it did give good results.

In concluding, he referred to Germany as being the source of much that was good in medicine, but also of much that was bad.

(To be continued.)

## Letters to the Editors.

### ACUTE POLIOMYELITIS.

COLONIAL BUILDING,  
BOSTON, January 15, 1908.

To the Editors:

The State Board of Health of Massachusetts has begun investigations into the etiology, course, and treatment of acute poliomyelitis following the accounts of the recent epidemic of this disease in New York City.

If I had clinical material at hand I would carry out some experiments to determine positively the correctness of my theory that this is an air borne infection whose port of entry is naturally the first tonsil.

As I have proved to the satisfaction of many, both patients and physicians, that this is true of many other air borne infections, such as acute articular rheumatism, scarlet fever, diphtheria, influenza, etc., and that local and direct treatment made at this site of infection is always positive in results, I am ready to affirm and would respectfully suggest that, instead of standing helpless by the afflicted patient, we should attack the disease, which is an infection, *in situ*.

Seibert, recently writing of the prophylaxis of meningitis, advises that the nasopharynx be thoroughly sterilized locally.

His evidence had been drawn from reports of autopsies in which the course of the infection with the meningococcus was traced from the postnasal space to the meninges. The process of treatment is so simple and so direct that it may be readily made by any one skilled in treating the nose or the ear. It is preferable to make the applications through the nose.

EDMUND D. SPEAR.

### THE ETIOLOGY OF BERIBERI.

PITTSBURGH, PA. January 11, 1908.

To the Editors:

Apropos of your editorial article in the *Journal* for January 18th on the subject of the etiology of beriberi, I beg leave to call attention to a report published in the *Annual Report of the Surgeon-General, Surgeon General of the U. S. Marine Hospital Service*.

vice for the Fiscal Year 1897, on the occurrence of beriberi aboard vessels trading with the ports of the United States on the Gulf of Mexico.

While at the Gulf Quarantine Station I saw cases of beriberi aboard ship and was called upon to make inquiries as to the circumstances attending the origin of the disease. From the inquiries which I made in that instance I was forced to the conclusion that the beriberi which I was investigating was a dietetic disease entirely, and no other explanation seemed possible; and I was impressed most of all with a suggestion made to me by the master of a vessel, who said that he had never seen the disease until canned foods were introduced on shipboard. The canned goods used were often bargain lots which the vessel had picked up at some port at a very low price, and in such a case it is to be suspected that the goods were such old stock that the merchant had to dispose of them as best he could.

It was suggested, in the report above referred to, that the beriberi as seen at that time was due either to a chronic ptomaine poisoning or to chronic poisoning with a metal, dissolved by a slow process from the cans, in tinned goods.

A. C. SMITH,  
Surgeon, U. S. P. H. & M. H. S.

### Book Notices.

*A Textbook on the Practice of Medicine.* By JAMES M. ANDERS, M. D., Ph. D., LL. D., Professor of Medicine and Clinical Medicine at the Medicochirurgical College, Philadelphia, etc. Illustrated. Eighth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 1317. (Price, \$5.00.)

When a medical work has reached the dignity of an eighth edition its rank and usefulness have been sufficiently demonstrated and the task of the reviewer is an easy one. The qualities which have distinguished previous editions of Dr. Anders's well known textbook, orderly arrangement of material, evincing wide familiarity with the latest literature, nice discrimination in diagnosis, good judgment in recommendations as to treatment in which hygiene and diet receive due consideration, and a concise, pleasing literary style, are all apparent in this volume. Many of the chapters have been practically rewritten to keep pace with recent advances in internal medicine. The sections showing the largest amount of such revision are perhaps those relating to the tropical parasitic diseases. Among the new subjects discussed are the aplastic anemia of Senator, splenomegaly, the Stokes-Adams syndrome, Vincent's angina, chronic appendicitis without acute attacks, and intestinal autointoxication. Both lobar pneumonia and acute articular rheumatism are definitely placed in the group of general infectious diseases. Accepting the *Treponema pallida* of Schaudinn, syphilis is classified with the animal parasitic diseases along with infection with trichina, tenia, echinococcus, and the trypanosomes. The author's sparing use of illustrations is to be commended. Where they are introduced they really serve to elucidate the text, and are not used merely for the purpose of making a book prettier. The book is a masterpiece of practical observation and

the great masters of clinical teaching, and is further enriched by the author's large personal experience. The present edition is in every way a very satisfactory statement of the internal medicine of to-day, and will be received with the favor which has been accorded the preceding editions.

*Diseases of the Larynx.* By HAROLD BARWELL, M. B. (Lond.), F. R. C. S. (Eng.), Surgeon for Diseases of the Throat, St. George's Hospital; Laryngologist, Mount Vernon Hospital for Diseases of the Chest, etc. London: Henry Frowde and Hodder & Stoughton, 1907. Pp. viii+266.

*Diseases of the Nose.* By E. B. WAGGETT, M. A., M. B., B. C. (Cantab.), Surgeon to the Throat and Ear Department of the Charing Cross Hospital, etc. London: Henry Frowde and Hodder & Stoughton, 1907. Pp. xii+282.

*Diseases of the Ear.* By HUNTER TOD, M. A., M. B., B. C. (Cantab.), F. R. C. S. (Eng.), Aural Surgeon to the London Hospital, Lecturer in Aural Surgery at London Hospital Medical College, etc. London: Henry Frowde and Hodder & Stoughton, 1907. Pp. xiv+317.

These little manuals are hardly designed to replace any of the standard textbooks, yet each of them contains something of interest, and all are worth reading by those who already know the subject and can appreciate an original presentation of familiar facts. Barwell has an excellent chapter on the examination of the larynx, and others on points of treatment which are valuable. The book is concise and practical, the rarer forms of disease and theoretical aspects of the subject being treated of briefly. Waggett's pages, as he says, are intended to be read as they were written, rapidly, from cover to cover. He gives a good account of the embryology and comparative anatomy of the nose and a number of excellent chapters, such as those on adenoid facies, local treatment, and others. Tod writes specially for those who have not had the opportunity of devoting much time to the study of diseases of the ear, but his summary will undoubtedly be of service in many ways to the more experienced practitioner. The diagrams showing modes of extension of inflammation from the tympanic cavity, and the cuts illustrating the intracranial otitic complications, are particularly instructive and novel.

*Die Salzsäuretherapie auf theoretischer und praktischer Grundlage.* Bearbeitet von Prof. Dr. HANS LEO in Bonn. Berlin: August Hirschwald, 1908. Pp. 138.

Professor Leo, of Bonn, has made the hydrochloric acid therapeutics the subject of a very interesting little book. Hydrochloric acid, as is well known, is a compound which is not foreign to the body; that means, it is found normally in man, and plays an important rôle in digestion. It is, therefore, necessary to first study the secretion of the stomach under normal and pathological conditions, its influence upon the food, and its physiological action on the stomach and intestines, so as to give hydrochloric acid treatment its proper place in pharmacology, and thus to find out its pharmacodynamic properties. This, in short, is the disposition of the subject the author has made in his book. He also refers to the poisonous properties of hydrochloric acid, and gives a full review of the practical subject of its therapeutics. Very interesting and to the point are his conclusions.



*Ophthalmia Neonatorum*, with Especial Reference to its Causation and Prevention. (The Middlesex Prize Essay of the British Medical Association, 1907.) By SYDNEY STEPHENSON, M. B., C. M., Ophthalmic Surgeon to Queen Charlotte's Hospital, London, etc. London: George Pulman & Sons, Limited, 1907. Pp. 258.

Stephenson's work is a complete historical and medical study of a subject which, for practical importance, must appeal not only to the oculist and obstetrician, but to all physicians who are interested in the achievements and the possibilities of hygiene and preventive medicine. The ætiology and bacteriology, the symptoms, prognosis, and treatment of gonorrhœal infection of the eyes of the new born, are discussed at length, on the basis of the author's own experience and on that of an unusually thorough and complete study of the literature. The economic side of the question and the relation of the State to preventive measures are also brought out. The statistical tables are numerous and will be of great value to future workers in this field. Stephenson, in conclusion, repeats the admonitory words of Hermann Cohn, "Die Blennorrhœa neonatorum kann und muss aus allen civilisirten Staaten verschwinden."

*A Manual of Orthopaedic Surgery.* By AUGUSTUS THORNDIKE, M. D., Assistant in Orthopedics at the Harvard Medical School, Visiting Surgeon to the House of the Good Samaritan, etc. With 191 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. 401.

Dr. Thorndike has compiled a very handy and practical manual. The book is divided into five parts. Part I treats of the foetal deformities and errors of development of the skeleton and the nervous system, and the accidents at birth. Part II comprises deformities due to the action of external forces on growth. In Part III are discussed the diseases and injuries of bones and joints in postnatal life. Part IV gives the deformities from acquired diseases of the nervous and muscular systems. In Part V is described the technique of plaster of Paris appliances and apparatus.

From this short synopsis of the contents it can be seen that the author has given his subject a thorough treatment.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

*Diseases of the Heart.* By Professor Th. v. Jürgensen, of Copenhagen, Professor L. v. Schrotter, of Vienna, and Professor E. Kriebel, of Grafswald. Edited with Additions by GEORGE DOCK, M. D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Ann Arbor. Authorized Translation from the German, under the Editorial Supervision of ALFRED STENDEL, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 848.

*Essentials of Modern Electrotherapeutics.* An Elementary Textbook on the Scientific Therapeutic Use of Electricity and Radiant Energy. By Frederick Finch Strong, M. D., Instructor in Electrotherapeutics at Tufts College Medical School, Boston. New York: Rossmore Company, 1908. Pp. 8, 112.

*Maternity.* By Henry D. Fry, M. D., Sc. D., Professor of Obstetrics, Medical Department of the Georgetown University, etc. New York and Washington: Neale Publishing Company, 1907. Pp. 220.

*The Preservation of Life.* Optimums. Sonder. By LEO METCHNIKOFF, Subdirector of the Pasteur Institute, Paris. The English translation edited by P. Chalmers Mitchell, M. A., D. Sc. Oxon., Hon. LL. D. F. R. S., Secretary of

the Zoological Society of London, etc. New York and London: G. P. Putnam's Sons, 1908. Pp. xx-343.

*Formulaire synthétique de médecine.* Par le Dr. L. Pron. Paris: Jules Rousset, 1908. Pp. 601.

*Transactions of the American Ophthalmological Society.* Forty-third Annual Meeting, Washington, D. C., 1907. Volume XI, Part II. Published by the Society.

#### Miscellany.

**The Controversy between Surgeon General Rixey and Admiral Brownson.**—The *Army and Navy Journal* publishes the following letter, sent by Surgeon General Rixey to the Secretary of the Navy, dated January 22, 1908. As this letter covers the controversy, we publish it in full:

Admiral Brownson's written representations in regard to the hospital ship have just been brought to my attention, and as they are of such a character as to lead to serious misunderstanding of the matter without further explanation, the Bureau begs to submit the following statement in answer thereto, and respectfully requests that the same be transmitted to Congress in connection with the other papers called for by the resolution:

First. I have never asked that medical officers be entrusted with the navigation of hospital ships. On the contrary, I have asked that under the Bureau of Navigation a sailing master and crew be selected and held responsible for the navigation and care of the ship. All orders to and from the sailing master should pass through the senior surgeon, who will be in command. I asked for the medical officers of the navy exactly the same status as was and is given to the medical officers of the army on hospital ships. The ship now in question, the *Relief*, as a hospital ship, was commanded by medical officers of the army. There can be no question but that the medical officer of the navy is as well qualified for this work as is the medical officer of the army.

Second. The neutrality of the hospital ship demands that line officers and a fighting crew should not be put aboard her except when on the sick list, when they are a part of the medical corps until discharged from the sick list and from the hospitals or hospital ship.

Third. I agree with Admiral Brownson that the pilot age, navigation, and handling of the hospital ship should be as well done as is that of any other ship, but I contend, and the facts show, that all of this has and can be done as efficiently by a merchant master and sailors as by a line officer and a fighting crew. For example, see Admiral Brownson's statement in regard to auxiliaries and the history of the transports run by the army at present and in past wars. Admiral Brownson, citing the difficulties encountered in the navy with different types of crews, states: "As a result of experience with the various systems, all in force at the same time and under similar conditions, officers who have had experience with the naval auxiliaries agree that the most efficient organization is obtained when these vessels are commanded by a full naval crew, and it is only the fact that at present there is such a shortage of officers and men that naval auxiliaries are not so commanded." In reply to this I wish to call your attention to the fact that line officers and naval crews would jeopardize or destroy neutrality in time of war, and moreover, every fighting man of the navy will be needed for our fighting ships in war. And still further, I wish to submit that a naval crew who would wish to be on a hospital ship when there was fighting to be done, would, as in the case of the *Relief*, be most inefficiently and unreasonably used in the fighting branch.

Fourth. Admiral Brownson refers to orders issued and difficulties encountered in the navy with civilian crews and masters, and specially cites the cases of the *Iris* and *Nausen*. The army transport service is noted for its efficiency, and it is navigated by a civilian crew and master without a bureau of navigation to select and equip. How much better crews should be made such arrangements. In the case of the *Iris*, she was not saved by a line officer who was on board, and she was not protected. But the matter does

missed, as he should have been. In the case of the *Nansen*, cited by Admiral Brownson, the second officer on board, who was drunk and disorderly, if she had been a hospital ship would have been treated as an insane patient, and he would have been locked up promptly until he could have been dealt with under regulations governing such cases.

Fifth. In regard to command in our shore hospitals and hospital ships, there can be no question as to the medical officers having all the authority necessary to enforce their commands. Such authority is exercised every day in all of our hospitals on shore over line officers and enlisted men so long as they are on the sick list and in the hospital; also over civilian employees and all that come into the hospitals; in other words, we absolutely command in our hospitals ashore. This question was settled by order of the Department in S. O. dated August 22, 1904, and it was opposed just as earnestly by the Bureau of Navigation as is now our present request in regard to command of our hospital ships. This bureau has found that this sustaining of the bureau in regard to command in the shore hospitals has been most satisfactory, and just here I wish to bring out clearly that we are exercising the right of command according to law in our own corps, and Admiral Brownson's contention that a line officer on the sick list in a hospital ship does not belong to that corps is not well taken. If a line officer sick in our hospital or on a hospital ship is not under the authority of the medical officer in command, he would be a most dangerous person to put in a hospital or aboard the hospital ship. He might be out of his head or insane; and as long as he is on the sick list, it is absolutely necessary that he should be under the control of the medical officer, and there has been no question of this in the past, in my thirty odd years in the navy. A patient going aboard the hospital ship remains on the sick list until he is discharged from that ship, and during this time he is absolutely under the control of the medical officer in charge.

Sixth. The Navy Regulations would be the same on the hospital ships as in any of our hospitals ashore, and in any other portion of the navy, and punishment for the infraction of discipline would be just the same and according to regulations. There is no question of the control of the paymasters now serving under medical officers in our hospitals, nor of the enlisted force. Why should Admiral Brownson fear for the control of them on a hospital ship? In conclusion, Admiral Brownson refers to the *Solace*, the only hospital ship mentioned by him, and the only one that he can find that was ever commanded by a line officer, whereas I have cited a number of them in our own and in foreign services which have been commanded by medical officers. The *Solace*, as I have already cited, destroyed her claims to neutrality on several occasions, and even laid claim to prize money for having taken part in offensive operations. The importance of this contention of Admiral Brownson does not stop with the hospital ship. In order to have an efficient personnel selected to watch over and ever ready to man the guns of our navy and handle our fighting ships, with the assurance that when our men are cut down they will be cared for, it is necessary that the medical officers must have authority in their own corps, and further, that medical officers' authority must be recognized in all matters of sanitation. There is no question of it ashore, and has not been since 1904, although the line fought just as hard to prevent the use of the word "command" in our hospitals ashore as it is fighting now to prevent the use of the word "command" in our hospital ships at the present time. In conclusion, I have to submit that the hospital ship would be run according to regulations as laid down a year ago by the Secretary of the Navy, and this should be done in time of peace and tried to the satisfaction of the Department and the country, so that in time of war the medical officers may know where they stand in the care of the thousands that may be entrusted to their care.

**The State Charities Aid Association.**—The State Charities Aid Association, which for thirty-five years has visited the public charitable institutions of the State and endeavored in many ways to secure their improvement, has turned its attention to the question of the causes of dependence upon the pub-

lic. At a meeting of its board of managers, held last May, the following preambles and resolutions were adopted:

Whereas, Pulmonary tuberculosis is one of the leading causes of illness and death, and, therefore, of suffering, destitution, and pauperism, in this State; and,

Whereas, Recent discoveries in medical science and recent experience in the administrative control of tuberculosis have made it possible to take practical and effective measures for the restriction of this disease; and,

Whereas, Effective work in this direction has been carried on for several years in this city by the tuberculosis committee of the Charity Organization Society, and is not carried on as a rule elsewhere in the State; therefore,

Resolved, That it is desirable, if sufficient funds therefor should become available, without impairing the income of the association for work to which it is already committed, that the association should take it up actively, through its county committees, with the aid of a paid secretary, the promotion of measures for the restriction of tuberculosis in the State, outside of New York City.

A substantial contribution having been made available for this work, the association engaged the services on October 1st of Mr. John A. Kingsbury, a graduate student at Columbia University, on leave of absence from the position of principal of a public school in Seattle, Wash. The State Department of Health has established during the past summer a traveling tuberculosis exhibit, and the work of the State Charities Aid Association and of the State Health Department is being conducted in close co-operation, the association aiming to secure the largest practical results from the interest aroused by the exhibit. With Mr. Kingsbury's aid the Oneida County committee of the State Charities Aid Association has taken up most actively the antituberculosis campaign in Utica, where the tuberculosis exhibit has been shown for the past two weeks. At a public meeting there, addressed by Colonel William Cary Sanger, president of the New York State Branch of the National Red Cross; George F. Canfield, vice president of the State Charities Aid Association; Homer Folks, secretary of the association; Hon. Eugene H. Porter, M. D., State commissioner of health, and Dr. Livingston Farrand, secretary of the National Association for the Prevention of Tuberculosis. Governor Hughes, who had been invited to address the meeting, sent a cordial letter, regretting his inability to attend and expressing his deep interest in the movement. A committee on the prevention of tuberculosis has been appointed by the local branch of the State Charities Aid Association, Dr. William M. Gibson, of Utica, is chairman of the committee. A comprehensive program of constructive measures has been adopted by this special committee as a basis for its work. The establishment of a tuberculosis free dispensary and the services of a visiting nurse for a year are already assured. The Health Department has passed resolutions looking toward the establishment of a system for the registration of cases of tuberculosis. Very great interest has been shown by the citizens of Utica in the ex-

hibit, which was visited by 4,000 persons in the course of the fortnight. The outlook for carrying into effect a comprehensive program is most favorable. From Utica the exhibit was sent to several cities in the State and finally to New York City.

**Luke the Physician.**—Professor Adolph Harnack, of the University of Berlin, who is known as one of the most distinguished of living critical historians of the period at the beginning of the modern era, has occupied himself not a little with various points of medical history. He is considered an authority on such matters of philology as throw light on the details of the history of Greek and Roman medicine. His historical writing has been taken up much more, however, with investigation of Christian origins than with medical matters. It happens, however, that his last book (*Luke the Physician*, translated by J. R. Wilkinson, M. A., New York: G. P. Putnam's Sons, 1907) is one that unites both these subjects, and competent critics have declared it to be one of the most interesting contributions to history of recent times. While in recent years some doubt has been expressed as to the authorship of the writings formerly attributed to Luke, and even more doubt as to the tradition that their author was a physician, Professor Harnack has declared his conviction of the truth of both of these points and gives incontrovertible arguments for them. These arguments are drawn chiefly from the words and expressions which are used in the original version of the writings attributed to Luke. Careful investigation of the vocabulary and style of the author show that the tradition as to his being a physician is true beyond all doubt. The language of these writings betrays inevitably the tongue and the mind of one familiar with the Greek medicine of the time. Attention has frequently been directed to this before, but never with so rich a wealth of illustration and erudition as on this occasion. As has been well said, the argument from philology has never received such skillful treatment as is given it by Harnack. It seems probable, then, that physicians who are interested in this earlier history, especially from its medical aspects, may still continue to cherish the old tradition, according to which one of their number was in that olden time an active factor in the introduction of the ideas of the fraternity of the human race into the world which took place some 1900 years ago.—From the *Journal of the American Medical Association*, November 30, 1907.

The "Cruise of the U. S. S. *Æsculapius*, an Opera in One Act," was the title of the special entertainment provided for the guests at the annual dinner at the Gridiron Club, held in Washington on January 25th. This club, composed largely of newspaper correspondents stationed in Washington, has achieved a worldwide reputation owing to the character of entertainments furnished at its dinners, which consist of skits or satires based on current political topics. The controversy regarding the command of hospital ships furnished the basis of entertainment this year. Among the guests at the dinner were the President, the Vice President, the Speaker of the House of Representatives, and many members

of the diplomatic corps and high officials in Washington. Sailors dressed in regulation uniform explained that they were part of the crew of the "good ship *Æsculapius* recruited from the Georgetown Medical College." One of the characters, "Admiral Trixey," informed the audience to the tune of an air from "Pinafore" that

When I was a lad I served a term  
As an office boy to an apothecary's firm.  
I filled prescriptions so carefulee  
That now I'm an Admiral  
In the new Navee.

Another character reported to the captain of the *Æsculapius* singing:

Kind captain, I've important inflammation;  
Sing hey, the merry doctor and the tar.

Another character, when asked what orders he had received, said he had received no orders, but had been given several prescriptions.

Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, United States Public Health and Marine Hospital Service, during the week ending January 31, 1908:

Smallpox—United States.

Places.	Date.	Cases.	Deaths.
California—Los Angeles.....	Jan. 4-11.....	15	
Illinois—Chicago.....	Jan. 10-18.....	3	
Illinois—Springfield.....	Jan. 9-16.....	14	
Indiana—South Bend.....	Jan. 11-18.....	1	
Kansas—Kansas City.....	Jan. 11-18.....	2	
Kansas—Topeka.....	Jan. 11-18.....	3	
Kentucky—Covington.....	Jan. 11-18.....	4	
Louisiana—New Orleans.....	Jan. 11-18.....	8	
Massachusetts—Fall River.....	Jan. 11-18.....	4	1
Michigan—Detroit.....	Jan. 11-18.....	1	
Minnesota—Winona.....	Jan. 4-18.....	3	
Missouri—St. Joseph.....	Dec. 7-14.....	1	
North Carolina—Greensboro.....	Jan. 11-18.....	1	
Ohio—Cincinnati.....	Dec. 31-Jan. 7.....	3	
Oregon—Portland.....	Jan. 4-11.....	5	
Tennessee—Nashville.....	Jan. 11-18.....	15	
Texas—Fort Worth.....	Dec. 1-11.....	45	
Washington—Spokane.....	Nov. 23-Dec. 7.....	5	1
	Jan. 4-11.....	6	

Smallpox—Foreign.

Brazil—Rio de Janeiro.....	Dec. 16-23.....	24	14
Canada—Winnipeg.....	Dec. 1-11.....	9	
China—Hongkong.....	N. Y. 2-7.....	1	
Colombia—Guayaquil.....	Dec. 1-11.....	6	
France—Paris.....	Dec. 28-Jan. 4.....	6	1
Great Britain—Leith.....	Dec. 28-Jan. 4.....	1	
India—Bombay.....	Dec. 17-21.....	6	
India—Madras.....	Dec. 14-20.....	1	
Italy—General.....	Dec. 26-Jan. 2.....	77	1
Italy—Catania.....	Dec. 26-Jan. 2.....	2	
Japan—Kobe.....	Dec. 1-11.....	262	36
Mexico—Aguas Calientes.....	Jan. 5-12.....	4	
Peru—Lima.....	Dec. 1-11.....	18	
Spain—Barcelona.....	Dec. 28-Jan. 4.....	2	
Spain—Buenos Aires.....	Dec. 28-Jan. 4.....	3	
Spain—Vigo.....	Dec. 28-Jan. 4.....	36	
Spain—Vigo.....	Dec. 28-Jan. 4.....	Present	

Cholera—Foreign.

Philippine Islands—Manila.....	Dec. 1-11.....	4	3
China—Tientsin.....	Dec. 1-11.....	1	
India—Madras.....	Dec. 14-20.....	1	
India—Rangoon.....	Dec. 1-11.....	15	
Japan—Osaka.....	Dec. 14-21.....	2	1

Yellow Fever—Foreign.

Cienfuegos, vicinity.....	Jan. 23-25.....	2	
Guantanamo.....	Dec. 21-Jan. 4.....	1	



## PLAQUE FOREIGN

Brazil—Rio de Janeiro.....	Dec. 16-23.....	3	4
Great Britain—Glasgow.....	Aug. 17-21.....	1	1
India—Bombay.....	Dec. 17-24.....	1	1
India—Rangoon.....	Dec. 7-14.....	6	6
Japan—Osaka.....	Dec. 14-21.....	28	28
Peru—Callao.....	Dec. 14-21.....	1	1
Peru—Catacaos.....	Dec. 14-21.....	3	3
Peru—Jequetepeque.....	Dec. 14-21.....	1	1
Peru—Lima.....	Dec. 14-21.....	5	5
Peru—Paita.....	Dec. 14-21.....	4	4
Peru—Piura.....	Dec. 14-21.....	3	3
Peru—Trujillo.....	Dec. 14-21.....	8	6

## Public Health and Marine Hospital Service:

*Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending February 1, 1908:*

- BROOKS, S. P., Acting Assistant Surgeon. Granted leave of absence for seven days from January 25, 1908, under paragraph 210, Service Regulations.
- BRYAN, W. M., Assistant Surgeon. Granted leave of absence for seven days, to be taken *en route* between Savannah, Ga., and New Orleans, La.
- FRANCIS, EDWARD, Passed Assistant Surgeon. Granted leave of absence for seven days.
- LLOYD, B. J., Passed Assistant Surgeon. Granted leave of absence for seven days from December 21, 1907, on account of sickness.
- MCCOY, G. W., Passed Assistant Surgeon. Directed to proceed to Sussex County, Va., via Richmond, Va., for special temporary duty; upon completion of which to rejoin his station at the Hygienic Laboratory, Washington, D. C.
- MANNING, H. M., Assistant Surgeon. Relieved from duty in the Philippine Islands and directed to return to the United States, reporting by wire his arrival in San Francisco.
- MATHEWSON, H. S., Passed Assistant Surgeon. Granted leave of absence for seven days from January 31, 1908.
- ROBERTSON, H. MCG., Passed Assistant Surgeon. Relieved from duty at Reedy Island Quarantine Station and directed to proceed to Tampa Bay Quarantine, assuming command of the Service.
- RODMAN, J. C., Acting Assistant Surgeon. Granted leave of absence for four days from January 28, 1908.
- STONER, G. W., Surgeon. Granted leave of absence for six days from January 18, 1908, under paragraph 189, Service Regulations.
- THORNTON, M. J., Acting Assistant Surgeon. Granted leave of absence for one day on account of sickness.
- YOUNG, G. B., Surgeon. Detailed to represent the Service at the meeting of the Fourth Annual Conference of the Council on Medical Education, American Medical Association, to be held at Chicago, Ill., April 13, 1908.

## Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending February 1, 1908:*

- BAKER, FRANK C., Captain and Assistant Surgeon. Upon arrival at San Francisco, Cal., will proceed to Fort Oglethorpe, Ga., for duty.
- COLE, CLARENCE LER., First Lieutenant and Assistant Surgeon. Granted three months' leave of absence, to take effect when relieved from duty at Jefferson Barracks, Mo.
- CULLER, ROBERT M., First Lieutenant and Assistant Surgeon. Leave of absence extended one month.
- HALLOCK, H. M., Major and Surgeon. Having been found incapacitated for active service, is retired, to take effect March 20, 1908; granted leave of absence to that date.
- JUENEMANN, GEORGE F., First Lieutenant and Assistant Surgeon. Upon arrival at San Francisco, Cal., will proceed to Fort McDowell, Cal., for duty at the Depot of Recruits and Casuals.
- KRIEGER, CHARLES F., Major and Surgeon. Relieved from further duty with the Army of Cuban Pacification; ordered to report in person to Brigadier General Frederick Funston, president of an Army retiring board at San Francisco, Cal., at such time as he may designate, for examination by the board.
- PALMER, F. W., First Lieutenant and Assistant Surgeon.

SHORTLIDGE, E. D., First Lieutenant and Assistant Surgeon. Upon arrival at San Francisco, Cal., will proceed to Fort Du Pont, Del., for duty.

## Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending February 1, 1908:*

- BIDDLE, C., Medical Inspector. Commissioned a medical inspector, from June 16, 1907.
- BROWNELL, G. DEW., Surgeon. Detached from the naval training station, Newport, R. I., and ordered to the *Mississippi*.
- DESSEZ, P. I., Passed Assistant Surgeon. Commissioned a passed assistant surgeon, from June 10, 1907.
- DONELSON, M., Assistant Surgeon. Detached from the *Stringham* and ordered to the *Porter*.
- MCDONELL, W. L., Passed Assistant Surgeon. Commissioned a passed assistant surgeon, from September 19, 1907.
- MACKENZIE, E. G., Assistant Surgeon. Ordered to the Naval Hospital, New York, N. Y.
- PORTER, F. E., Passed Assistant Surgeon. Commissioned a passed assistant surgeon, from June 7, 1907.
- RUSSELL, A. C. H., Medical Inspector. Commissioned a medical inspector, from May 7, 1907.
- SCHMIDT, L. M., Assistant Surgeon. Ordered to the Naval Hospital, Annapolis, Md.
- SELLERS, F. E., Assistant Surgeon. Detached from the Naval Hospital, Annapolis, Md., and ordered to the Naval Academy.
- VICKERY, E. A., Passed Assistant Surgeon. Commissioned a passed assistant surgeon, from October 11, 1907.
- WHITESIDE, L. C., Acting Assistant Surgeon. Ordered to the Naval Hospital, Newport, R. I.

## Births, Marriages, and Deaths.

## Married.

- FLOYD—MANLEY.—In Jacksonville, Florida, on Saturday, January 18th, Dr. George M. Floyd and Miss Clara J. Manley.
- PERCIVAL—MCBURNERY.—In Philadelphia, on Tuesday, January 21st, Dr. Milton Frazer Percival and Miss Mary Beatty McBurnery.
- RAGUEL—MATLACK.—In Lewisburg, Pennsylvania, on Wednesday, January 29th, Dr. George Earle Raguel, of Philadelphia, and Miss Mary Matlack.
- Died.*
- ARNOLD.—In Philadelphia, on Saturday, January 25th, Dr. John P. Arnold, aged forty years.
- BATES.—In Canaan Four Corners, New York, on Sunday, January 26th, Dr. Milford L. Bates, aged sixty-two years.
- BRUMBAUGH.—In Huntington, Pennsylvania, on Monday, January 27th, Dr. A. B. Brumbaugh, aged seventy-two years.
- BUCK.—In Springfield, Illinois, on Thursday, January 23d, Dr. Horatio B. Buck, aged seventy-five years.
- FAGER.—In Harrisburg, Pennsylvania, on Friday, January 24th, Dr. Charles B. Fager, aged sixty-five years.
- GRIFFITHS.—In New York, on Friday, January 31st, Dr. John J. Griffiths, aged forty-eight years.
- KRAUSI.—In Brooklyn, on Friday, January 31st, Dr. William J. Krausi, aged forty-nine years.
- MARSTON.—In Lightfoot, York County, Virginia, on Sunday, January 26th, Dr. Thomas P. Marston, aged seventy-three years.
- OGG.—In Hillsboro, Virginia, on Thursday, January 23d, Dr. Charles C. Ogg, aged thirty years.
- PECKE.—In Rotterdam, New York, on Monday, January 27th, Dr. Charles Sample Pecke, aged forty-three years.
- REED.—In Philadelphia, on Saturday, January 25th, Dr. John A. Reed, of Maysville, Kentucky, aged sixty-four years.
- RILEY.—In Omaha, Nebraska, on Friday, January 31st, Dr. A. W. Riley.
- SIZER.—In Brooklyn, on Monday, January 27th, Dr. Nelson Buell Sizer, aged sixty-three years.
- STEINMETZ.—In Baltimore, Maryland, on Sunday, January 26th, Dr. William R. Steinmetz.
- THOMAS.—In Quakertown, Pennsylvania, on Tuesday, January 26th, Dr. Joseph Thomas, aged seventy-eight years.

# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal <sup>and</sup> The Medical News

*A Weekly Review of Medicine, Established 1843.*

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WHOLE NO. 1524.

### Original Communications.

#### ON SOME POINTS REGARDING URETHROPLASTIC OPERATIONS, WITH SPECIAL REFERENCE TO THE DISLOCATION METHOD.\*

By CARL BECK, M. D.,  
New York,

Professor of Surgery in the New York Postgraduate Medical School and Hospital; Visiting Surgeon to the St. Mark's Hospital and the German Poliklinik.

Dislocation of the urethra for hypospadias, some types of epispadias, or other urethroplastic operations are of a more or less delicate nature, especially so in the case of children. Delicate operations require delicate instruments, and those commonly used do not, in my experience, answer this desideratum.

A thumb forceps, as generally used, may tear the urethral membrane of a child. The retractors holding the reflected skin flaps must hold the tissues without injuring them. The knives for dissecting out the urethra, as well as the bistoury used to perforate the glans, must be of a special and delicate construction.

I therefore requested the Kny-Scheerer Company to construct for urethroplastic operations a special set of instruments containing all that are needed for that purpose, viz.: A small, short scalpel for the dissection of the urethra from its bed, a long bistoury for the perforation of the glans or the penile substance, two toothed thumb forceps, delicate blunt scissors curved on the flat for blunt dissection, a toothed retractor, two specially adjustable holding forceps which may serve as retractors at the same time, two small elastic artery clamps, various thin needles (sharpened on both sides up to the eye), a special needle holder, and a rubber catheter provided with a perforated shield. This set may also be utilized for other delicate plastic operations.

As a rule, my operation for dislocating the urethra is started by introducing a thick rubber catheter into the urethra. As soon as the catheter has reached the bladder, its opening is temporarily closed. Now a silk suture is carried through the perforated shield of the catheter or through the wall of an ordinary rubber catheter, as well as the abnormal orifice, with a thin curved needle, as described. The suture, after being knotted, is left long, so that it may be utilized later for fastening the urethral orifice at the tip of the glans. By pulling the catheter slightly the urethra is stretched to such a degree that the incision can be made with a greater amount of security and in the straight direction. If a small, sharp bistoury is inserted at the tip of the glans, contracture need not

exerted, which facilitates the process of lifting the urethra from its bed.

In this position the backward dissection of the integumental flaps, which are meant to cover the dislodged urethral portion, is also made easier.

For isolating the urethra the catheter serves not only as a handle, but also as a guide. It can easily be palpated through the urethral wall—in children it can even be seen through the somewhat translucent urethral wall. Thus, the surgeon is warned against incising it. To serve the catheter as a strong hold, the orificial portion of the urethra should remain as thick as possible. If there is any tension the sutures at the tip of the glans are supported by placing a relaxation suture of finest catgut at each side of the urethral wall near the sulcus.

In one of the extreme cases of scrotoperineal hypospadias I have modified my method of creating a new urethra by deep incisions at each side of the penis, parallel to the existing groove (See *New York Medical Journal*, December 8, 1900), in the following way:

After introducing the catheter through the abnormal orifice (Fig. 1) the urethra was dissected backward and freed as far as possible. Enveloped in sterile gauze the dissected urethral portion hung down, pulled by the weight of the forceps, which closed the opening of the catheter. After the amount of tissue needed for forming a urethral tube of sufficient length was measured, a flap of proper proportion was shelled out from the posterior surface of the penis. Fortunately there was a preformed gutter lined with the rudiments of a mucous membrane. Where the base of the dislocated urethral fragment joined the lower end of the gutter, the incisions were made especially deep, so as to secure voluminous tissue for better nutrition of the flap, which was severed from its connection near the glandular portion of the penis and isolated backward. The whole dissected gutter, which was in broad connection with the region of the abnormal orifice, was now folded together over the rubber catheter and thus transformed into a tube which was circularly united with the tip of the dislocated urethral fragment. The penis was then perforated in its whole extent by a double edged bistoury, forming an artificial orifice at the tip of the gland similar to my ordinary procedure for glandular or penile hypospadias. Through this newly formed canal the flap, together with the dislocated urethral portion still containing the catheter, were pulled and fastened at the tip. The bistoury must make free excursions by its perforation of the penile tissue in such cases in order to obtain sufficient space for the formation of the preformed tube. At the point of junction between the bridge of the flap and the orifice of the urethral fragment too much pulling must not be tried, because the nutri-

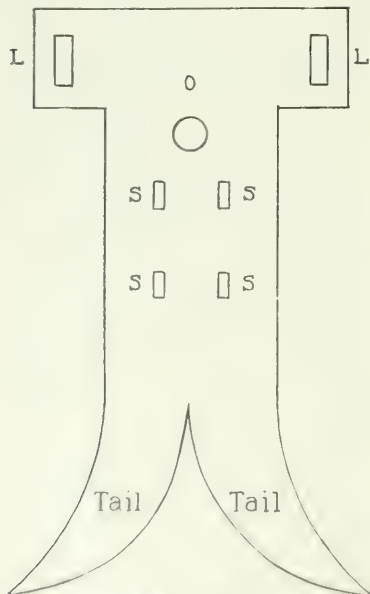
\*Read and demonstrated before the American Urological Association at the University of Michigan, Ann Arbor, Mich., 1907.



FIG. 1.—Scrotoperineal hypospadias before operation.

trition of the bridge may suffer. Of course the defect left at the outer surface is covered by a flap taken from the scrotum. The anterior portion of a by the urethral fragment further back, there is a sufficient amount of propelling power present.

A decided advantage of this procedure is the post-urethra of this kind is not an ideal one, since it lacks the elasticity of a normal urethra, but, being aided



the ability of utilizing the mucous membrane of the pre-formed gutter for a urethra. Its disadvantage, on the other hand, is the mutilation of the penis within



FIG. 3.—Gauze strip fastened to penis with two sutures.

the extent of the grooved flap. To avoid this, I have in another case of the same nature taken the flap from the scrotum right below the abnormal orifice, obtaining a perfect result in a boy of seventeen years of age. There the abnormal orifice was circumcised after the introduction and fastening of the catheter. Then the latter was held up against the abdomen in order to get it out of the field of operation. Now an



FIG. 4.—Final fastening of retained gauze strip.



incision was made at each side of the raphe and parallel to it to the extent of an inch and a half downward, thus forming a flap, the broad base of which was, after being dissected and freed, below the abnormal orifice. Then the catheter was seized, the urethra stretched and dissected, as it was done in the case just described, the scrotal flap folded and transformed into a tube, and then circularly united with the abnormal orifice. The further steps of the operation were the same as described above. Great care is to be taken to estimate properly where the base of the scrotal flap is to be established, so that the abnormal orifice, after being pulled forward, fits exactly to it, as it is not wise to put the base itself under much tension. The flap operation was much facilitated in this case by the presence of the extraordinarily smooth surface, which in fact resembled a mucous membrane alongside the raphe.

In the extreme case described above slight incurvation remained, which is gradually becoming less.



FIG. 5.—Result after operation.

In contradiction to the experience of such surgeons as have observed failures because they regarded some of the minor details of my suggestions as non-important, or objected for theoretical reasons without actually performing the operation, I may be permitted to say that in none of my balanic or penile cases has any incurvation been left.

As it is difficult to keep an ordinary penile dressing in situ I use a T-shaped piece of dermatoid gauze with a central opening for the catheter and provided with a number of lateral openings, which permit of passing the sutures through them (Fig. 2). The upper and lower sutures, after being knotted, are left long for the purpose of fastening the gauze strip. After the ends of the knotted sutures are pulled through the gauze strip placed alongside the posterior surface of the penis (Fig. 3) they are pulled out short. The two dissected ends of the strip are now carried around the penis and pulled through the

lateral openings and knotted, or held together by a safety pin (Fig. 4). This dressing is to be saturated with a mild solution of bichloride of mercury several times a day. It must not be removed before a week. Fig. 5 shows result after operation.

## SQUAMOUS CELLED CARCINOMATA OF THE OESOPHAGUS.

By W. TAYLOR CUMMINS, M. D.,  
Philadelphia.

(From the Pathological Laboratory of the University of Pennsylvania.)

With regard to the type of cell, carcinomata of the oesophagus are divided into two classes—the squamous celled and the columnar celled. The former is the much more frequently found, for, in fact, cases of the latter type are rarely encountered. For the most part the tumor is primary in this organ, but cases are reported in which it is the seat of metastatic deposits from the pharynx, thyroid, and cardia of the stomach. The oesophagus appears to be invaded but rarely by cancerous growth, for, out of a series of 722 cancers (1) in all parts of the body, only six were found in the oesophagus. It seems to enjoy a certain degree of immunity from neoplastic invasion in contrast with the organs lower in the alimentary tract. Zenker and von Ziemssen (2) have collected reports of 5,079 autopsies, of which 0.36 per cent. showed oesophageal cancer and 0.25 per cent. were primary.

The organ may be divided very conveniently into three segments, viz., an upper, or cervical, a middle, or thoracic, and a lower, or diaphragmatic, portion. Bland-Sutton (3) believes that the location of the neoplasm may determine whether it is of the squamous or columnar celled type, the former electing the upper two thirds and the latter the lower third of the tube. This statement must not be made dogmatically owing to the fact that statistics reveal many instances in which the squamous celled tumor primarily involved the lower third of the organ. As to the point of greatest frequency of involvement there seem to be widespread differences of opinion. It is conceded that the points of narrowing of the tube are the usual seats of the new growth. These are found at the levels of the cricoid cartilage, the bifurcation of the trachea, and the diaphragm. Possibly localized trauma at these apparently stenotic areas may incite tumor formation. Upon making a resumé of the statistics at hand there is revealed the fact that the new growths, including both types, are somewhat more frequently found in the lower third of the organ. Kraus (4) collected 901 cases, and of these 307 were found in the lower third, 302 in the middle, 158 in the upper third, and 45 involved more than one part of the organ.

The oesophageal tumor may be small and definitely circumscribed, or, on the other hand, it may be quite large with imperfect demarcation. In some instances multiple foci have been observed. There is usually some stenosis of the tube, but in a few reported cases this condition was absent. Ulceration and coagulation are likely to develop, and in many cases the lumen of the gullet is almost oblit-

erated. In those cases in which the carcinoma involves the diaphragmatic segment, Bland-Sutton has explained the forcible ejection of food after

five cases (5) of oesophageal carcinomata recorded at St. George's Hospital, London, these glands showed metastatic deposits in twenty-four cases.

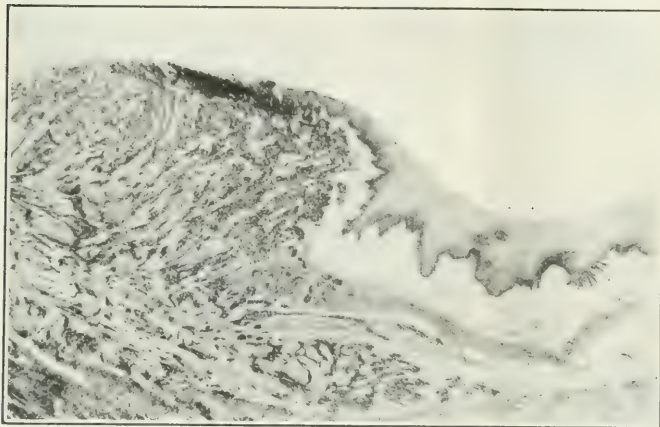


FIG. 1.—Showing squamous celled carcinoma of the oesophagus at its border. To the left the penetration of the newly formed epithelium into the underlying tissue manifests itself in long, narrow columns. "Pearls" are absent.

swallowing by the fact that the tube assumes a spindle shape on account of the stenotic condition, and there occurs a hypertrophy of the muscular walls immediately above, thus favoring a forcible regurgitation of the oesophageal contents.

The squamous celled cancer is found much more frequently in men than in women. Bland-Sutton has observed it four times more frequently, while Makenzie, Zenker, and von Ziemssen have found it three times more frequently in men. The distribution in the sexes appears comparable to that of neoplasms of the stomach. Age seems to be a factor in its production. The prolific period is between forty and sixty years, while cases are recorded as early as the thirtieth year and as late as the eighty-fourth year. A few exceptional cases are on record in which the disease appeared in the nineteenth and twenty-first years. Curiously, the female sex seems to be attacked earlier in life than the male.

It has been said that carcinomata of the oesophagus do not often metastasize. This has been explained by the fact that the disease is often rapidly fatal, and metastases have not had the opportunity to develop. Certain it is that the patient, in many instances, is not long under observation subsequent to the development of localized symptoms, and death may take place from inanition, exhaustion, or septic pneumonia. Reports of metastatic growths are noted rather infrequently. The posterior mediastinal glands appear to be affected more frequently than any of the other structures, and their position renders easy access of tumor tissue from the thoracic segment of the gullet. Of fifty-

Evidences of metastases were observed in the liver in ten cases, in the lungs in six cases, in the kidneys in five cases, in the bones in four cases, and in the adrenals and spleen in two cases each. Widespread dissemination of the cancerous elements is distinctly rare. In a few cases reported in literature the tumor had existed for years without producing secondary foci, and they were generally of the flat celled type.

Among those who have reported upon cancer of the oesophagus with metastases are Burnet (6), Butlin (7), Wright (8), Scott (9), and Eskridge (10). Cancer statistics have been collected by Gillies (11) and Moak (12).

#### Personal Observations.—

My personal observations have been confined to a review of the autopsy records on file at the pathological laboratory of the University of Pennsylvania from 1874 to 1907. The number of records examined was 1,993, and of these ten showed squamous celled carcinomata of the oesophagus, distributed as follows: One in 1891, one in 1893, four in 1901, one in 1904, two in 1906, and one in 1907. In regard to the prevailing sex, the males outnumber the females, eight to two. This

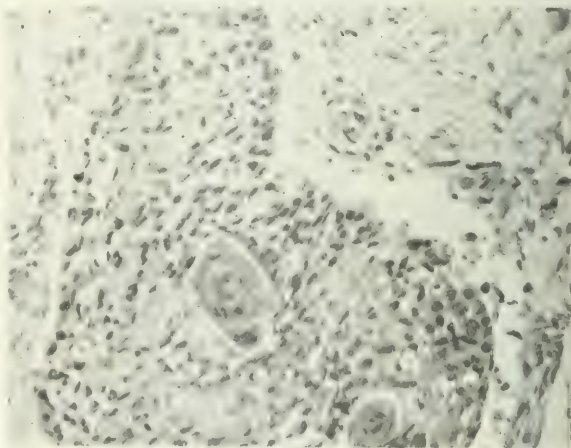


FIG. 2.—Carcoma of epithelium of the "pearls" taken from another carcinoma of the oesophagus.

conforms with the assertions made by the other investigators that these neoplasms are much more frequent in men than in women. The ages ranged

from thirty-four to seventy-four years. The youngest cases, aged thirty-four and thirty-eight years, were females, while the youngest male was fifty. It appears that the disease may develop earlier in life in the female than in the male. In but six of the ten cases was the race noted, and all of them were white. Nothing conclusive appears in the literature with regard to the comparative frequency of the condition in the races. As to the points of predilection in the oesophagus, as already stated, there appear to be differences of opinion. In seven cases only was the site of the primary tumor indicated, and four of these involved the lower one third of the tube. Some of the statistics are based upon all cancers of the oesophagus, while personal observations were made upon the squamous celled type alone. The results are comparable for the fact that the indifferent type, the columnar celled, is so infrequently encountered. All of the tumors of this series appeared to be primary in the oesophagus, and involvement of not more than one segment had occurred. As to the general character of the tumors, four showed considerable ulceration, three were fungoid, and one was characterized by dense cicatrization of the oesophageal walls. In two cases the appearance of the tumor was not noted in the records.

The number of cases presenting metastases outnumber those without six to four. This surely does not show a comparative rarity of metastases in such tumors. For the most part the notes upon the gross anatomy of the organs were disregarded, and the diagnosis depended upon the histological findings. Metastatic growths occurred in the organs with the following frequency: Stomach, four times; liver, three times; pancreas, three times; lungs, twice; posterior mediastinal glands, twice; bronchial glands, twice; hepatic glands, twice; kidneys, once; pancreaticosplenic and lumbar glands, each once. The most widespread metastases occurred in Case II, in which foci were found in the liver, lungs, stomach, pancreas, hepatic, pancreaticosplenic, and bronchial glands. Histologically the primary and secondary growths were divided into two groups dependent upon the presence or absence of "epithelial pearls." In that the keratinous structure of the squamous epithelium of the oesophagus is poorly developed, the presumption might be that tumors involving such a tissue would usually show an absence of the "pearls." Such was not the case in this series, for five showed the presence of pearls and three showed absence of the same. In two cases this point was not noted in the records.

It seems plausible that the facts pertaining to the development of the tumors of the spinal and basal cellular types of carcinomata of the skin might readily apply to these tumors, i. e., the tumors in which the superficial strata of epithelium are directly concerned, show "epithelial pearls," while those in which the epithelium of the deeper or basal strata has proliferated, show no pearls. In the secondary as well as the primary growths the nests of tumor cells were much smaller in those cases showing epithelial pearls than in those in which they were absent. In several of the metastatic deposits in the latter group the squamous character of the cells was made out with some dif-

ficulty. Those cases which showed pearls in the oesophageal tumor showed the same in the secondary tumors. However, there appeared a tendency toward a diminution in size, and this was well shown in the tumor of the kidney (Case VII, Fig. 4), in which the "pearls" could with difficulty be recognized. It was thought by the author that a comparison of the frequency of metastasis in those primary tumors with and without "pearls" might reveal that there is less frequent metastasis in those with "epithelial pearls." Examination of the records reveals that of the four cases without metastases three showed pearls. So limited a number of cases makes it problematical but at least suggestive.

Several of the tumor sections presented rather unusual features. In one, a section of lung (Fig. 3) there was shown embolism of the smaller radicles of the pulmonary arteries by masses of squamous epithelium. The deposits were confined to these locations, and but few of them were seen. In a pancreas there was infiltration of a small lobule by squamous epithelium with the island of Langerhans vaguely evident. In a kidney the cortex showed a large, irregularly rounded mass composed of small nests of squamous epithelium, with very small deeply stained pearls.

*Metastasis.*—Under this heading a brief description of the lymphatic system of the oesophagus and neighboring structures is indispensable. The lymphatics of the oesophagus fall into two groups, viz., those in the submucosa and those in the muscular coats. The cervical portion of the organ drains into the superior deep cervical and recurrent nodes. The lymphatics draining the middle or thoracic segment pass to the posterior mediastinal glands, while those of the lower or diaphragmatic segment pass to the celiac plexus of lymph glands. For the most part the efferent channels of the posterior mediastinal glands pass directly to the thoracic duct, while a few pass to the bronchial glands, which in turn drain into the thoracic duct. Among the afferent channels of the celiac plexus, besides those from the oesophagus, are those from the hepatic, gastric, pancreaticosplenic, and lumbar nodes, while the efferents pass to the thoracic duct.

It is well known that carcinomata usually metastasize through the lymphatic system, yet there seem to be very good reasons for the belief that in some instances dissemination of the tumor tissue from the primary focus may be effected through the blood vascular system, and in some instances it seems possible to take place over mucous or serous surfaces. Let us discuss the several cases seriatim.

Case I showed the carcinoma involving the cervical oesophageal segment, but no metastatic growths were noted. Perforation of the trachea, however, had occurred. In Case II unfortunately the autopsy record failed to reveal the segment in which the primary tumor was found. There was widespread metastasis as before noted. Case III showed the tumor in the diaphragmatic portion of the tube, but no metastases had developed. Case IV showed the tumor in the lower portion of the tube as a very dense fibrous mass, but no metastases. Tuberculous laryngitis was a complicating



Case V showed the growth in the lower segment of the oesophagus with the development of metastases to the pancreas, liver, and lungs. Explanatory of the abdominal and thoracic metastases, it seems reasonable to suppose that dissemination

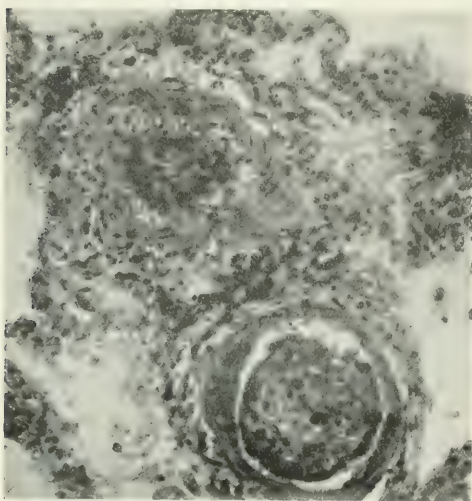


FIG. 3.—Showing lung with masses of squamous epithelium lying in two small branches of the pulmonary artery. The upper embolus shows apparent organization.

occurred through the blood vessels, for two reasons—an absence of involvement of the celiac plexus of nodes and the finding of emboli composed of masses of squamous epithelium in the blood vessels of the lungs (Fig. 3). The probability is that the oesophageal veins were effective in disposing of the cancerous material with the lungs as the primary seat of deposit. Destruction of pulmonary tissue by the tumor process would facilitate its transmission to the pancreas and liver by way of the arterial system. Case VI showed the tumor in the upper portion of the oesophagus, but no metastases were noted. Case VII showed the tumor in the thoracic segment of the organ, with metastatic deposits in the liver, kidneys, stomach, posterior mediastinal, bronchial, hepatic, and lumbar glands. Involvement of the mediastinal and bronchial glands was naturally direct. The primary tumor mass had extended to the root of the lungs. In the stomach it was only in the muscular coats. It seems most reasonable that in this case dissemination took place through the vascular system, with the root of the lungs as the probable points of entrance of the cancer tissue into the blood. The involvement of the hepatic and lumbar glands was probably secondary to the involvement of the organs drained by these glands. Case VIII showed the cancer in the diaphragmatic segment of the oesophagus, but there were metastases to the posterior mediastinal glands. It is evident that the tumor area was drained by the thoracic lymphatics. In Case IX the location of the cancer was not indicated upon the record. Metastatic deposits were

found in the stomach and are explainable possibly by continuity of structure. Case X showed the tumor in the thoracic portion of the oesophagus and secondary growths were found in the stomach, pancreas, and bronchial glands. The presence of the gastric tumor may be explained as before, while the tumor of the pancreas probably developed by continuity of structure directly from the stomach. Unquestionably the posterior mediastinal glands were affected to allow extension to the bronchial glands. The conditions herein brought forth appear sufficient to warrant the statement that the secondary tumors developed not only through the channels of the lymphatic system, but also through the blood vascular system. It seems possible that metastasis may also take place over mucous surfaces.

In the consideration of the present series of carcinomata relative to the frequency of the same, the results show that of 1,720 deaths, eight were associated with the oesophageal tumor or a frequency of 0.46 per cent. These embrace the autopsy records from 1897 to 1907. During this period all records were filed, and the percentage therefore is an accurate one. Another point revealed is the preponderance of the squamous celled tumor over

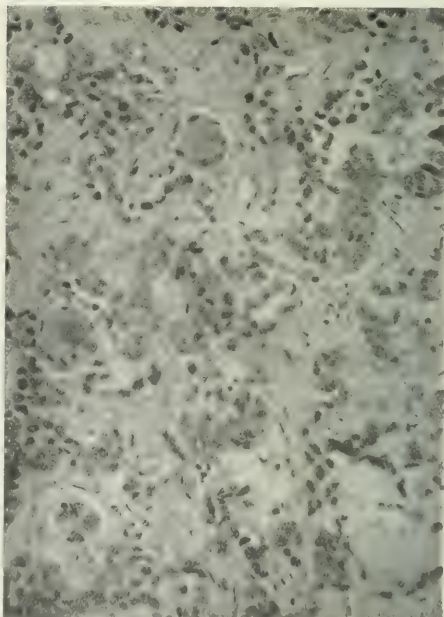


FIG. 4. Showing kidney with very small "epithelial nests" with two "pearls."

that of the columnar celled type. But one case of the latter type of tumor was found during the period. There is a presumption that the tumor of the oesophagus with "epithelial pearls" does not metastasize as frequently as does that without "pearls." Probably the same condition is true in this instance as applies to the reason why columnar celled cancers metastasize with greater facility than do squa-

mous celled cancers. A resemblance of the cells of the basal cellular type to those of the columnar celled type of tumor is assumed, so that the spinal cellular type (with "pearls") would appear to be of all malignant epithelial tumors the least likely to metastasize. Probably the shape of the cells and a difficulty in adapting themselves to the lumina of the smaller radicles of the lymph and blood vascular systems render dissemination more difficult. The development of secondary tumors appears not unusual in squamous celled cancers of the œsophagus.

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1111 SPRUCE STREET.

## SOME OBSERVATIONS ON THE REMOVAL OF ADENOIDS.

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It may seem superfluous to again bring up a subject which has so often been the field of discussion. The writer's apology for doing so, however, lies mainly in the fact that one reads of so many various methods employed, and sees such a vast number of implements devised, that he does not consider it amiss to express his views as to which he regards the instrument most useful for this purpose, and the method which yields the best results.

The frequency of adenoid vegetations in children has of late years, since the publication of W. Meyer's paper on adenoids in the *Archives of Otolaryngology*, II, become a moment of importance to the pediatrician, as well as to the rhinologist, so that the physician is often confronted with the question whether it is advisable to have them removed. If one considers the vast improvement, both mentally and physically, observed in children following the removal of these growths it becomes evident that an operation of this nature is almost imperative in the great majority of cases. The frequency of adenoid vegetations in children is a well established fact, and it would not be placing the average too

high if we would say that eight out of ten children show, in one way or other, symptoms indicating the presence of these growths in the nasopharynx. As a rule it is found that when there is a hypertrophic condition of the adenoid tissue, the process does not limit itself to this area alone, but generally involves the faucal tonsils as well, so that we usually see a combination of both. It does not always say that where there is an adenoid growth there are tonsils present, but, on the other hand, if one sees a large pair of tonsils one can be quite certain that there are adenoid growths as well.

That adenoid growths are present at birth cannot be doubted, for one often meets with infants only several weeks old who display all the signs of the presence of these growths. As a rule, however, the fact that these vegetations are present does not become evident until the child has reached the second or third year, and then through a gradual enlargement, blocking up more or less completely the posterior nares, the child develops all the well known symptoms of this affection.

The symptoms which one usually observes in the children may be attributed mainly to the size and position of the growths. For, if they are small, they may pass unnoticed, and as is well known there are many persons who have adenoids which have never given them any trouble. Such small growths may, however, in the course of time, develop in size, owing to repeated local irritation, and then give rise to symptoms of nasal obstruction. This is often the case with adults, who never gave any signs until later life, and also with children who at first were apparently free.

The growth itself shows manifold forms, so that one finds it to be either a small, round protuberance, or a large, oblong growth, nearly filling up the entire posterior nares. The small growths are, as a rule, soft, small masses, having a granular appearance and situated at different parts of the pharynx. These need not give rise to any inconvenience, so that persons may pass through life without the knowledge of their presence. They are usually detected only when making a postrhinoscopic examination with the mirror. The large growths, on the other hand, are the ones which generally draw our attention, as their presence gives rise to the symptoms so well known. They are generally found to consist of one large, solid mass, situated in the medium line of the posterior nares, more or less occluding the postnasal space, and extending high up into the vault. On examination, such a mass is found to be made up of three lobes, a central one and two lateral, which are separated by rather deep clefts (Figs. 1, 2, and 3), or the lobes may be subdivided by numerous clefts, as shown in Fig. 3. These clefts are often the source of great annoyance, as they act as the receptacle for cheesy masses which frequently degenerate and give rise to the foul odor so often observed in children, as well as in adults. Then, again, they harbor bacteria, which keep up a suppurative process, so that there is more or less of a constant discharge of noxious material in the posterior nares. This discharge is expelled, giving rise to a constantly running nose, which is regarded by the parents as a permanent cold in the head. Then, again, the se-

cretion is being repeatedly swallowed by the children, as a result of which one often observes various gastrointestinal disturbances. Growths of this character are usually of a solid nature, and are attached to the posterior pharyngeal wall by a broad base; they contain masses of secretion as already stated, and are often spotted with very small superficial hemorrhagic areas. On microscopical examination they are found to contain bacteria, giant cells, and now and then tubercle bacilli. This tuberculous condition may, however, be merely local, or it may be a part of a general tuberculous infection.

The small growths may exist, as before stated, without giving rise to any symptoms, or may cause only a slight annoyance, which passes away in the course of time, and especially after the age of puberty. The large growths, on the other hand, are not amenable to treatment, do not pass on without notice, and generally get worse as time advances. These are the growths which give rise to the symptoms of nasal obstruction, with the various sequelae, which can be eradicated only by their timely operative removal.

The writer does not deem it necessary to go into

In performing the operation for the removal of tonsils and adenoids, one must always work with proper illumination. If possible it is always well to use an electric head mirror (as, for instance, the Clar light), having a rather powerful lamp. The current can be supplied with an ordinary dry celled battery, which is readily transported from place to place. If electricity is already installed, one can use the rheostat made by Wappler, which can be attached to any electrolyser, and thus regulate the amount of current to be used; where one has no current, one should use an ordinary head mirror, taking the light from a kerosene lamp. The illumination of the field of operation is very important, as one should never operate without a good light. Operating at a window with direct light is not good practice, as one can never see properly; the operator works more or less in the dark, and can never do justice to himself or to his patient. In the clinic, where we perform a large number of adenoid operations, we use the head mirror, taking the light from a strong fifty candle electric lamp. The great trouble with beginners is that they fail to keep the light constantly in the field of operation, thus working in the dark, and thereby failing in their attempt.

Of the numerous instruments devised, the writer has found the modified square Beckmann curette by far the best. It is the only instrument now employed by the writer for the removal of adenoids, as it has proved most satisfactory. There are three sizes, a small, medium, and large. The great variety of instruments, such as forceps, pharynx tonsillotomes, and the variously devised curettes, have not proved very satisfactory, and it has been the writer's experience that the successful removal of the growths depends not only upon a good technique of the operation, but also upon the proper selection of the instrument employed.

The forceps, although used by some, is not a very commendable instrument for this purpose, as one is never able to remove all the tissue, and one is bound to leave behind small pieces, which, in the course of time, give rise to a repetition of the old symptoms, necessitating a second operation. Then, again, when using the forceps, one is compelled to introduce it several times. This has its disadvantages, inasmuch as one is liable to bring about infection more readily, create unnecessary trauma to the vomer, soft palate, and pharyngeal orifices of the Eustachian tubes, and, lastly, one is compelled to work in a bloody field, thus obstructing the field of vision. The old fashioned triangular curettes of Gottstein, etc., are not very practical, as their shape does not conform with that of the growth, which is generally broad and oblong, and therefore do not answer the purpose as well as the square curettes mentioned above. The various pharyngeal tonsillotomes, or guillotines, so highly recommended by some, do not seem to be in great favor, although they sometimes do their work well. They are cumbersome, taking up too much room in the postnasal space, and do not always remove the entire mass. Even when one has used a guillotine, one is sometimes compelled to resort to a curette in order to remove the small particles left behind.

In selecting the curette, one should always choose the largest one for that particular case, for by doing so you cover almost the entire posterior wall,

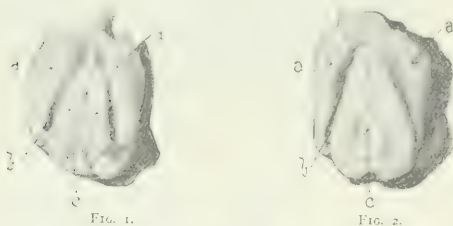


FIG. 1.

FIG. 2.

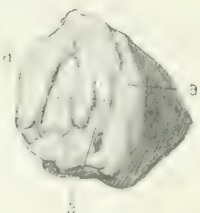


FIG. 3.

Adenoids, natural size.

FIG. 1.—a, lateral lobe; b, cleft; c, central lobe.

FIG. 2.—a, lateral lobe; b, cleft; c, central lobe.

FIG. 3.—a, lateral lobe; b, central lobe, with multiple clefts.

the symptoms indicative of the presence of adenoids, as they are generally well understood. Yet he would like to state that in making the diagnosis it is, as a rule, not necessary to introduce the finger into the posterior nares. If a child is brought to the physician with the history of obstructed nasal respiration, his first duty is to examine the nose anteriorly to see whether the obstruction may be due to some foreign body, or to some physical defect in the septum, or in turbinates. If the parts present a normal appearance, while the posterior pharyngeal wall shows an uneven, granular condition, and is covered with secretion, and there are, in addition, the symptoms of nasal obstruction, it is perfectly needless to introduce the finger, as the diagnosis of adenoids is



whereby the whole growth comes within the grasp of the instrument, and one is thereby able to remove it entirely in one mass. If the proper sized curette is used the adenoid always comes away in one steady downward sweep, thereby avoiding the necessity of reintroducing the instrument. The great advantage in removing the growth in one mass lies, namely, in the fact that we can tell by its contour whether there is any portion of it still retained in the posterior nares. If, on removal, the growth is found to be lacking at any portion we can be almost certain that this corresponding part has been left behind, and thus necessitates a second introduction of the curette. Then, again, removal of the adenoid in one piece is proof that all the tissue has been taken away and that the pharynx is free. In cases in which the adenoid is removed piecemeal, as is the case with the forceps, one can never be certain that the vault is entirely free, and it is usually found that so called recurrences generally occur in cases operated in this manner. This mode of operating, which is rather prevalent, cannot by any means be regarded as ideal, and the results are not, as a rule, satisfactory, as all the tissue cannot be thoroughly eradicated. A recurrence of adenoids does not take place. It is a mistake to think that adenoids once removed grow again, as that is not the case. What does take place is this: When an adenoid operation has not been properly and thoroughly carried out, small pieces of the growth remain in the posterior nares. These, through repeated irritation, as catching cold, etc., swell up and become hypertrophied, thereby giving rise to the same symptoms as prior to the operation. Adenoids, when once removed, do not grow any more than tonsils when once removed. Another point to which the writer wishes to refer is that the curette should always be sharp. Some surgeons are of the opinion that the cutting edge should not cut, but rather tear through the growth, thus decreasing the tendency to hæmorrhage. The writer does not believe this to be the case, as he is of the opinion that one gets less hæmorrhage during the operation and less liability to secondary bleeding when the adenoid is cleanly cut through. It is frequently observed that when the curette does not cut well, and a small piece of the tissue is allowed to remain behind, there is more liability to secondary hæmorrhage than when the instrument is sharp.

It has also been the writer's experience that when a child is seen a day or two after the operation and complains of pain in the back of the neck, which is accompanied by more or less rigidity, he has invariably found that a piece of tissue has remained hanging in the postnasal space. This has become necrotic, thus being the primary source of infection and the cause of the entire trouble. When this is removed and some antiseptic lotion sprayed in the nose and throat for a day or so, the stiffness, foul breath, and pain disappear.

The manner in which the curette is held is also of importance. It has been the writer's practice to

hold the curette as shown in Fig. 4. For, if held in this way, we get the greatest amount of force neces-



FIG. 4.

sary, and, as experience has shown, quite some force is required to cut through a large sized dense adenoid, especially if operating on older children and adults. The action in using the curette lies mainly in the wrist, as it is not necessary to put the entire arm into play. Another way in which the curette may be held is shown in Fig. 5. This does not al-

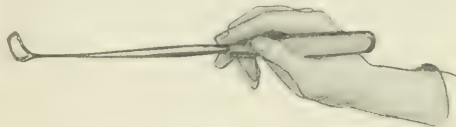


FIG. 5.

low us to exercise as much control over the instrument as when held as stated before, but, nevertheless, answers the purpose well in some cases. The writer uses this method, however, when he does not wish to exercise too much force, as, for instance, when operating on very young children and infants.

The advisability of employing a general anæsthetic depends greatly upon the case at hand. As a rule, it is more advantageous to give a slight narcosis, especially in children of more advanced years, as one is able to operate more freely and more thoroughly. Older children are often very restless, and resist, so that the carrying out of the operation thoroughly without an anæsthetic is often utterly impossible, as they cannot be properly held. Small children, on the other hand, can be well held and offer little resistance, so that the removal of the adenoids is readily accomplished, and, as a rule, requires no narcosis. The giving of an anæsthetic is not free from dangers, so that the writer is inclined to do without it whenever possible. The danger lies not only in the administration of the anæsthetic itself, but mainly in the fear that particles of the removed tissue and blood may be inspired. In dispensary practice, where one is called upon to perform a large number of adenoid removals, it is impossible to resort to a general narcosis, as the time is too limited. In private practice, on the other hand, one has to give an anæsthetic, as the parents in the great majority of cases demand one. As to the choice of the anæsthetic to be used, the writer generally leaves that to the discretion of the anæsthetist, as it is usually found that one can do the most satisfactory work with that anæsthetic with which one is most accustomed. Personally, the writer prefers chloroform or ether, preferably the former. Nitrous oxide and ethyl chloride answer very well, and may be used instead of the former two, if desired. That the operation is accompanied by a certain amount of shock is certain; yet, in spite of the shock, the writer prefers to perform the operation without a general narcosis if possible, as the sequelæ of the shock are less to be feared than

When secondary hæmorrhage does occur, it is not adenoid tissue which the patient must swallow, as the packing is very disintegrative, and the patient may get up a considerable infection with all the pus and blood. It is a better plan in these cases to re-introduce the curette, then sweeping away any particles of tissue which have been retained by necrosis, and in this way bring about a cessation of the hæmorrhage.

the anæsthetic itself, and this is especially so in very young children, with a lymphatic diathesis.

The operation when performed without a general anæsthetic is carried out as follows:

The operation is carried out in the sitting position. The child is taken on the lap of a competent assistant, who holds its legs tightly between his, grasps the two hands with one hand, while he steadies the head firmly with the other hand against his chest. The patient must be well held, as a well trained assistant will greatly facilitate the work of the operator and the successful issue of the operation. Having the child thus in position the surgeon seats himself before the patient. A strong ray of light, as already referred to, is now thrown upon the field of operation, and a mouth gag is then introduced, which is held firmly in position by the nurse. The gag which the writer has found most serviceable is that of O'Dwyer, but when operating without the aid of a second assistant the selfretaining mouth gag of Whitehead has proved of greatest service.

The writer never uses a tongue depressor, as he deems it only cumbersome and entirely unnecessary, but finds that the index finger of the free hand is amply sufficient. A Beckmann curette, the largest for that particular pharynx, is now selected. This is grasped as shown in Fig. 4 and introduced sideways into the mouth (Feb. 6) until it has reached

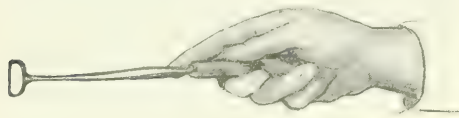


FIG. 6

behind the soft palate. Here it is turned upright, so that it comes in contact with the posterior surface of the soft palate. Our next step is to pull the palate well forward, directing the curette upward at the same time, and keeping it directly in the median line of the postnasal space. This pulling the palate forward is a very important factor in the operation, as the success of removing the entire growth depends greatly upon this manoeuvre, especially in cases in which the growth is very large and almost fills up the entire posterior nares. Now, if, in such a case, you introduce the curette, direct it upward in the median line, and then make one firm downward stroke, but have neglected to carry out this important step, you only remove part of the adenoid, leaving the upper portion *in situ*. This is due to the fact that you do not get your curette over and above the growth, and thereby do not get the entire mass within the range of the cutting edge of the instrument. The upper part of the growth is thereby left behind, which is often the cause of trouble later on, and gives rise to the symptoms of a so called recurrence. In other words, the entire mass has not been removed. If, on the other hand, one follows the suggestion of first pulling the uvula well forward, one creates more room for the instrument, and then by directing it upward, always in the median line, one brings the cutting edge over and above the growth, so that the entire mass comes within

the reach of the curette. Having followed this precaution you now make one steady, downward sweep, thereby cutting the entire mass from its base. As the instrument descends you meet it with index finger of the free hand, whereupon the growth and instrument are both withdrawn from the mouth. If these steps are closely followed, the adenoid always comes away in one solid mass. (Figs. 1, 2, 3.) This is now examined in order to see whether it is complete, for if not, and part is missing, we can be certain that that missing part is still in place and must be removed. If, however, on examination the growth is found to be symmetrical and complete, we can be certain that there is no more adenoid tissue retained. In this instance, it is not necessary to introduce the finger into the postnasal space; if, on the other hand, we find that a part of the growth is lacking, we can introduce the finger to ascertain its exact location.

The hæmorrhage which generally follows the removal of an adenoid *en masse* is not very copious as a rule, and ceases within a few minutes. We then inspect the pharynx again to see that there are no small pieces hanging down. If a piece is pending, it should be removed. This is best accomplished by grasping it with forceps and cutting it off with a pair of curved scissors. It should never be taken hold of and torn off, as one can readily tear the mucous membrane on the postpharyngeal wall for several inches. This should be avoided, as it causes unnecessary after pain and trauma. Inspection, after operation, should always be carefully carried out, as one should never allow small pieces to remain hanging loose. They often give rise to unpleasant retching, nausea, and vomiting, and, besides, are usually the cause of secondary hæmorrhages. Then, again, they undergo putrefaction; this often gives rise to the foul odor which is encountered after an adenoid operation, and to the headache, general malaise, and rise of temperature. The otitis media which now and then follows the removal of adenoids may be attributed to this decomposition, inasmuch as the infection spreads along the Eustachian tubes into the middle ear.

As the writer has already mentioned, whenever one meets with rigidity and pain in the back of the neck after the operation, one is rather sure to find a piece of necrotic tissue pending in the postnasal space; this having become broken down, absorption takes place through the lymphatics, so that we have an enlargement of the glands in the neck with this accompaniment.

It can, therefore, be seen that it is of the greatest importance that the postnasal space be thoroughly cleaned out, and that no small pieces of the growth are allowed to remain *in situ*, for these are usually the disturbing factors which give rise to the various sequelæ detailed above. As soon as these pending infectious masses are removed, either with forceps or by introducing the curette again, and an antiseptic spray is used in the nose and throat, the source of infection is cleared up and the unpleasant after effects pass away in a day or so.

One more point to which the writer wishes finally to refer is, namely, the obstruction which one often encounters during the operation when making

the downward stroke. It often happens that the curette is impeded as it cuts through the growth owing to the marked prominence of the body of the atlas. This is particularly so in cases in which the posterior nares is rather narrow, owing to a slight bulging of the spinal column at that point. In such a case, even after the removal of the growth, the results are not always satisfactory, as the postnasal space is still too small to allow proper nasal respiration. If, therefore, one introduces the finger into the posterior nares and finds a very narrow space owing to this prominence of the atlas, one must be guarded as to the outcome of the operation, as the children often breathe no better after than before removal of the growths.

If, during the operation, one encounters this impediment, it is well to lessen the force used, slightly pulling the instrument forward and continuing the downward stroke, whereupon the cutting edge of the instrument glides readily over the obstructing area.

#### Conclusions.

To reiterate briefly we find:

(1) That the operation can be easily performed without any anæsthetic, taking from one to three minutes.

(2) That the growth comes away *en masse*, thus leaving no rests behind which are later the source of so called recurrences.

(3) That by examining the growth we can ascertain if a portion of it is still retained, and its location; and in addition we can show the mass to the parents, thus demonstrating the cause of the impaired nasal respiration and pointing out the necessity of operation.

(4) That complete removal leaves no rests behind, which later swell up and become hypertrophied, thereby bringing about symptoms similar to those prior to the operation, or so called recurrences.

(5) That by carefully examining the pharynx immediately after operation we remove pending pieces which would otherwise become infected, and lastly,

(6) That these pending pieces of tissue are generally the cause of postoperative hæmorrhages, and through their breaking down and becoming infected give rise to a secondary suppurating otitis media, with all its sequelæ, to the rigidity of the neck, enlargement of the glands in the neck, nausea, vomiting, general malaise, and a rise in the temperature.

The operation, as the writer has endeavored to detail, has been in vogue for some years abroad, and he acquired it while working in Hajek's Clinic in Vienna. Being convinced of its thoroughness he has used it exclusively in all cases of adenoid removal. It is a method which can be readily acquired by any one, with a little practice, and will always yield the best results.

If the removal of adenoids is performed as here given, it is almost certain that the results will prove most satisfactory and so called recurrences will be seldom heard of.

57 EAST FIFTY-EIGHTH STREET.

## PSYCHASTHENIA.

*Remarks on the Propriety of Considering It an Individual Disease.*

(First Article.)

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Within the past few years a new word, *psychasthenia*, has taken its place in medical literature. Dr. Janet, of Paris, suggested it as the name for a disorder characterized by mental, emotional, and physical symptoms made up principally of obsessions or imperative concepts, fears, doubts, anguish, uncontrollable movement, enfeebled will power, and some or all of the customary physical symptoms of neurasthenia. These symptoms and their associated occurrences have long been familiar to physicians. They have been interpreted usually as integral parts of such diseases as hysteria, hypochondria, neurasthenia, and some ill defined insanities of adolescence. Janet's proposition that they constitute an autonomous, constitutional disorder, such as epilepsy and hysteria, has been favorably received by physicians concerned with the study and interpretation of nervous and mental disorders. It might be gathered from reading medical literature, however, that psychasthenia and neurasthenia are one and the same disorder, as these terms are apparently used synonymously by some writers. This is an unfortunate occurrence, for, in reality, the two conditions are as unlike as hysteria and epilepsy. The fact that the occurrence of neurasthenia is apparently on the wane and that of psychasthenia on the increase has led more or less unconsciously to the conclusion on the part of some that they are the same disorder, to which it has become the fashion to give a new name.

The reason why neurasthenia is on the wane is not difficult to explain. In the first place, during the twenty-five years that followed its recognition as a well defined clinical disorder, the disturbances of function of various organs or sets of organs, such as the digestive tract, the genitourinary system, the circulatory system, etc., have been carefully studied, and in some instances the manifestations of their functional inadequacy have been raised to the dignity of a disease, which stands in direct relationship to the symptom complex to which the name neurasthenia is given. In other words, many of the cases which but a short time ago were labeled as neurasthenia are now diagnosed as disorders of the digestive system, of the vascular system, of the genitourinary system, of the mind, etc. For instance, in my clinic the diagnosis of neurasthenia was made and reported about 300 times in 1890, whereas in the year 1907 it was recorded only 82 times. During this time the diagnosis of dementia præcox, psychasthenia, arteriosclerosis, gastrointestinal neurosis, of metabolic disorder, conditioned originally by disturbance of the gastrointestinal functions, disseminated sclerosis, and general paresis, has been made proportionally oftener. Although the pendulum may be inclined to swing too far in the opposite direction—i. e., to the minimizing of neurasthenia—we must nevertheless admit that it is indicative of progress



in the realm of diagnosis to refuse admission to this category early or atypical varieties of the above this category early or atypical varieties of the above mentioned diseases.

Of these diseases psychasthenia is perhaps the most important, not so much because of its frequency, for in its fully developed form it is not of common occurrence, but because of the occurrence of "allied forms," to use a designation to which the modern psychiatrist is devoted, of which there are many. It would be very unfortunate if the belief that neurasthenia and psychasthenia are the same disorder should become accepted. Psychasthenia is quite different from neurasthenia, although it may be an important factor in contributing to neurasthenia. Psychasthenia is a constitutional psychoneurosis that has its origin in a neuropathic constitution, which is inherited, not acquired.

A better idea of psychasthenia, as it displays itself, may be gathered from a typical case than from any description, which must necessarily be a composite picture. The most complete and typical case that I have ever seen is the following:

A single lady, then thirty-two years of age, consulted me in 1901. Her family history, or as much as she knew of it, was interesting and important. She was the daughter of Irish immigrants of more than average intelligence. The father's distinguishing characteristics were industry and penury. He had held a position of some trust for many years and he saved a considerable amount of money. Saving money was his passion. Aside from going to work six times a week and going to church once a week he had never been known to have any other interest. If he had ever had much family feeling there had been no display of it after matrimony had ceased to be a novelty. He had every distinguishing feature of the miser, and this makes the enumeration of them here superfluous. He had some virtues, but they paled in comparison with his limitations, and were forgotten and entirely obscured in the atmosphere of his ruling passion. The mother was an intelligent, kindly, sympathetic, moderately emotional, gentle woman, who succumbed to diabetes when sixty-six years old. The parents had had seven children, four of whom died in infancy. My patient was the eldest of those that lived. The second, a sister, a most competent, intelligent, well balanced young woman is a successful wage earner. The third, a young man, is what may be called a dilettante, using that word in Goethe's sense to describe a man who is always venturing on tasks for which he is not adequately equipped. He studied law and was admitted to the bar, but was unable to hold a position in a law office. He undertook mercantile life and was unsatisfactory to his employers. He espoused a political career, but the organization with which he associated himself soon dropped him. He then became a follower of Henry George and a student of philosophy, but he abandoned both interests after a year or more devotion to them. He was convinced that he had histrionic talents, but on account of being thoroughly unappreciated, misunderstood, and out of harmony with his environment and his people, he finally made his displeasure and inadequate appreciation manifest by taking to a wandering life, and since a considerable time nothing has been heard of him.

My patient had, when she was twenty-four years old, symptoms somewhat similar to those for which she consulted me, but they lasted only a short time. They will be mentioned later. In order to give a faithful presentation of her history I shall state it in her own words, the sequence of occurrence of the symptoms being practically as related. "About a year ago I seemed to go to pieces. Whenever I attempted to do anything, such as housework, shopping, theatres, and the like, I would get used up very quickly, and the resulting fatigue was so great that I could scarcely sit up. My hands and arms, especially the left, would get numb and powerless after doing any work such as doing my hair, sweeping, writing, etc. In other words, my grip would weaken so much that I had to use my hand without my fingers. Most of my life has been an adventuresome, partly in

the back of the neck, specks before eyes, and rings on looking into a bright light. Objects would take on a far away appearance and everything would lose its proportion. At times a queer sensation would come on as if I were in a new sphere. Another evidence of this weakness was that frequently I let things drop that I was holding. Then I have a great deal of trembling of my hands and occasionally also of my legs, and I have had twitching of the eyelids and of the lips and of different parts of the body, particularly after excitement or after exertion such as walking and hurrying. I have a prickling, tingling, stinging sensation in the head which is sometimes accompanied by throbbing. At times, after or without exertion, I break into a perspiration."

In addition to the symptoms of this kind, all of which had somatic reference, she had peculiar emotional symptoms. She had days in which she felt restless, discontented, anxious, without attributable cause. She felt as if she would like to destroy things, a peculiar feeling which she was unable to put into words. When she was asked to attempt to do it she said, "It's a feeling as if I wanted to fly, which I have all through me." She was not emotional in the ordinary sense of the term, and she has the appearance of being rather a phlegmatic person with more than the average amount of mental and emotional equanimity. Nor at this time were mental and emotional symptoms at all conspicuous compared with the purely somatic symptoms.

In response to the ordinary treatment for the neurasthenic state, particularly tonic baths, massage, high frequency electrical currents, superalimentation, etc., she recovered and remained well until the summer of 1903, when some of the symptoms returned, and with them a number of others which had not existed before, or, if they had, only in a very rudimentary form. She described these as follows: "I was at a summer watering place stopping at a hotel, and one day, just before luncheon, it suddenly popped into my mind that I could not go into the dining room. Just why I do not know, but I finally succeeded in persuading myself to go in, but soon I became so excited and worked up that I had to jump up and almost rush into the open air. It was not that I felt the need of air. It was a mixture of fright, excitement, dread, and anticipation, which disappeared, or at least, abated as soon as I got out."

The only somatic symptom that she had at this time was pain in the back of the head. After a while the dominant idea, viz., that she could not go in the dining room disappeared, but later other and far more distressing ones took possession of her mind, particularly ideas of homicide. Suddenly the thought would flash into her mind: How easy it would be to kill this or that person. For instance she was sitting one evening reading, her sister on the other side of the table, when, without antecedent thought or motive she looked up at her sister, and like a flash the thought came to her how easily she could kill her now by just thrusting the sharp end of the scissors into her neck. Again, at night after she had gone to bed, she was seized with the same thought. It frightened her and made her distrust herself, and filled her with a violent feeling towards herself, and although she knew she would not do it, nevertheless, she felt compelled to get up and go into the next room that she might not be on the spot providing an all powerful impulse to slay came to her. Moreover, it distressed her terribly that she should be compelled to give tenancy to such thoughts. They were so terrifying that they made her afraid of herself and they were so loathsome that she despised herself for having them.

A few days ago she received a letter from a friend who had spent some time with her, and who suggested that, being on the way to New York, she would visit her. The first conscious thought on reading the letter was, "How easy it would be to kill her when she comes here," and for a long time this thought would bound into her consciousness without apparent relevancy. Another came while she was sitting in the park one day. Two boys of ten or twelve years passed her, and like a flash the thought came into her mind, "It would be so easy to kill those boys." The thought was not associated with such concomitant as to whether or not she might be found out in her guilt and punished. She was sure that the sentiment associated feeling was one of shame and humiliation. She did admit, however, that in discussing the matter with herself she thought that possibly she and her sister would

be quite as well off if they were dead. Other uncontrollable thoughts that she had were of jumping into the subway, jumping from the elevated railway, jumping into river, cutting her throat while taking a bath, killing some member of her family, and suggestions of the "most immoral acts" one could commit. She might be walking in the street or in a shop and passing a man, instantly a thought of the "most awful" nature would pop into her mind, and on occasions it would be associated with the impulse to say bad words, but the latter she had been able to keep from saying aloud, but they came articulately into her mind. It distressed her terribly that often these thoughts were associated with the most disgusting looking men, tramps, Italian laborers, etc. Another was an impulse when in church to cry out and revile things always considered sacred, or to get up in church and swear and blaspheme at some special movement, such as as the elevation of the Host.

So far as could be seen she seemed to be in excellent physical health; she had no indications of insanity, and she was concerned quite like a normal person would be about the dominant thoughts that took possession of her, and fastening upon her mind crushed out every capacity for thought save the disgusting and debasing suggestions which they caused.

She did not have them continually, but she could not tell when they were going to come nor how long they were going to stay. When she was tired they were more insistent and dominant. For weeks they would be very aggravating and then a respite from them would follow. At other times such impulses were momentary. They would shoot across her mind like lightning across the sky and leave no trace. She was not so terror stricken of them as she was formerly because she had seen that she did not conform her conduct to them and no one save her sister whom she told knew of them. After about three years she began to have other symptoms, particularly a sensation when sitting as if she were falling off the chair to the left. This was particularly so when she was sitting at a table, in church, or on a bench in the park. When she sat in the middle of the seat she felt as if she were going to fall over because she had no support. This reminded her of the symptoms she had had a number of years (ten) ago. Symptoms similar to this and a sensation of strangeness, of unreality, used to come over her. It seemed to her then as though she must have lost consciousness for there would be a gap in time for which she could not account. At other times she would not get all the dictation that she was taking, but no one noticed that there was anything peculiar about her. That is, she did not faint nor seem to become confused. She felt as if some one other than herself was taking the dictation instead. After a long vacation these symptoms disappeared.

Now she has them again and with them sensations of being in a different world where things have a semblance of familiarity only. This sensation seems to last a long time, but in reality it is very brief. She gets tired sometimes after walking two blocks, and so prostrated that she feels irritable and tearful. At another time she could walk a mile without any trouble. She had had one spell of high temper following a sudden fatigue. She is quite positive that she is more able to bear the distressing thoughts and dominant ideas and that she has them less dominantly if she eats often and a great deal. If she

like a mad or takes a small quantity of food she is sure to feel worse. The consequence of this was that she had developed a ravenous appetite. She had often noticed that after menstruation she was weak and she was apt to have more of these obsessive ideas then. Examination of the uterine organs showed them to be normal in size and position. She complained of pain in lower part of abdomen when she rested on her abdomen, or when she bent over without corsets. She was much larger around the abdomen and hips than she had been. She sometimes had to pass urine four to five times an hour, and even then the sensation of desire to urinate was not relieved. She had noted latterly that statues, and pictures, as well as man suggested sexual intercourse, especially if she was tired or menstruating. Obsessions of homicide were also very dominant at such times.

Latter new symptoms, such as twitching of the head, arms, and legs developed. Perhaps "twitching" does not describe the movement she says, it is not a sudden movement of

one part of the body or another. Twitching of her entire body was often the last thing remembered before falling asleep. Flushing of the face with throbbing of the heart and throbbing in the abdomen, especially when resting, were of frequent occurrence. After meals she felt similar throbbing and also after exercise. Fear of falling when going downstairs and when standing and not having something to lean against was also most distressing. She felt as though she would fall from chair when sitting at meals. She must have a footstool to brace and steady herself and must lean on table for support. Objectively there was no evidence of the slightest insecurity. At the conclusion of a meal she felt much stronger.

Recently she had the sensation of falling from a chair and thought that she had lost consciousness or fallen asleep, for her surroundings seem unfamiliar. She could not describe them, but like a place which she had seen and forgotten. After walking a few blocks she felt like falling and had pain in back and head.

After this she had a long period of respite from the worst symptoms. Then she sprained her ankle. After she recovered she began to have weak feelings, a sensation of falling over to left. If this was very pronounced she had at the same time numbness in the left arm lasting a few minutes. All this summer she had marked flushing of face, more or less constant, and when this was very marked she felt very excited. Often this came in a sort of an attack.

The patient's intelligence doesn't call for particular comment. She discusses her infirmities with nearly as much impersonality as if they were those of another. She is terribly chagrined and distressed at the character of many of her symptoms, which, however, she discussed with no one save with her physician, and she made the most commendable efforts to get rid of them. She has no dementia in the customary sense of the word, though there is unquestionably enfeeblement of some of the mental processes. Her capacity for verbal association and her reaction time are about those of a woman of average intellect. She, however, has great difficulty in accomplishing things that require long or close mental effort. And she has lost her skill as a stenographer.

When we review her symptoms we see that they practically fall under three heads: Obsessions, peculiar movements, which she calls uncontrollable, twitchings of different parts of her body, agonizing emotions and manifestations of psychological insufficiency, sentiments of unreality, of somatic strangeness, and of depersonation, and finally diminution of will power. The obsessions are involuntary, automatic, and irresistible. They come into her mind without the slightest warning and take possession of it. The only relation between their occurrence and any outside factor is what has been noted in regard to fatigue. The patient makes her best effort to prevent them or to circumvent their dominant operation, but she accomplishes little in this direction. She realizes how strange and morbid the obsession is and how contrary to her nature and thought the obsessive ideas are, and she is able to discuss them in an impersonal way, but this has no effect upon the tenaciousness of the obsession, nor can she shut it out by effort of will.

The various uncontrollable twitching movements, which are to be interpreted as manifestations of psychological operation upon the motor areas of the brain despite the action of the will, seem also to occur much more severely and extensively when she is fatigued or when anything has occurred to lower physical or mental vitality.

Manifestations of psychological insufficiency, which were the first to develop in this young woman's case, disappeared for a number of years before the disorder itself seemed to have fastened upon



her. Later they became the most distressing phenomena of the disease. It is to be noted that in this case the patient was not of a hesitating, irresolute, selfdistrusting person, as many psychasthenics are, nor was there any very conspicuous inclination to selfdepreciation, which is common in so many of them. Her lack of selfconfidence was displayed only in the attitude which she took toward her obsessions. She had done her best to overcome them and had failed, therefore she could not rely upon herself to cope with them. She did not have many of the fears which psychasthenics often have, nor was she a victim of exaggerated morbid scrupulosity.

The feeling of unreality, of disembodiment of personality, of swaying and falling, are fairly constant phenomena of fully developed psychasthenia. And they may be looked upon as a profound exaggeration of sensations which many so called normal individuals have. The sensation that they have of being in some new atmosphere, in some strange place, and at the same time of having been there before, is a favorite topic of the poet,

"I am aware of other times and lands,

Of birth far back, of lives in many stars,"

and it is also that which the modern literary mystic, such as Lafcadio Hearn, is constantly thrusting before us. Only in those instances such sensations are presumably pleasurable, but in the psychasthenic they are distressing.

The sensation of insecurity, of swaying, and falling, is a curious one, and it is possible that it may be interpreted as the cessation of the reciprocal relationship existing between the will power and the centres or areas of equilibration.

The effect which physical and mental effort had upon her symptoms has often been noted, and peculiar fatigue is one of the stigmata of the disease.

Janet has distinguished six clinical varieties of psychasthenia: 1. The doubter, those in whom obsessive ideas are not very precise, more of the nature of a general mental inclination rather than a specific idea, such as a craze for research, for explanation, for computing, etc. 2. The scrupulous, those whose obsessions are of a moral nature. Their manias are of literalness, of statement of exact truth, of conjuration, of reparation, of symbols, etc. 3. The criminal, those whose obsessive ideas are of homicide, theft, and other overt acts. It is generally conceded that in this variety the impulsive tendency is stronger than in any of the others, but nevertheless the individual rarely responds to the obsession, especially to what may be called the major one, such as homicide. 4. The inebriates, dipsomaniacs, morphinomaniacs, etc., in whom the impulse seems to be least resistible. 5. The genetically perverted. 6. Delirious psychasthenia, a condition in which a delirious state of the mind concerned with the obsessions occurs.

Whether such classification contributes to a better understanding of the conception of the disease and its modes of display, it is quite impossible to say. But that there are cases that fall rather narrowly into each of these categories must be admitted. And that there is ample justification for describing a psychonurosis of deviates, or on a degenerative basis there can be little doubt.

## THE MANAGEMENT OF FEBRILE CONDITIONS AFTER ABORTION AND LABOR.\*

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If one will take the trouble to look over the files of the medical journals issued during the past five or ten years, he will find the literature of the puerperal fevers so extensive and ponderous that he will be apt to quit the attempt in a heavy and confused frame of mind. No sooner will he have formed an opinion in one direction than the investigations of a new set of observers will tend to dispel his convictions in another. Take, for instance, the bacteriology of the puerperal uterus. One set of competent observers, investigating more than 500 cases, tell us that the uterine discharges are ordinarily sterile in anywhere from 64 to 100 per cent. of the cases after childbirth. On the other hand, another set of equally competent observers assure us that, in some 250 cases examined, the sterility of the uterine lochia ranged between 0 to 36 per cent. of the cases. Perhaps Little—to whom we are indebted for an excellent résumé of the subject—may be right when he attributes the different results to the circumstance that the observations were made on different days of the puerperium, when the percentages of sterility varied accordingly. Similarly, in this period of time, have we witnessed the rise and explosion of different highly lauded methods of treatment, including the injection of chemicals in the blood and operative procedures of various kinds. So that we are tempted to put our reading material to one side and wearily ask ourselves how much further have we advanced in the management of the puerperal fevers, and how much of real importance have we learned in the past ten or twenty years.

I assume that the ætiology, pathology, and bacteriology of the puerperal fevers—as taught these many years since the time of Holmes, Semmelweis, Pasteur, and Lister—are today thoroughly understood by every educated physician. When we are told, for instance, that fifty years ago the mortality from childbed fever in the Boston Lying in Hospital averaged from 20 to 30 per cent., and grew to such proportions that the service had to be discontinued for several years, and that today only one woman in 1,100 dies from the same disease, we have indeed cause for congratulation. It is agreed that sources of infection occasionally arise from sources independent of the accoucheur. Thus vulvovaginal abscesses, chancres, rectovaginal fistula, pus tubes, or gonococci transmitted during sexual intercourse may each be responsible for puerperal fever in isolated instances. Still, it is a safe assumption that, in by far the largest proportion of cases, infection comes from without. Although puerperal mortality has been almost reduced to *nil* in institutional statistics it is nevertheless a fact that in private practice the mortality remains about the same as it was twenty years ago. So long as this is the case there must be no let up in holding the midwife or physician

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morally responsible until results prove that patients in their homes are surrounded with the same safeguards of asepsis and antisepsis as their sisters in obstetric institutions.

Further, assuming that the medical attendant is sufficiently able to recognize febrile conditions due to complicating or coincident conditions—such as influenza, pneumonia, bronchitis, tonsillitis, typhoid fever, appendicitis, cholelithiasis, pyelitis, etc.—we proceed to the consideration of the febrile conditions directly due to abortion and labor.

A slight digression of a personal nature may be pardoned at this point. Some twenty odd years ago I had the privilege of a double maternity service at Bellevue Hospital, under the late Dr. Wm. T. Lusk. In those days our methods of preparation of patient, doctor, and nurse were nearly what they are to-day. To be sure, we used vaginal douches more freely, we used chemical solutions instead of boiling for our instruments, and we used no rubber gloves for the hands, which were otherwise carefully scrubbed and treated antiseptically. In every respect scrupulous cleanliness was observed, and our patients—some of them delivered to us directly from the city's gutters—mostly escaped septic infections. Indeed, our results were so good that the late Dr. Lusk used to publicly announce that he would rather deliver a woman in our maternity ward than in the most elegant surroundings of the rich. My first years of practice were spent among the dirtiest and poorest inhabitants of the city. In spite of this I was able, in 1,500 tenement house deliveries, to record but one death from septicæmia in a selfdelivered woman who, without my knowledge, had borrowed an old syringe from a relative and used it for vaginal injections. Of course, I saw numerous fatal cases in this time, but they were either midwife cases or cases delivered by colleagues. Since then my hospital connections and consultation work have provided me with liberal opportunities for observing and studying the puerperal fevers, which are still of common occurrence in the practice of midwives and those general practitioners who have not yet properly mastered the secret of surgical asepsis.

Without attempting to dilate on the details of prophylaxis and prevention let us now proceed to a consideration of the management of the puerperal fevers.

Dr. W. M. Polk, in the course of a clinical lecture, once remarked that the condition of a woman after an abortion could be compared to an apple plucked unripe from the branch. At full term the delivery of the child and easy separation of the placenta could be similarly compared to the dropping of the apple to the ground after it had fully ripened. There is, further, a difference to my mind between abortions of spontaneous nature and those induced artificially; in the latter variety is sepsis from without more apt to be introduced into the uterine interior.

After spontaneous abortions the retention of placental tissue, etc., only infrequently gives rise to fever and seems rather to subject the women to irregular uterine bleeding. I have known cases in which retained products of conception were carried for days, weeks, or months in one case seven months without producing any febrile disturbance.

On the other hand, the cases of sapræmia, or even some of the worst varieties of septicæmia, are met with in women in whom there has been tampering with the uterine interior of an artificial or criminal nature.

Abortion, especially the criminal varieties, may give rise to fevers due to sapræmic toxæmia, bacteriæmia, parametric exudates, purulent collections in the Fallopian tubes or peritoneal cavity (usually in Douglas's cul de sac), occasionally to necrotic or suppurating fibroids, and to varying grades of peritonitis. Often several of these conditions are combined in the same case.

The treatment of retained tissues after abortion differs somewhat from that employed after labor at term. Although the principle of cleaning out the uterine interior is the same in both, I have always felt that one could be much more thorough in the operative manipulations of the uterus after abortion than after full term. After labor the woman is usually in a much more exhausted state and must be handled with the greatest gentleness, for every additional traumatism is associated with the risks of fresh infection in an already overtaxed and debilitated system. I respect the statement of Gilliam when he says that "to the puerperal woman the man with a curette is more to be feared than shot and shell on the most sanguinary field of battle." I shall go a step further, and state that only the clearest indications should induce the physician to transfer such a woman from her bed to a table for the purpose of forcibly dragging down the cervix in tenacula forceps and introducing the Chamberlain tube or double current intrauterine metal catheter. Only too often is the subsequent violent chill and high rise of temperature attributable to these manoeuvres.

But after abortion conditions seem to me to be somewhat different, and for twenty years I have not hesitated to use the curette—a semisharp, large curette—in cases of retained placenta. In such cases I prefer to begin with placental forceps, then I remove adherent placenta with one or two different curettes, and wind up with intrauterine irrigation of normal salt solution. If drainage is used at all only a narrow strip of gauze is left in the uterine interior. Of course, if the fever, in abortion cases, follows the perforation of a uterus the curette, if used at all, must be handled with the greatest care. In the presence of pus tubes, pelvic abscesses, general peritonitis, or bacteriæmia the curette is simply harmful.

When called to a patient suffering from fever after delivery at term I begin with the examination of the breasts. An early rise of fever is often due to this cause, and I have known inflammations of these organs, even to the extent of abscess formation, to be overlooked in the attempt to locate a pelvic origin for the rise of temperature. The term "milk fever" may be banished a hundred times from our books, but to my mind it would be far better to retain this objectionable designation than to have women unnecessarily and indiscriminately subjected to the traumatism of an intrauterine douche or a "scraping" with the omnipresent curette. It is a difficult matter to prevent the swing of a pendulum from going to extremes in either direction in the teachings of our profession.

The puerperal fevers proper are today divided into two main groups: I, the toxæmias, and, II, the bacteriæmias.

In *toxæmia* there is regularly present in the uterine cavity some portion of the products of conception, usually placenta, disintegrating clots of blood, or débris. Microorganisms feed on these masses, and give off toxins which are absorbed in the blood and cause febrile disturbance. Sapræmia in these cases is the synonym of the toxæmia due to the putrefactive products of the saprophytic bacteria which are present in all kinds of decaying material. A second variety of toxæmia in these cases may result from the absorption of the products of distinct pathogenic bacteria.

In *bacteriæmia* the bacteria themselves circulate in the blood and usually include (1) phlegmasia alba dolens; (2) septicæmia, pyæmia, septicopyæmia (sometimes gonococcus absorption); (3) the peritonitic types of sepsis. The last varieties, in a subacute form, seem to owe their origin sometimes to a toxæmic state, and occasionally include some of the gonococcus types of puerperal infection (Wm. S. Stone).

For practical purposes I beg to submit the clinical classification into four groups which has guided me these twenty years in the management of the puerperal fevers.

Group I. *Fever due to retention of infected placental débris or blood clots.* Between the third and sixth days post partum these patients usually manifest their first symptoms with chills and a rise of temperature. There may be little or no pain, but the fluor has a decided odor if the canal of the uterus is not prevented from discharging it by a flexion of the corpus uteri on itself. I pass by, as familiar to you all, the associated headache, malaise, restlessness, backache, or occasional delirium. The uterus is large, and the exploring finger introduced gently into the uterine interior recognizes placenta or blood clot. If the discharges from a little placental débris are simply pent up because of a flexed uterus, a simple irrigation after straightening the uterine canal may be sufficient. Ordinarily it will be sufficient to sweep out with the finger or placental forceps the retained clots or mass of placenta, or even the large, blunt curette may be called for in some cases, when an intrauterine irrigation with normal saline solution will complete the operation. I have regularly administered ergot to keep up uterine contraction. The use of alcohol, as recommended by Carosso and Ill in this class of cases, I have no experience with. If the fever does not drop in a reasonable period of time after this method of procedure it is usually because one of two conditions is present—local pelvic inflammation or bacteriæmia.

Group II. *Fever due to pelvic inflammation.* These cases may be associated with or follow the first group. If present with retained placental débris, unless the emptying of the uterine contents is done with the greatest gentleness, the inflammatory processes will naturally be aggravated. Hence the presence of pelvic inflammation is ordinarily a contraindication to intrauterine irrigation or curettage unless in the most exceptional instances and then only in the hands of experts. The pelvic inflamma-

tions may be in the form of salpingitis, oophoritis, pelveoperitonitis, or parametritis. Whether these inflammations arise from backward continuity of inflammatory processes or from lymphatic or blood absorption does not enter into the province of a practical paper like this. Suffice it to say that they may all end in spontaneous absorption, but occasionally suppuration supervenes. Long continued cases of fever after childbirth belong usually to this group. I have not been able to convince myself that the usually low grade fever with correspondingly slow pulse rate follows any particular type. Chills are infrequent or mild, and the facial expression flushed and hopeful. The addition of localized pain somewhere about the uterus and the finding of an exudate or mass to the front, to the back, or to either side of the uterus usually makes the diagnosis very easy. As a rule, these patients recover under local abdominal refrigeration, prolonged rest in bed, and hot vaginal douches given at short intervals. In fact, I believe that most cases would get well if kept simply in bed. The use of the silver ointments or blisters in the region above Poupart's ligament and the pubes can certainly do no harm. It is well to examine the blood in protracted cases, for I have found pus in a number of cases in which the fever had apparently dropped to the normal, but the exudate would not disappear. In such cases the presence of an increased leucocytosis ranging between 10 and 20 thousand and a polynuclear count exceeding 75 to 80 per cent. would induce me to advise operative intervention with the prospect of finding a pus focus. Of course the clinical manifestation of repeated rigors and marked fluctuations of temperature, with profuse sweating associated with a pelvic mass, would lead us to the same diagnosis and treatment. Where it is possible to wait for "pointing," this is the best course to pursue, for then an incision into the fluctuating tumor in the vaginal roof or over Poupart's ligament ordinarily allows of the easy escape of pus and the cure of the patient. In one case, however, I found the abscess dissecting its way upward beneath the peritoneum covering the psoas muscle. This case necessitated the performance of a laparotomy before the pus pocket could be reached. In a certain number of cases abdominal section, which ordinarily in these patients is not called for before six or eight weeks have elapsed, will reveal only thickened and infiltrated tubes. While most of these patients regularly get well after such operations, I am satisfied that many of them would have equally got well under prolonged rest in bed and under the use of ice applied locally. I cannot insist too much on leaving patients with pelvic exudates alone. Jackson's epigrams teaching us how to kill a puerperal woman suffering from sepsis apply with particular force to this class of cases: "1. Use all the salts you can persuade her to swallow; 2. Poison her with strychnine; 3. Use the curette and intrauterine douche indiscriminately; 4. If she is still alive perform an abdominal section."

Group III. *Fever due to bacteriæmia (Septicæmia).* Sometimes bacteriæmia occurs before delivery, and in my experience with a few cases is a most ominous condition. Ordinarily, however, a few days elapse after the labor before the

onset of the symptoms. While I have seen a few fatal cases, which began with a pulse range of 100, the rule is that from the start the pulse counts 120 or more. Still, in nervous women, the value of the pulse count only holds good when taken during sleep. Chills occur once or several times daily, and the temperature chart shows marked fluctuations. The facies usually are anxious and drawn. Intense restlessness, often going on to delirium, characterize many of these cases, although some of the worst cases I ever saw were perfectly clear minded up to a short time preceding exitus. As distinguished from sapremia due to retained placenta, the lochia are diminished or absent and free from odor. There is usually a complete absence of abdominal pain. In spite of an absence of local symptoms these cases may present, on autopsy, gangrene of the uterine mucosa, abscesses in the uterine wall, pelvic lymphangitis, or thrombophlebitis of the pelvic veins; also lesions may be found in the more distant organs, such as abscesses, ulcerative endocarditis, etc.

The few cases in my experience which developed before the onset of labor died, and it has seemed to me that the treatment of the future will take into consideration the earliest possible removal of the uterus in the hope that the system may still have sufficient power to fight off successfully the beginning systemic bacterial invasion. After, however, the blood examination shows the presence of streptococci or staphylococci the patient's chances after a hysterectomy seem, to my mind, exceedingly slim. And even though a patient here and there may recover after operation, we know that occasionally such patients recover without operation and in spite of the presence of streptococci in the blood. At all events, the two patients subjected to hysterectomy by me died, as well as one with unilateral thrombosis of the pelvic veins on whom I resorted to ligation of the ovarian and internal iliac veins.

What the opsonic treatment with bacterial vaccines holds forth for these cases is still a matter for the future to determine. The results of Wright are not very encouraging; and, although two out of his three mild cases got well, Jewett does not seem to be very favorably impressed with the treatment. Similarly the use of antistreptococcus serum, which I employed many years ago and again recently, have failed to excite any enthusiasm in my breast. I make this statement advisedly, with the full knowledge that S. Marx, Hamilton, and others have recorded very favorable results. The only desperate case which actually recovered ten years ago, and whom I saw many years later alive, did so after exhibiting dreadful pyæmic manifestations requiring wholesale surgery, and this woman was left ultimately with an ankylosed knee joint. It was never clear to my mind that she did not recover rather in spite of than because of the heroic treatment instituted. Another instance which left the same impression on my mind occurred two years ago in my service at Beth Israel Hospital. The diagnosis of pelvic lymphangitis was made after consultation, in a septic case, by Dr. Boldt and myself. After curettage I opened up the posterior cul de sac and drained the lower pelvis with gauze. She ran a characteristic fever range just the same, and then

we diluted her blood with saline solution. We used later antistreptococcus serum without apparent benefit. She finally was attacked with a septic pleurisy with effusion, for the relief of which we drew off several pints of sanguineous fluid—and the patient got well! I may be pardoned if I am often tempted to leave some of these patients to fight their own battles for life in the hope that the struggle between the phagocytes and the bacteria will terminate in favor of the former. Of course everything in the way of alcoholic stimulants, cardiac supporters, nourishment, and careful intelligent nursing should be prescribed to maintain and conserve the patient's resisting powers.

The gonococcus type of puerperal infection I have recognized about a half dozen times. Although the bacteriæmic element is present, these cases usually run a mild course and terminate in recovery; still there are three cases on record by Mann and two cases by Davis which ended in death. Those cases which I recall developed symptoms of the pelveoperitonitic type about the second week, and the patients got well under prolonged rest in bed. Of course, gonorrhœal pus tubes require surgical intervention.

Phlegmasia alba dolens is similarly a mild form of bacteriæmia in which the pathological process consists of an infected femoral thrombophlebitis. The fever is of a low grade, and the location of the pain over the femoral region readily indicates the nature of the infection. My plan of treatment in these cases has been in the direction of nonintervention; no rubbing of ointments or liniments, no massage, no active movements. By keeping these patients quiet in bed, with the limb elevated until the fever has subsided and the pain has entirely disappeared, the disease usually runs its course in ten days. There is no objection to the use of an ice bag over the inflamed area and a flannel bandage rolled upward from the foot to the thigh during the period of active symptoms. By following this plan during a score of years I have never met an embolus as a result of the premature disturbance of the blood clot in the vein.

Group IV. *Fever due to general peritonitis.* Although clearly a variety of bacteriæmia and characterized by the worst kind of a prognosis, for clinical purposes we can group the cases with general peritonitis in a class by themselves. In the fulminating type of the disease, very soon after delivery, the abdomen begins to distend; general abdominal pain is complained of; vomiting and constipation become more and more marked; the facial expression (in spite of a clear mind) looks sunken, haggard, drawn, and anxious; the cheeks have a hectic flush; the tongue is brown and dry; the pulse—associated perhaps with a low grade of temperature and chills of varying severity—becomes at an early period small and rapid; and, often in the short period of several days, the patient is dead. The diagnosis is easy if the distended abdomen, small thready pulse, and facial expression has been once seen. Still, on several occasions, I have known intelligent practitioners to mistake a condition of intestinal paresis with exaggerated abdominal distention for peritoneal sepsis. Of course the absence of rigidity of the abdominal wall, the



absence of tenderness, the absence of fever and rapid pulse, should make the distinctive diagnosis perfectly simple, and a dose of castor oil or a high medicated enema containing oil of turpentine will equally rapidly cure the patient.

Real acute septic peritonitis presents the same appalling picture familiar to abdominal surgeons after severe infections. Authorities differ as to the management of these terrible cases. Unless recognized in the earliest stage I cannot see any benefit from hysterectomy. That surgical intervention offers some hope in certain cases can be implied from the statistics of Cyrille Jeannin, published a year ago. Of 121 cases of general puerperal peritonitis subjected to surgical treatment this author notes sixty recoveries and sixty-one deaths. He therefore advises operating every case of puerperal peritonitis "as soon as diagnosed." There can be no doubt that the finding of pus pockets, after laparotomy, offers the patient a chance for life, although I must record one death in a case in which I found several pus pockets between the coils of intestine. The presence of pus, however, is not always clear, so that intervention assumes necessarily the character of an exploratory operation. On the other hand, if the case is not *foudroyante* in type, but assumes a less virulent character, it is possible for such patients occasionally to get well without operation. I have met several examples of puerperal peritonitis which terminated in spontaneous recovery.

On the whole, given a positive diagnosis of puerperal peritonitis with the patient in a fair condition, I think that a laparotomy in proper hands offers her a better chance for her life than if nothing is done. As for the opium treatment—as recommended by the late Alonzo Clark—and which I was taught to push to the extreme, I believe it frequently pens up secretions and masks symptoms. I use it only in exceptional cases.

If a general peritonitis shows a tendency to rapidly subside under the use of ice to the abdomen it may be well to wait in the hope that the process will go on to complete recovery or that pus formations will become localized. I have thus on several occasions, in which peritoneal manifestations seemed to be quite violent at first, known pus to become sacculated in Douglas's cul de sac. In one case, after vaginal section behind the cervix, a considerable quantity of pus escaped, but the peritonitic manifestations continued, and the patient died. In another similar case I resorted to a vaginal hysterectomy, and the patient recovered. I recall one case seen many years ago in which a post partum inflated abdomen, with temperature reaching as high as 106° F., induced Dr. A. Jacobi, who saw the case in consultation, to suggest the possibility of intraperitoneal suppuration. Unable to secure the patient's consent to an operation she was treated by the liberal use of ice bags to the abdomen. She made a good recovery, has had several children since, but carries as a memento the extensive scar left from the sloughing of the abdominal wall which resulted from the too assiduous application of the ice bags.

In the preparation of this paper I have endeavored to sketch the outlines of the febrile condi-

tions following abortion and childbirth with few strokes of the pen. The elaborate descriptions of detail I have purposely left for the Meissonniers in our profession or the writers of cold textbooks. If the essay, brief as it is, can bring forth an instructive discussion, the purpose of my writing will be fully accomplished.

112 EAST SIXTY-FIRST STREET.

## VACCINATION IN THE FAR EAST.

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The history of all nations the world over, whether in tropical or polar regions, has been only a repetition of the same dismal tale, that is, the advent of the white man. He has not only brought civilization, but many serious ills in his train, both physically and morally. Among the diseases traveling in the train of civilization smallpox is one that easily leads in its terrible destruction of life and in blindness and disfigurement of the human countenance that it leaves in its wake.

The average man who lives at home, and does not have his attention particularly drawn to the matter, does not realize the terrible loss of life in the past, and which is still going on in remote parts of the world.

In the South Sea Islands, in the Far East, in China, Indo-China, Siam, the Malay Peninsula, Arabia, Persia, Africa, and many other parts of the world, the death roll in past epidemics has run into hundreds of thousands of people who, if they had had protection by vaccination, might have lived long lives of usefulness, not to speak of the thousands of blind and disfigured persons. It is no uncommon thing to see in some cities in the Far East six or eight totally blind persons being led in one line by a blind leader, each one with his hand on the shoulder of the one in front. Literally, as the Scriptures say, "Blind leaders of the blind."

In Siam up to recent years practically all of the new cases and the great death rate were among the children, for all of the older people had had the disease during successive epidemics.

In 1903 the death rate in Siam and its dependencies was 10,000, and this was only one epidemic. These epidemics have been recurring every few years. Dr. Peoples, a Presbyterian medical missionary in the province of Nan, one of the Laos provinces in the north of Siam, told me that in that province, which has now a population of 600,000 people, 100,000 had died of smallpox in the past thirty years. This is only a sample of what has been taking place all over the Far East with the exception of the British colonies, where vaccination has been pushed by the British government. In Indo-China the French government faces the situation that the population has decreased 50 per cent. since they first occupied the country, and efforts are now being made to vaccinate and instruct the people in sanitation by government medical men. In 1903 Dr. H. Adamson, inspector general of hospitals, and myself called the attention of the Siamese government to the terrible death rate in Siam from small-

pox and showed the great inroads it was making among the already sparse population of pure Siamese, who had also suffered so severely from cholera, malarial fever, and dysentery, and was to have bubonic plague added to their troubles. But smallpox caused more deaths than all of the other diseases together.

Prince Darmong, minister of the interior, a most able man, sent Dr. Adamson to Manila to study the American methods there of making vaccine at the United States Government Laboratory. On his return active efforts were made to make vaccine in Siam. The French were making fine vaccine at the Pasteur Institute at Saigon, but the vaccine spoiled very quickly in the tropical climate, and long before it could be used in the interior. The German and Japanese doctors in Siam had had a try at it, but, owing to climatic and other conditions, they met with absolute failure. Dr. Adamson and myself worked hard, the government giving us every facility that money could procure, a well fitted up bacteriological laboratory, etc. But it was nine months before we succeeded in making vaccine, nine long months of failure and disheartenment. But at last we succeeded and made good vaccine. We were both proud men when we exhibited to the Siamese officials a large number of children with well marked vaccine sores on their arms. All of the physicians in the Siamese service were put to work, and in two years we had vaccinated 400,000 people, mostly children, without a single death from tetanus. During this time Dr. Adamson and I inoculated and scraped every calf with our own hands, made all of the cultures and bacteriological examinations, and supervised every detail, as we had no one we could trust to do it. Dr. Paul G. Woolley, a most able and talented man, a graduate of Johns Hopkins University, came from Manila and took charge of the work finally, and he now fills the position I formerly held, that of chief medical inspector of the royal Siamese government.

It was only a few weeks after the first successful vaccine was made that we had a splendid opportunity to see what vaccination meant. Smallpox broke out in the town of Tatchin, situated at the mouth of the Tatchin River. In thirty days 145 children died of the disease, before we were notified of the outbreak. This meant about 500 cases, and we dispatched a fast steam launch with a number of vaccinators, and in a few days had vaccinated 4,000 people, absolutely stopping the epidemic at once, as there were no more cases after the period of incubation of those already infected was over, and even in these it modified the disease. Tatchin has never known smallpox since.

The Presbyterian missionaries in the north, in the Laos country, heard we were making vaccine, and at once sent for supplies. As one of them expressed it to me: "Doctor, I have gone through hell in years past in seeing my people dying by the score of smallpox and being helpless to stop it, and now we can stop it." Dr. McKean, of Chengmai, at once inoculated calves with the vaccine we sent him and started the work in the far north, and this year he has 250 vaccinators at work who will average a thousand or more vaccinations each, so that he alone

will probably vaccinate 250,000 this year. The work is going on from the Federated Malay States to the Indo-Chinese frontier and from Burma to Indo-China, so that in a short time smallpox will be absolutely a thing of the past in Siam.

The Chinese at once took advantage of the great demand for vaccination, and it was soon found that it was necessary for the government to issue an order allowing no one to vaccinate without a government permit, as we found that the Chinese doctors, in their anxiety to make money, vaccinated the people with bogus vaccine and were using condensed milk, gum resin from a tree, and pus from syphilitic ulcers as well as pus from smallpox ulcers. The great and unusual death rate among the children from smallpox was due to the fact that practically all the adults were the sufferers of previous epidemics and all had had the disease.

Dr. Peoples told me that in the epidemic of 1898 he traveled over a large stretch of country in the Laos province of Nan, and on investigation found that in that epidemic alone 75 per cent. of all the children under seven years of age had died over a great part of the province, and this in only one epidemic. This meant that, of 500 children in a village, 375 died of the disease.

One of the most heartrending things was to go into a village and have the dozens of totally blind children brought to you to see what could be done for them, all made blind by smallpox. The poor people had an idea that the Moh Luang, the king's doctor, would be able to give them back their sight.

To-day the great campaign is going on among millions of people, and over hundreds of thousands of miles of territory. Too much praise cannot be given to the work and selfdenying exertions of the missionaries, both medical and lay, who have gone out on tours and have vaccinated thousands and thousands of children in the past two years. The great extent of this work was shown by the official reports sent to me by Dr. Dunlap, Dr. McDaniel, and Dr. Walker, who vaccinated nearly 10,000 children in one season, and of Dr. McKean, of Chengmai, who vaccinated 17,500 in one season. They are all attached to the Presbyterian mission.

The Siamese government fully appreciate the work the missionaries have done, and the government is cooperating with the missionaries. Personally I am proud of the fact that Dr. H. Adamson and myself made the first vaccine ever made in the kingdom of Siam, and started the great work which is now going on to such an enormous extent.

After coming back to America after years of sojourn in the Far East, I have been utterly astonished and surprised to read articles in papers denying the protection of vaccination against smallpox, and learning of so much opposition from parents to have their children vaccinated, also of the activity of antivaccinationists. I wish I could show some of these people the results of vaccination in the Far East, in Siam and the Malay Peninsula. It might shame some of the ultracivilized to see the gratitude shown by a poor heathen mother when she knows her children will not lose their lives or be blinded by this disease.

In conclusion, it might be interesting to tell what

the Siamese believe is the origin of the disease. I quote a translation of a Siamese medical book in my possession, translated for me by Dr. Dunlap:

"There is a great giant that lives in the sky and who has seventy-six sons and daughters; each one of these is a variety of (Fidat) smallpox. When the giant sends one of them to earth and he visits the individual, that individual has that variety of smallpox, one of the seventy-six the Siamese divide the disease into."

The book gives no remedy for the disease, but simply diagnoses the case, and tells how long you will live, all of which varies from three days to three weeks, according to the location of the eruption on the body.

#### DISEASES OF THE BREATHING APPARATUS WHICH AFFECT THE BREATH.

*The Breath as an Aid in the Diagnosis of These and Other Diseases.*

By F. E. KLOTZ, M. D.,  
Lanark, Canada.

Just as we draw inferences from the odor of discharges and of pathological tissues in other parts of the body, let us try to improve on our diagnosis of affections of the breathing apparatus by always taking into consideration the odor carried forth on the expired air. In addition let us not fail to note that certain constitutional diseases, septic processes and drugs, affect the breath markedly.

I shall enumerate first, the affections of the nose, throat, mouth, larynx, bronchi, and lungs, which may be the cause of an abnormal breath, and where possible, describe in short the character of the odor:

First.—Chronic hypertrophic catarrh of the nose and nasopharynx causes a breath warmer than normal, without necessarily any other change; at times it has a heaviness without any distinct odor; then again it may have an odor which is slightly disagreeable, but never markedly so.

Second.—Ethnoidal, frontal, sphenoidal, and antrum diseases cause hypertrophic conditions, so that we have the hypertrophic breath plus that due to the formation of mucus, which latter gives forth ordinarily a heavy, sweetish, somewhat disagreeable odor. Where an antrum is involved the odor is sometimes highly offensive, dense, and penetrating.

Third.—Fibromata of the nose and nasopharynx produce no odor of themselves. Any odor depends on mucus formation.

Fourth.—Mucous polypi, no odor of themselves.

Fifth.—Ozena, well termed *Stinknase* in German, for this condition produces perhaps the rotteness—to use a vulgar, although in this case most applicable, word—of all breaths; it is a conglomerate odor of animal decomposition, fetid, arid, and nauseating, and can be detected many feet from the patient; once experienced it is never to be forgotten. The patient with this malady often leads a sad, miserable, and isolated life.

Sixth.—Syphilis of the nose: Gummata produce an odor only when their surfaces become broken down; the odor then depends on the amount of discharge from the deposit on the ulcer surface; gener-

ally only slightly offensive, heavy but rarely foetid. Mucous plaques in the nose, unless large, hardly affect the breath; this is not the case in the mouth.

Seventh.—Lupoid ulcerations: No distinctive odor, though it may cause one to suspect the chronic formation of pus.

Eighth.—Tubal discharge of chronic otitis media may cause a sharp, penetrating odor almost like Roquefort cheese, and easily detected when necrosis of bone is taking place in the middle ear. This odor is periodical in character, due to the varying patency of the tube and position of the head.

Ninth.—Tuberculous ulcerations which affect the palate and nasopharynx more frequently than the nasal cavities proper, produce an offensive breath, which may be described as heavy, bitterish, and putrescent.

Ten.—Internal lacerations due to fractures produce a temporary heavy sweetish "recent pus" odor; the blood in the cavities of the nose during the first few days gives the breath an additional quality faintly like burning sulphur.

Eleven.—Atrophy of the mucosa of the nasal cavities produces a light, slightly foetid breath, not suffocating, if I may use the term, as that of many other conditions; moreover, there may be no odor whatever.

Twelve.—Foreign bodies in the nose may cause a slight mucopus odor or a highly offensive, steamy, heavy odor; it all depends on the nature of the foreign body and the length of time elapsed since its introduction.

Breath as affected by mouth conditions where the mouth becomes the passage of expired air.

One.—Cancrum oris.—This condition, like many others of the mouth cavity, is productive of a hypersecretion of mucus and saliva; in consequence, the breath is superheated, slightly heavy, and steamy. In addition, we may get the first hint of gastric dyspepsia.

Two.—Pharyngitis sicca produces no distinctive odor or one somewhat resembling that of the atrophic nasal condition.

Three.—Chronic tonsilitis, with constant and copious secretion of cheesy material, produces a heavy, cheeselike (limburger), sweetish, offensive odor, which is fairly easy of diagnosis. The still more chronic condition in which the cheesy material is retained and becomes more or less solidified, occasionally forming calculi, is productive of a distinctive breath, which is present only when the firm retention masses come to the surface; it may be described as stinking and penetrating, an odor not far removed from that of the decayed nerve of a tooth. Adenoids, sometimes, when firm and much enlarged, give nasal and mouth breathing the characteristics of chronic tonsilitis, as described.

Four.—Tonsil, pillar, and pharyngeal diphtheria produce a foul, heavy, superheated and suffocating odor, dry or steamy, according to amount of fever, stage of disease, and amount of mouth and bronchial secretion.

Five.—Tuberculous ulceration, especially of the tonsil, is always offensive, and may be very sharp and penetrating, even though no bone is involved; the odor may affect the air of the whole room.

Six.—Soor, or mudget, if extensive, has the odor



of a rapidly progressive ulceration with necrosis; heavy, though not as highly offensive as the more chronic tuberculous lesions.

Seven.—Ulcerated gums produce a heavy, offensive breath, with the tainted egg smell added, and not detected except when very close to patient.

Eight.—Decayed teeth, in which a large portion of the central pulp is exposed, give to the breath a light, penetrating, often bitter, odor, though rarely as offensive as necrosed bone in other parts of the head. It may resemble the odor of decayed vegetables, apples and onions, or of decayed Brazil nuts.

Nine.—Mouth breath following the extraction of teeth resembles that of diphtheria and tuberculous pulmonary cavities, inasmuch as it will pollute the atmosphere of a whole room if patient sleeps with the mouth open. It may be described as extremely foul and nauseating, not unlike the smell of very rotten eggs.

Ten.—Lupus, until ulceration takes place, has no effect on the breath, differing in this respect from the warty tuberculous excrescences sometimes found in the mouth cavity.

Eleven.—Syphilitic patches are productive of a heavy, steamy breath, which may or may not be offensive. The odor of gummatus ulcerations has nothing distinctive, the offensiveness, when present, being due to the amount of deposit taking place on the ulcer base.

Twelve.—Salivary and mucous inactivity cause a dry, hot breath, with bitter sweet characteristics.

Thirteen.—A furred tongue produces a heavy odor of decomposing epithelium, which may be modified by decomposed food, which so readily mingles with dead epithelium.

Fourteen.—Hypersecretion of saliva, as in acute tonsillitis, produces a heavy, steamy, slightly offensive breath, only detected when close to patient's mouth. Potassium iodide, producing hypersecretion also, gives the breath at times a certain sharpness difficult of description.

Fifteen.—After a dietary of strong foods, such as onions, radishes, and salt fish, the mouth breath may retain the flavor of these for many hours.

Sixteen.—Pharyngitis hypertrophica has nothing distinctive.

Seventeen.—The use of tobacco, as pipe or cigars, produces the well known smokers' breath.

Eighteen.—An alcoholic drink will affect the mouth breath for a short period; the same taken in large quantities will cause an offensive breath having the flavor of the liquor taken, but not till some time after the liquor has been ingested, and then it is the alcoholic pulmonary breath which obtains; this often savors of undigested food, and has a bitterish quality.

The breath as affected by larynx conditions:

One.—Lupus in nodular form does not affect breath, even though obstruction is imminent. Lupus ulcers of the larynx are rare and hardly worth discussing.

Two.—Syphilis.—Only when cartilage or bone is affected do the ulcerated surfaces give off an offensive odor.

Three.—Tuberculosis of the interarytenoid space often begin as a papulematous growth, more or less

fissured. This condition produces a bitterish odor, though not penetrating, nor really offensive; if ulceration takes place and extends to deeper parts, the breath becomes quite evil smelling and penetrating, and much more offensive than an ulcerated lupus or syphiloma.

Four.—Diphtheritis of the larynx.—More offensive than the same condition on the tonsils, and very apparent even when the mouth is closed.

Five.—Laryngitis sicca, singly or associated with pachydermia laryngis, produces a "thin," acrid, bitterish breath of a most penetrating character. In persons past thirty this breath may be powerful enough to permeate every room in a small dwelling. Although different persons, suffering from this condition, may not have similar breaths, yet the breaths of all have like characteristics, so that the cases can generally be easily diagnosed without the laryngoscope.

Six.—Foreign bodies in the larynx produce a more or less offensive breath, varying according to amount of damage and length of time the foreign body has been retained; the same applies to foreign body in bronchus, and I may state that the breath in one case I saw was highly putrid, though it resembled that accompanying nasal foreign bodies.

Seven.—Malignant diseases of larynx.—One of the two cases I met with had a very acrid, bitterish breath.

Eight.—Cigarette smoker's breath.—This can be detected when three or four feet from the "fiend"; the latter term I apply to one who consumes at least twenty cigarettes daily, constantly inhaling the smoke till his larynx and trachea are stained yellow, and a chronic, generally desquamating, catarrh is set up. The breath of the fiend is then heavy, foul, sweetish, and nauseating, with only a trace of real tobacco odor to it. The constant smoking of pipe or cigars produces a characteristic and bad breath, but it is mild in its offensiveness compared to that of the cigarette fiend, in whom the breath acquires its foulness in the trachea, larynx, and lungs.

Among the diseases of the bronchi and lungs which affect the breath I may mention:

One, chronic purulent bronchitis; two, tuberculosis of the lungs; three, abscess of the lungs; four, gummata of the lungs; five, asthma in advanced stages; six, pneumonia—later stage; seven, malignant diseases of lungs (rare); eight, anthracosis (rare); nine, actinomycosis (rare); and, ten, emphysema.

Of these, abscess and tuberculous cavities give forth the most evil smelling breaths. In the former it often resembles the odor of moist putrid flesh, with an acridness added. Tuberculous cavities filled with glairy pus give the breath, when observed close to the patient, a most penetrating, nauseating, foetid odor, the factor having some of the characteristics of coal gas. Chronic purulent bronchitis often gives the breath a sulphuretted hydrogen odor. This peculiarity is sometimes present in phthisis. Asthma breath is frequently sourish, but may have a variety of odors; rarely is it offensive unless complicated by laryngeal or nasal conditions. Miliary tuberculosis of the lungs does not impart any odor to breath except that it might be designated a "raw

erish" breath. The breath of the "lunger" in the early stage of the disease is quite distinctive, though it would be almost impossible to describe it.

I shall not attempt to describe the other pulmonary breaths, as they are subject to much variation.

Breath as affected by constitutional diseases and drugs:

One.—Constipation and copræmia are probably the commonest causes of bad breath in otherwise healthy subjects; in the worst cases one would imagine the lungs were full of feces, so much does the breath resemble fecal excretions.

Two.—Diabetes is credited with affecting the expired air, but I cannot speak from experience.

Three.—Advanced chronic interstitial nephritis and uremia give to the breath a urine flavor plus that of eggs turning bad.

Four.—Febrile conditions produce a hot, dry breath, bringing to mind pent up excreta and the value of calomel.

Five.—Septic processes are productive of a vile, foul breath, often quite characteristic.

Six.—Cachexias are often accompanied by a breath odor of something dead.

Seven.—Chronic dyspepsia is frequently accompanied by a heavy, sourish breath, and one in which the odor of undigested food is to be detected.

Of the drugs and poisons which affect the breath I may mention mercury, arsenic, opium, alcohol, iodides, bromides, chloral, oil of turpentine, phosphorus, hydrocyanic acid, carbolic acid, creosote, chloroform, ether, iron, mineral acids, oxalic acid, nitrobenzene, peppermint, and camphor.

In conclusion, I wish to refer to the rarity with which reference is made, in clinical work, to the character and quality of the patient's breath. The nature of the breath has frequently led me to suspect and discover conditions which, ordinarily, would have been fairly difficult of diagnosis, and in many conditions we may fairly judge of the severity of the disease by the intensity of the breath odor.

## THE TREATMENT OF "COLD IN THE HEAD."

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Cold in the head, while not in itself a serious ailment, is a most uncomfortable one and one which may lead to more or less untoward complications, therefore it would seem that any means which lead toward the mitigation of the discomfort and the prevention of the possible complications are quite worthy of trial.

With regard to prophylaxis it is important that all intranasal and pharyngeal abnormalities, particularly adenoid growths and hypertrophied tonsils, should receive appropriate treatment; this, in the case of the two conditions mentioned, consists in nothing less than thorough removal. Further prevention of cold in the head may be secured by giving attention to the hygiene of the nose and throat,

by wearing proper clothing, and by avoidance of exposure in so far as may be possible. The nose and throat should receive cleansing douches or sprays at least once daily, for these situations, particularly in cities where dust and smoke contaminate the atmosphere to an excessive degree, gather foreign substances teeming with microorganisms which cannot but be prejudicial to the maintenance of their mucous linings in a healthy condition. The only drawback to the use of sprays and douches is the possibility of transferring, by these means, infection to the middle ear through the Eustachian tube, but the probability of this untoward occurrence may be, in great measure, avoided by refraining from blowing the nose for at least five minutes after the use of the intranasal application, and then performing this act only in the most gentle manner. A useful spray or douche for the purpose named is the liquor antisepticus of the pharmacopœia diluted 1 part to 6 parts of water, or a mixture consisting of boric acid, 5 grains, sodium borate, 5 grains, phenol,  $\frac{1}{2}$  grain, to the ounce of water.

It is often difficult to be certain, before the onset of distinct symptoms, that one has "caught cold," but if there is suspicion that such is the case the affection may sometimes be aborted by the administration of  $\frac{1}{4}$  grain of calomel every 20 or 30 minutes until six doses have been given. This is to be followed on the succeeding morning by a saline purge such as the effervescent solution of magnesium citrate, epsom salts, or a glass of one of the saline waters, such as Hunyadi János or Apenta. Following the calomel the patient should take 10 grains of compound ipecac powder and a hot drink consisting of a half ounce of whiskey and about eight ounces of water; to this lemon juice and sugar may be added if desired. In the event of the patient's objection to alcohol a glass of hot lemonade will often have the same effect. The patient should now retire and cover himself warmly in order to induce free diaphoresis. The above procedure may entirely ward off the threatened cold.

When the affection has fastened itself upon the patient the nasal cavity should receive frequent irrigations of warm (100° F.) normal 0.9 per cent. solution of sodium chloride. Each irrigation should consist of at least a quart of the solution and is best given from a fountain syringe, the reservoir of which is held at an elevation of a foot or two above the patient's head. To the end of the tube a glass nozzle should be fitted and the latter should be applied to each nostril in turn, the solution being allowed to flow in at the one and out at the other while the patient breathes through the mouth and holds his head forward over the wash bowl or bath tub. The solution moistens the dry and inflamed mucous lining of the nasal fossæ in the early stages of the cold and washes away the accumulated mucus in the later stages, leaving the nasal mucosa clean to be acted upon by a spray of 10 per cent. aqueous solution of silver vitellin; this has a distinct germicidal, astringent and curative effect upon the inflammation. Following these procedures a spray consisting of menthol 1 grain, eucalyptol 8 minims, benzoinol 1 drachm to the ounce of liquid petrolatum will soothe the intranasal irritation and

cause a certain amount of contraction of the turgid tissues. The sprays mentioned above should be used upon the pharynx as well as in the nose. Oily sprays containing adrenalin chloride are also useful to lessen the congestion, but appear to have no especial advantage over the mentholated spray and possess the disadvantage of being very expensive. If involvement of the frontal sinuses is present, as evidenced by pain and a feeling of fullness above the bridge of the nose and over the eyes, this may be relieved by the administration of a powder consisting of salipyrine 10 grains, and quinine sulphate 1 grain; this may be taken every 3 or 4 hours, and if there is any tendency to cardiac weakness a grain of citrated caffeine should be added to each dose.

The so called rhinitis tablet, consisting of belladonna extract  $\frac{1}{8}$  grain, quinine sulphate  $\frac{1}{2}$  grain, and camphor  $\frac{1}{2}$  grain, has never proved itself of any especial value in the hands of the writer, but it may be prescribed if desired or a tablet or capsule containing equinine  $\frac{1}{2}$  grain, hyoscyamus extract  $\frac{1}{4}$  grain, and monobromated camphor 1 grain, may be substituted for it.

In many patients a cold in the head is followed by a bronchitis of varying severity; in such the writer has been able to prevent this sequela by the administration of pure beechwood creosote in doses of 5 drops, taken in a spoonful of milk after each meal; this should be begun at the inception of the nasal inflammation in these patients and should be continued for several days after its subsidence. The appearance of any gastric disturbance or of darkening of the urine is a signal for stopping the creosote, which may be begun again in a day or two in smaller dosage. The substitution of creosote carbonate in 10 drop doses for creosote will obviate all possibility of toxic symptoms, but the latter drug has the disadvantage of being very expensive.

The complication of eustachian tube inflammation necessitates the employment of the Politzer bag for the purpose of inflation, and possibly eustachian catheterization may become necessary. Should the inflammation extend to the middle ear, as is often the case in children, especially in those with adenoid growths and enlarged tonsils, the drum membrane should be punctured at the least indication of bulging of this structure. This operation is a simple one to the skilled hand, and the provision of free drainage for the tympanic cavity may ward off mastoid involvement with all the dangerous complications which may follow. Following the paracentesis the canal of the ear should be loosely packed with gauze, which should be renewed as soon as it becomes saturated with the discharge, and free irrigation with warm  $\frac{1}{2}$  saturated aqueous solution of boric acid should be employed daily. The intervals of irrigation may be lengthened as the discharge becomes less, and after a few days two or three minims of a 20 per cent. aqueous solution of silver sulphate dropped into the canal may hasten the cure.

The doses given in this paper are for adults. In prescribing for children they should be lessened in accordance with the age of the patient.

## THE TEACHING OF DERMATOLOGY IN MEDICAL SCHOOLS.

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Is a knowledge of the principal facts of dermatology and syphilology necessary to the general practitioner?

"It will be conceded that it is essential that the physician should be able to diagnose the exanthemata, to protect the public by advising quarantine, and to avoid panic; yet to do this it is necessary to distinguish from them the various forms of erythema, dermatitis, and syphilis. The gravity and often unsuspected presence of the latter makes it of the utmost importance to the individual, to the family, and to the public, that a correct diagnosis be made and appropriate treatment be carried out."

(The Need for Higher Requirements in Examinations in Dermatology and Syphilology by Medical Colleges and Examining Boards, by William F. Breaky, M. D., Ann Arbor, Mich. Read before the Sixth International Dermatological Congress, September 9 to 14, 1907.)

Many affections of the skin are also contagious, notably scabies, ringworm, and contagious impetigo. When these gain headway in a group of closely connected families or an institution, energetic and persistent treatment is required to eradicate them.

In the present four year course of medicine, the student should begin the study of dermatology in the third. He should first see cases. He should be present while patients are examined and discussed by others. His experience is very slight. His knowledge is poor and perhaps prejudiced. He can say nothing for himself. But he will learn much that will be of service in the didactic period. He will have in store a series of mental pictures which the words of the textbook will recall. He will not read blindly. This course of observation may well fill up one semester. If a tutor can be had or the professor is willing to give two hours a week for five or six weeks during the term, instruction may be given in the special anatomy of the skin, as a secretory and excretory organ. A study of the lesions may also follow, to acquaint the student with the language of dermatology.

The second semester is occupied with a systematic presentation of the diseases of the skin. Didactic work is best done along the lines of an authoritative textbook. Eschew quiz compends and students' handbooks. Follow a good treatise in which the subjects are discussed with some fullness. A student can read from forty to fifty pages in preparation for a weekly lesson. Recitations will bring out how much he has extracted from the book. Skillful questioning will emphasize the important points, and judicious comments correct false impressions. The printed page can never take the place of the voice and personality of the teacher. The silent hieroglyphs convey but a feeble impression to human minds. Most people need to be told. They want to be shown.

The resources at our disposal in a metropolitan



city, fail to furnish examples of some rare diseases. There are also many typical and atypical conditions which may be presented in illustration of the text. No representation in either pictorial or plastic art can represent exactly the living patient. Yet it must be acknowledged that the moulages of Baretta are very lifelike. Wax models, I believe, of equal merit are made in this country and in England. But they are not on sale, being preserved in most instances as private records of interesting cases.

Some excellent chromolithographs have been published. None surpass the atlas of Hebra, but that book was issued sixty years ago. It is scarce now and out of print. Crocker's atlas may still be had. Besides, the teacher will have oil paintings and water colors of his own cases.

Photographs show location and peculiarities of the horny layer, such as disquamation and hyperkeratosis. They fail to show color, and show contour but imperfectly. The lens plays tricks with the perspective. Stereoscopic views, when viewed through a proper binocular, are better. Photomicrographs are of great value, if the teacher can obtain such excellent ones as were shown by Professor Fordyce at the American Medical Association in Atlantic City last June.

If a stereopticon is available, and especially that form known as the "reflectoscope," time will be saved and lucidity promoted by throwing the illustrations upon the screen, both chromolithographs and photomicrographs. The microscope should be freely used.

By this time the student becomes sophomore and thinks he knows it all. He needs another term of clinical work to take the fall out of him. Here the lesions of the skin should be minutely described. The close observation necessary, the enumeration of the lesions, their character and distribution, will often suggest the name of the disease, the same as spelling the letters. Very little regard should be paid to the histories by patients. The student should be taught to "look and say." Attention should also be given to the lesions of the visible mucous membranes.

Will this course take up too much time? Not very much. For the teacher, one hour a week throughout the college year; for the student, one hour a week through the third and the first half of the fourth year. The first term is clinical, the seniors occupying the front seats and taking an active part, the juniors sitting behind them and looking on. In the second term, only juniors attend recitations and demonstrations.

This course is suggested for a college graduating not more than twenty-five or thirty students each year. Larger classes would need a corps of teachers and division into sections. The course requires forty-eight to fifty-four hours of the student's time, two thirds of which is clinical. The Association of American Colleges recommends forty hours as a minimum.

273 WEST SEVENTIETH STREET.

**Tuberculous Bone Disease.**—If possible, drain age should be avoided in operating for tuberculous disease of the bones, as the insertion of drains encourages the formation of sinuses. Scrupulous asepsis will generally render the use of drainage unnecessary. *See also, Journal of the American Medical Association, June 1, 1910.*

## Therapeutical Notes.

**Purulent Rhinitis.**—The usual treatment of this condition as it is observed in children is to syringe the nasal fossæ gently with a lukewarm one per cent. solution of sodium bicarbonate or a three per cent. solution of boric acid, the infant's head being inclined forward and downward in order to prevent the solution from passing into the throat and larynx. The application of a two per cent. solution of menthol in oil, touching the mucosa lightly with cotton moistened with the mentholated oil, is also recommended, but better results can be obtained than from the methods described by the insufflation of an antiseptic powder. *La Clinique*, for January 17th., credits the following prescriptions to H. Mendel's *Memento thérapeutique des maladies des organes respiratoires*:

### I.

R Aristol. .... 5i;  
Iodol. .... gr. xlv;  
Sugar of milk, ..... ʒss.

M.

### II.

R Iodoform, ..... gr. xv;  
Gum benzoin, ..... gr. xlv;  
Boric acid, ..... ʒiiss.

M.

### III.

R Zinc sozoiodolate, ..... gr. xv;  
Sugar of milk, ..... ʒv.

M.

If the rhinitis does not yield to some one of these applications, the nasal fossæ should be sprayed with a weak solution of silver nitrate, as follows:

R Silver nitrate, ..... gr. ii;  
Distilled water, ..... ʒi.

M.

**The External Use of Guaiacol in Pneumonia.**—Cain (*Therapeutic Gazette*, xxxii, 1) uses guaiacol externally in the treatment of pneumonia with good results. The remedy is rubbed into the skin, and any part of the body may be selected, but it is said to be absorbed most readily from the abdomen, this site being selected unless there is pain in the chest, when the seat of pain is chosen. The average quantity used for an inunction is twenty minims for adults and ten minims for a child one year of age. The drug is dropped slowly from a medicine dropper and rubbed in with the end of one finger. It is usually all absorbed in one or two minutes. The treatment is never repeated at less intervals than twelve hours, and the average number of treatments is four; no two applications being made in the same place.

**Iodine and Guaiacol Injection for Tuberculosis.** In the treatment of tuberculosis the hypodermatic injection of a solution of guaiacol and iodine in oil has been used effectively in France, such a solution of the following composition being known as Durant's injection:

R Iodine, ..... gr. xv;  
Expressed oil of almond, ..... ʒi;  
Guaiacol, ..... ʒi.

M.

Dissolve the iodine in the almond oil by agitation in the cold and add the guaiacol to the solution.

**The Treatment of Chilblains.**—The following method of treatment is credited to Jadassohn in the *Journal de médecine de Paris*, for January 12th. Bathe the hands and feet in water as hot as can be borne three or four times a day for ten or fifteen minutes at a time. Dry the parts thoroughly, and if the skin is broken and ulcerated wash with alcohol. At night an ointment composed of the ingredients named below is applied by rubbing to the unbroken skin, the ulcerated parts being covered with a layer of it applied on linen:

R	Ichthyol, .....	gr. xv-xxv;
	Resorcin, .....	gr. xv-xlv;
	Wool fat, .....	℥vii;
	Olive oil, .....	℥iiss;
	Distilled water, .....	℥xiiiss.

M.

If the ulceration is extensive the ointment may be applied night and morning.

**The Application of Tincture of Iodine in the Dark.**—In the *British Medical Journal* for November 16, 1907, J. Dunbar-Brunton describes a peculiar property of iodine. If the tincture of iodine is painted on the skin in the dark, or is exposed only to a red light, such as is used in photography, and is covered immediately without being exposed to a white light, it will be absorbed with much greater rapidity than under ordinary circumstances, and it is said not to discolor or blister the skin, even if used for long periods.

**Fluid Iodoform** has numerous uses in medicine. It is a solvent for guaiacol and is miscible with water, alcohol, ether, chloroform, eucalyptol and creosote. It is absorbed readily by the cutaneous surface. Fluid iodoform may be easily prepared according to the following formula, which is taken from *La Clinique*:

R	Potassium hydroxide, .....	35 parts;
	Water, .....	25 parts.
	Dissolve and add—	
	Oleic acid, .....	50 parts.
	Alcohol, .....	30 parts.

To the mixture thus formed then add with constant stirring:

Resublimed iodine, .....	30 parts.
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When the reaction is completed a few drops of solution of potassa are poured in to complete the conversion of the iodine, and the whole is allowed to stand for a few days in the dark, when the fluid iodoform, which forms the supernatant liquid, is decanted.

**Application for Extensive Burns.**—The application by means of a camel's hair pencil to the burned surface of the following analgetic mixture will, the *Journal de médecine de Paris* says, produce a cool feeling and form a protective varnish:

R	Carbolic acid, .....	gtt. xxv;
	White dextrin, .....	℥i;
	Tincture of Sassafras leaves, .....	℥i;
	Spirit of camphor, .....	℥i;
	Lead acetate, .....	gr. xlv;
	Tannic acid, .....	gr. xv;
	Cherry laurel water, .....	℥i.

M.

The dextrin, which has been previously ground to an impalpable powder, is added in small portions at a time to the mixture of tincture of aloes and

spirit of camphor and thoroughly incorporated by rubbing them up in a mortar; the cherry laurel water, containing the lead acetate and tannic acid, being added lastly.

**To Remove Iron Stains from the Teeth.**—The careful application once only of a solution composed of equal parts of crude hydrochloric acid and distilled water, is said by Combe (*Journal de médecine*) to remove the stains on teeth caused by certain preparations of iron. The solution should be applied by rubbing the teeth lightly with cotton wound around a wooden toothpick which has been dipped in the solution.

**Method of Administering Arsenic in Chorea.**—J. Gordon Sharp, in *The Practitioner*, for February, 1908, advocates the administration of arsenic in fairly large doses to stop the movements of chorea in children. By large doses he does not mean a dose of solution of potassium arsenite in excess of 12½ minims, as he has found that when the dose is increased beyond this, the patient may repeatedly vomit both food and medicine. For patients of from eight to fifteen years of age he prescribes the following:

R	Solution of potassium arsenite, ..	℥ cxxl or ℥ ccc;
	Tincture of capsicum, .....	℥ xxv.
	Liquid extract of licorice (B. P.), .....	℥ cxxl;
	Chloroform water, .....	℥ vi;
	Water to, .....	℥ xlii.

M. Sig.: One tablespoonful three times a day immediately after meals.

As will be observed, 240 minims represent a dose of 10, and 300 minims a dose of 12½ minims. Since arsenical solution is of the strength of 1 per cent., each dose of 10 or 12½ minims will represent respectively about 1/10 grain (0.0065 gramme), and 1/8 grain (0.0081 gramme) of arsenic trioxide, and, practically speaking, in a week the patient takes 2.40 or 3 grains (0.156 or 0.194 gramme), according as the prescription has contained 240 or 300 minims.

When he sees a patient for the first time he prescribes 10 minim doses, but if at the end of a week no signs of improvement are seen, he increases the dose to 12½ minims. The latter procedure is not often necessary, for distinct improvement is more often than not observed at the end of the first week on a 10 minim dose. He says it may be laid down, as a good working rule to follow, that, if arsenic is going to do good in chorea, it will show its beneficial action within the first fortnight. When the remedy is doing good, he continues it till the patient can walk along a straight line, and stand on the leg of the affected side with steadiness. This, he says, usually represents a period of three or four weeks, or, at the outside, six weeks.

The patient is kept under observation for three or four days after all movement has ceased, and meanwhile takes the following prescription:

R	Sodium boroglycolate, .....	℥ i.
	Tincture of capsicum, .....	℥ xxv;
	Liquid extract of licorice (B. P.), .....	℥ ss;
	Chloroform water, .....	℥ vi;
	Water to, .....	℥ xlii.

M. Sig.: One tablespoonful three times a day immediately after meals.

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NEW YORK, SATURDAY, FEBRUARY 1, 1908.

## THE GENESIS OF AMERICAN MEDICINE.

In the February number of the *Bulletin of the Johns Hopkins Hospital* there is published an address entitled *Some of the Conditions Which Have Influenced the Development of American Medicine, Especially During the Last Century*, delivered last June by Dr. William H. Welch, of the Johns Hopkins University, at the centennial celebration of his alma mater, the College of Physicians and Surgeons of New York (the School of Medicine of Columbia University). The address is written in Dr. Welch's usual graceful style, which is so well known that it will be read widely, as the importance of its subject deserves. In these strenuous days we are apt to overlook the history of our profession, thus not only neglecting what is due to the memory of our great predecessors, but also omitting to learn lessons which might serve as most useful guides in our present endeavors.

Many of the pioneer physicians of early colonial times did creditable work, some of which has been recorded and must ever prove of service, but it was not until the eighteenth century, and particularly its latter half, that there was any systematic medical education in North America, and even then progressive men resorted to Europe for instruction. This has ever since been the case, but the need for such recourse has constantly been growing less. With the new conditions brought about by the success of the Revolution and the establishment of a solid republic, medical men as well as other citizens became

more self reliant, but they still sought for the educational facilities which Europe alone was capable of holding out. Edinburgh, London, Paris, Vienna, and the German universities became in turn the resort of American students. Each of them has contributed materially toward building up that state of medical knowledge which now seems an earnest that before long we shall be able to repay in great measure our debt to older countries.

The system of proprietary medical schools, for the most part destitute of any substantial connection with a university, came to us from London, but we carried it far beyond the conservative English limitations. These schools, though wholly irresponsible, had the power of granting the medical degree, and nobody questioned the right of a doctor of medicine, of whatever pedigree, to practise. Such schools are still too numerous with us, but in nearly every instance they have been shorn of the licensing power. The system was vicious, however necessary it may have been to begin with, but, as Dr. Welch says, speaking of the early days, "the results were better than the system." Strong men grew out of it, or they grew in spite of it, and Dr. Welch reminds us that such men as John Warren, Godman, Jacob Bigelow (whom he regards as the greatest thinker in American medicine), Dewees, Drake, Torrey, and the Becks "received their entire training in this country"; and we might add many more to that grand array of names. Common sense largely took the place of learning, and we hope that common sense will always lead in our pursuit of medical wisdom.

DERMATOLOGY AND GENERAL  
PRACTICE.

The recent sudden death of Sir Thomas McCall Anderson, M. D., regius professor of medicine in Glasgow University, entails the loss of a man who was at once a prominent dermatologist and a general clinician of renown. We do not recall another recent instance of the association of the two in one individual, save that of the late Dr. William H. Draper, of New York. In this country we knew of Dr. Anderson as a dermatologist before we knew him to have achieved distinction in general medicine; Dr. Draper, on the other hand, was a well known consulting physician before he went deep into the study of skin diseases. Of course, there have been many physicians who, having arrived at a commanding position in general practice, have gradually drifted into a specialty and given up other work. We think, however, that of late years there must have been very few men who have kept up both general and special work. The reason for this



"parting of the ways" is perhaps to some extent what might be termed a commercial consideration, for probably most men realize that their continuance in general practice makes their numerous rivals in that field indisposed to send them patients who require a specialist. It is the old story, and a very human one, of the retailer and the wholesaler. Hence we must look upon the exceptional man who does not bow to the supposed necessity as a man of unusual strength.

The study of cutaneous pathology seems peculiarly qualified to make a physician unusually proficient as a diagnostician. It is true that diseases of the skin are open to the fullest examination, hardly any artificial aids being needed for their adequate inspection and palpation, though, of course, questions concerning their diathetic connections may be as knotty as those that come up in other fields of practice, and their treatment quite as difficult. Nevertheless, skill in dermatology is not easily acquired, and there is always something new to learn. Indeed, there is a playful tradition in the New York Dermatological Society to the effect that a member deserves expulsion if he brings before a meeting a patient whose case can be diagnosed by any other member present; though this is merely a way of saying that only puzzling cases are brought forward, and dermatology has its puzzles in plenty. Great diagnostic skill is acquired, however, in course of time, and that, we presume, is why dermatologists are so often called upon to make a diagnosis when there is a suspicion of smallpox, for example, albeit we do not expect the skin specialist to undertake or suggest the treatment of the case. We all understand that the exanthematous fevers are not skin diseases, but perhaps because of the avidity with which we call the dermatologist into consultation when we suspect smallpox, not a few dermatologists have been tempted to include a consideration of the exanthemata in the textbooks with which they have provided us. While they have thus been tempted, they have undoubtedly taught us much in the field of general practice.

#### RABIES.

An excellent pamphlet has recently been issued by the Bureau of Animal Industry of the United States Department of Agriculture. It is entitled *Some Observations on Rabies*, and has been prepared by Dr. E. C. Schroeder. It is curious that the very existence of rabies—popularly known by the more high sounding name of hydrophobia—should still be questioned and even denied by some medical men. But such is the fact. The doubt and denial seem to rest upon no more substantial ground than the fact that those who proclaim them have never seen

a case, quite as there are those who maintain that chloroform is no more dangerous than ether, simply because they have never observed a death from chloroform. Fortunately rabies is rare and so are deaths from chloroform, and this no doubt accounts for the flimsy basis on which unbelievers entrench themselves. Rabies is indeed a terrible reality, and every means ought to be taken to prevent its spread.

The dog is not the only agent by which the disease may be disseminated, though he is the one that is most commonly active in communicating it, for the reason, as Dr. Schroeder points out, that his association with mankind is practically unrestricted, for he is generally allowed to run at large. As a simple measure of precaution, he should be muzzled. If all dogs were muzzled when they were allowed their liberty, no hardship would be inflicted on any of them, for the muzzled would meet only the muzzled in hostile encounters and injury of the defenseless by their own kind would be done away with. It is only at first, says Dr. Schroeder, that a dog finds the muzzle irksome; he becomes accustomed to it as a colt becomes accustomed to the bit. This sort of showing ought to silence the opposition to muzzling on the part of persons actuated merely by humane feeling for the dog, and certainly that of those who hesitate to humiliate an animal ordinarily so serviceable to man. But, in spite of such opposition, society has the right to protect itself against rabies by all known means.

Dr. Schroeder does not touch upon the Pasteur prophylactic treatment of persons who have been bitten by animals supposed to be rabid, perhaps because he thinks, as we do, that the wisdom of it is commonly held to be *res adjudicata*. Surely enough experience was long ago accumulated to establish the almost invariable efficacy of the treatment when administered under proper conditions. As regards curative treatment, none has yet been discovered; an inoculated person is sure to die a horrible death. We must therefore be insistent in the matter of prevention. "The dog owner who knows what rabies is from experience," says Dr. Schroeder, "if he has the proper consideration for his own welfare and that of his dogs, will be among the first to demand a movement for its suppression, even if this should place restrictions on the freedom of his dogs."

#### THE PATHOLOGY OF CIRCUS AND MUSEUM FREAKS.

The announcement from Ansonia, Connecticut, of the recent death of "the only living skeleton," directs attention to the entire class of freaks, or human prodigies, as they themselves prefer to be called. They have for the medical man a more than ordi-

nary and passing interest. Most of these humble and unfortunate individuals, whose sole means of livelihood is the exhibition of their physical infirmities to a gaping and unsympathetic crowd, are pathological rarities worthy of more serious study than they usually receive. Their mortality rate is high, and many of those recently most famous are already dead or have been retired from public view by chronic invalidism. A few days ago there died in Chicago Maggie Minott, one of the most extraordinary of the nanosomes, or true dwarfs. She was twenty-seven inches high and weighed but twenty-five pounds. Most of these pygmies are types of infantilism and are practically nonsexual. An exception was the comparatively robust and virile "Tom Thumb," who had a vigorous and manly beard, who married, but died without issue. Bass, the "ossified man," also died several years ago. He was a man of unusual intelligence, and his condition was caused by an extreme degree of polyarthritis deformans. He was injured by a careless museum attendant, who let him fall as he was being removed from a carriage, and he never fully recovered. The elastic skin man a few years ago contracted tuberculous disease of the lungs from exposure of his scantily clad body on the drafty stage of dime museums. His was a case of generalized dermatolysis, and he had an amusing trick of drawing the skin of his forehead down over his face like a veil. Closely allied to him was the Russian dog faced man, with features marvelously resembling those of a Scotch terrier. He and the bearded lady, who was wont to convince the most skeptical by a liberal but chaste display of the matronly charms of her rounded and well developed figure, were unusual examples of hypertrichosis. The blonde loveliness of the Circassian beauty, who delighted our unsophisticated younger days, was, of course, a case of albinism, and the "wild men of Borneo" and Barnum's "what is it" we now recognize, in the maturer years of professional experience, as cases of microcephalous idiocy, gathered for the most part from the negro population of our southern plantations.

Most examples of gigantism are cases of acromegaly—as was notably Chang, the Chinese giant, who had the gentle, emotional temperament and, in his last days, the excessive muscular debility so characteristic of this disease. The various "human pin cushions" who have been on exhibition would doubtless present for the neurologist curious areas of anæsthesia and analgesia, which he would properly refer to definite lesions in the spinal cord. Many students of the late Dr. E. C. Seguin's will remember the "blue man" whom he often showed

in his clinic at the College of Physicians and Surgeons. He owed his peculiar cærulean gray hue, approaching the color of a Maltese cat, to the argyria of his tissues produced by the prolonged administration of silver nitrate—a melancholy victim of credulity as to the efficacy of this drug in locomotor ataxia.

In parts of southern Europe there was formerly plied a nefarious trade in maiming and mutilating young children for the purpose of producing distressing deformities to excite pity and thus induce alms. An instance of such mutilation is made romantic use of by Victor Hugo in his story *L'Homme qui rit*. In most civilized countries there are now enacted laws forbidding the public exhibition of monsters and revolting deformities. A more refined and a more humane popular taste now frowns upon such exhibitions, and they are less profitable to their promoters. The profession of museum freak is passing. The genuine *lusus nature* is, however, always a valuable subject of study for the scientific physician, which may add to our knowledge of development of normal types and may possibly illuminate many difficult and obscure problems in pathology.

#### BABY'S BEDCLOTHES.

There are few parents who are not annoyed and even much disturbed by the persistent kicking off of the bedclothes by the baby and younger children. The performance is variously attributed, according to the training of the parents, to a manifestation of the "old Adam" and to indigestion. The universality of this infantile objection to bedclothing seems to us to point to a radical defect in the clothing itself. It is customary to cover the baby with a cotton sheet, a blanket or two, and a silkolene coverlet lined with cotton batting. These absolutely impervious coverings do not permit a particle of air to pass through, and the respiratory function of the baby's skin is quite inhibited. We suggest that a linen sheet be used to cover the baby, although perhaps a cotton one may be allowed underneath; over this nothing could be better than an old fashioned knitted comforter, such as is sometimes seen on baby carriages in cases where the baby has an early nineteenth century grandmother who has learned to knit. Such a comforter will be found somewhat costly to purchase, but not so costly, after all, as sundry visits of the physician to take care of a bronchitis or worse; it will admit air, permit the skin to "breathe," be light on the baby's delicate body, and look as well as all genuine homemade articles look. If the baby has a normal digestion there will be no kicking off of such covering.

## "MONGOLIAN BIRTH MARKS."

Certain congenital bluish spots in the sacral region have been known as "Mongolian birth marks." When they have been observed in children of the white races, there has been the suspicion of a Mongolian strain in the ancestry, though perhaps a remote one. Recently Menabuoni (*Monatschrift für Kinderheilkunde*, 1907; *Berliner klinische Wochenschrift*, September 30th) has observed an instance in a child, seven months old, born in Florence, of white parents. Nothing positive could be ascertained as to the question of a partly Mongolian ancestry. The author, however, is inclined to accept its existence.

## Obituary.

HENRY NEWTON HEINEMAN, M. D.,  
of Paris.

Dr. Heineman died suddenly in Paris on Tuesday, February 11th, at the age of fifty-five. He was a New Yorker by birth and education, and practised medicine in New York until about ten years ago, when he took up practice at Bad Nauheim for the summer and in Paris for the winter. Long before he left New York he had achieved the reputation of an able physician, and he was very popular in the profession.

## News Items.

**Changes of Address.**—Dr. G. W. Stimson, of Philadelphia, to St. Charles place and Pacific avenue, Atlantic City, N. J.

**The Portland, Me., Medical Club** held a meeting on the evening of February 6th. Dr. John Allen acted as host, and the paper of the evening was read by Dr. A. H. Weeks. The subject was Diet in Diabetics.

**Donation to Mt. Sinai Hospital.**—The officers of Mt. Sinai Hospital announce the receipt of a gift of \$20,000 from Dr. Adolph Lewisohn, which is to be added to the endowment fund of the hospital.

**University of California.**—The chair in psychology has been given to Dr. G. M. Stratton, professor of experimental psychology and director of the Psychological Laboratory at Johns Hopkins University.

**The Samaritan Hospital Medical Society, of Philadelphia,** has elected the following officers for the coming year: President, Dr. Collier H. Martin; vice presidents, Dr. G. Morton Ilman and Dr. William A. Steel; secretary and treasurer, Dr. Jesse A. Arnold.

**New Nurses' Home for Harlem Hospital.**—Plans have been filed for a five story and basement building to be erected in East One Hundred and Thirty-sixth street by the trustees of Bellevue and Allied Hospitals, for the nurses connected with the new Harlem Hospital.

**The Annual Election of the Philadelphia County Medical Society** was held recently and the following are the newly elected officers: President, Dr. Albert M. Eaton; vice presidents, Dr. Henry W. Cattell, Dr. Frank C. Hammond, Dr. William Evans, Dr. Robert L. Pitfield, Dr. Henry G. Godfrey, and Dr. John B. Turner; secretary, Dr. William S. Wray; assistant secretary, Dr. Alexander R. Craig; treasurer, Dr. Collier L. Bower; censor, Dr. William M. Welch.

**The Medicolegal Society of Philadelphia** has elected the following officers for the ensuing year: President, Dr. William Ruoff; first vice president, J. Savidge, Esq.; second vice president, Dr. S. P. Gerhardt; secretary, Dr. W. T. Hamilton; and treasurer, Dr. G. M. D. Peltz.

**The Society of Physicians of the Village of Canandaigua, N. Y.,** held a meeting on Thursday evening, February 13th. Dr. John H. Pratt acted as host and the paper of the evening, which was read by Dr. A. L. Beahan, was on The Treatment of the Neck and Shaft of the Femur.

**Buffalo Academy of Medicine.**—The meeting of the Section in Medicine, which was to have been held on Tuesday evening, February 11th, was postponed on account of the sudden illness of Dr. Victor C. Vaughan, of Ann Arbor, who was to read a paper on Proteid Poisons.

**The New York Psychiatric Society** has made arrangements for a series of public lectures. The first of these lectures will be delivered by Dr. Pearce Bailey at the New York Academy of Medicine, on Saturday evening, February 15th, at 8:30 o'clock. The subject is Alcoholism.

**The Society of Former German Students in America** will hold a meeting on Wednesday, February 19th, at 8:15 p. m. Dr. Carl Beck, of 37 East Thirty-first street, New York, will read a paper entitled Pictures from Latin America, a Trip to the West Indies, Colombia, Costa Rica, and Panama.

**The Glens Falls, N. Y., Medical and Surgical Society** held its annual meeting and banquet on Thursday evening, February 6th. A paper on Hemorrhage in the New Born was read by Dr. W. J. Hunt, of Glens Falls, and was discussed by Dr. W. C. Cuthbert and Dr. J. T. Park, of Sandy Hill.

**The Society of Medical Jurisprudence.**—The two hundred and eleventh regular meeting of this society was held on Monday evening, February 10th. The paper of the evening was entitled The Constitutional Aspects of Medical Laws, and was read by Charles A. Boston, Esq., of the New York bar.

**A New Hospital for Rockville, Conn.**—It has been announced that Mr. William H. Prescott has given the sum of \$50,000 to found a hospital in Rockville, Conn. In addition to this gift, members of the Prescott family have purchased a site for the hospital, and will present it to the trustees of the fund.

**Sanitary Officers' Association of Ontario County, N. Y.**—The quarterly meeting of this association was held in Canandaigua, N. Y., on Tuesday, February 11th. Dr. O. J. Hallenbeck, of Canandaigua, read a paper on Rabies, and Dr. B. T. McDowell, of Bristol Centre, read a paper on Typhoid Infection.

**Richmond, Va., Academy of Medicine and Surgery.**—At a meeting held on Tuesday, February 11th, Dr. Beverly R. Randolph read a paper entitled Tic Douloureux: Neuralgia of the Fifth Nerve from a Medical Standpoint, and Dr. Charles R. Robins gave an exhibition of a splint from a fracture of the femur at birth.

**Medical Society of the State of New York.**—Owing to the refusal of Dr. Edward L. Trudeau, of Saranac, to act as president of the society, on account of ill health, the first vice president in numerical order, Dr. Arthur G. Root, of Albany, becomes president for the year 1908, under section 2 of chapter 6 of the by-laws.

**Rochester, N. Y., Academy of Medicine.**—The regular meeting of the Section in Surgery was held on Wednesday evening, February 12th. A paper on the Cause of Pain in the Upper Back was read by Dr. C. Wentworth Hoyt, by invitation, and a paper on Diseases of the Hip Occurring in Adults was read by Dr. Ralph R. Fitch.

**The New York State Civil Service Commission** will hold examinations on March 7, 1908, for the following positions: Physician, Onondaga County Penitentiary, salary about \$480; steward, State Charitable Institutions, \$200 to \$450 and maintenance; woman doctor, State Charitable Institutions, \$200 to \$250 and maintenance.

**Special Sanitation in San Francisco.**—The Board of Health of San Francisco has contributed the sum of \$1,500 towards meeting the expenses of the special sanitation campaign now being conducted in San Francisco. The Public Health and Marine Hospital Service is aiding the city board of health in carrying on this work.



**The American International Congress on Tuberculosis and the New York Medicolegal Society** will hold a joint meeting in Chicago, on June 1st, 2d, and 3d. The local committee of arrangements is composed of Dr. Denslow Lewis and Dr. Thomas Bassett Keyes, of Chicago, and Dr. E. S. McKee, of Cincinnati, the latter having been appointed to take the place of the late Dr. Senn.

**The Medical Society of Washington County, Md.**, held a meeting on Thursday evening, February 13th. Dr. Charles O'Donovan and Dr. A. P. Herring, of Baltimore, read papers on Medical Organization in Maryland, which were followed by a general discussion of the question of a post graduate course for county medical societies. Dr. V. M. Reichard, of Fair Play, opened the discussion.

**The Pathological Society of Philadelphia and the Philadelphia Academy of Surgery** held a joint meeting on Thursday evening, February 13th. The evening was devoted to a symposium on the Parathyroid Gland, papers on the subject being read by Dr. W. H. Halstead and Dr. W. G. MacCallum, of Johns Hopkins University. After the meeting a reception was tendered to Dr. Halstead and Dr. MacCallum at the University Club.

**Appointments in Foreign Universities.**—Dr. D. Barry has been appointed professor of physiology at Queen's College, Cork, Ireland.

Dr. S. Berezowsky has been appointed professor of external pathology at the University of Moscow, Russia, as successor to the late Professor Sinizin.

Professor Jacobi, of Göttingen, has accepted the appointment of professor of pharmacology and director of the pharmacological institute at the University of Tübingen.

**The Tuberculosis Exhibit in Kentucky.**—The tuberculosis exhibit which was held recently in Louisville and afterwards transferred to Frankfort, where it was open to the public from February 3d to February 7th, will be sent to Lexington for its third and last appearance in Kentucky. The exhibit in Lexington will be held on February 21st to 26th under the auspices of the Lexington Anti-tuberculosis Association. The three exhibits in Kentucky are a part of the general campaign against tuberculosis, which is being carried on under the auspices of the National Association for the Study and Prevention of Tuberculosis.

**New York Pathological Society.**—The regular meeting of this society will be held at the New York Academy of Medicine on Wednesday, February 19th, at 8:30 p. m. There will be demonstrations of a rare case of Multiple Tuberculous Abscesses of the Spleen, by Dr. Charles Norris, and a case of Bilateral Renal Tumors, by Dr. J. Larkin. The following papers will be read: A Study of Blood Cultures in Typhoid Fever, by Dr. A. A. Epstein; A New Method for the Quantitative Determination of the Acetone of the Urine, by Dr. T. Stuart Hart; Tuberculosis of the Mesenteric Lymph Nodes; Infections by Human Type of Bacilli, by Dr. A. F. Hess.

**College of Physicians of Philadelphia.**—The Section in General Medicine held a meeting on Monday evening, February 10th. Dr. L. L. Donhauser exhibited a case of ricketts. Dr. Edward H. Goodman read a paper on Leucose as a Test of Hepatic Function, and Dr. G. Ganby Robinson read a paper entitled Gallop Rhythm of the Heart. Dr. William Pepper reported a case of chronic lymphatic leucemia, Dr. E. Burville-Holmes reported a case of fibrinous bronchitis, and a case of pneumococcus arthritis was reported by Dr. Alfred Hand, Jr., and Dr. John H. Jopson.

**An Exhibit Illustrating the Congestion of Population in New York** will be held in the American Museum of Natural History for a period of two weeks, beginning Monday, March 6th. On the opening night Governor Hughes, Mayor McClellan, the Italian Ambassador to the United States, and several of the commissioners of New York City will speak, and on the three following days there will be a general discussion of the various aspects of the congestion of population. One day will be devoted to the presentation of representatives from the various cities of New York State. The object of the exhibit is to make clear the causes of, and the evils resulting from, the congestion of people in crowded areas, and the best methods of dealing with the problems involved. Much interest is being taken in the exhibit, and a large number of the city's citizens and other corporations will participate and contribute.

**Philadelphia County Medical Society.**—At a meeting of the Central Branch, held on Wednesday evening, February 12th, the evening was devoted to a symposium on the Zander Treatment. Mr. Max J. Walter read a paper entitled The Zander Gymnastic Method of Treatment by Mechanical Apparatus, which he illustrated by a lantern slide demonstration of the apparatus. Dr. J. Madison Taylor read a paper on The Field of Applicability of the Zander Mechanical Gymnastics. Among those who took part in the discussion were Dr. Hobart Amory Hare, Dr. Judson Daland, Dr. S. Solis-Cohen, Dr. H. Augustus Wilson, Dr. J. T. Rugh, and Dr. E. A. Newton.

**Mortality of Chicago.**—According to the report of the Department of Health for the week ending February 1, 1908, there were during the week 711 deaths from all causes, as compared with 741 for the corresponding week in 1907. The annual death rate was 17.12 in 1,000 of population. The principal causes of death were: Apoplexy, 8; Bright's disease, 42; bronchitis, 35; consumption, 66; cancer, 32; convulsions, 8; diphtheria, 7; heart diseases, 55; influenza, 46; intestinal diseases, acute, 43; measles, 1; nervous diseases, 17; pneumonia, 139; scarlet fever, 15; suicide, 4; typhoid fever, 8; violence, other than suicide, 23; whooping cough, 1; all other causes, 161.

**The Mortality of the District of Columbia During the Year 1907.**—According to the report of the Department of Health, there were 6,343 deaths from all causes during the year, an increase of twenty-seven over the preceding year. The death rate showed a decrease, however, from 19.35 to 19.25 in 1,000 of population, on account of an increased population. There were 750 deaths from pulmonary tuberculosis, as compared with 781 the previous year, while deaths from pneumonia increased from 503 to 537. The number of deaths from typhoid fever during 1907 was 114, during 1906, 162. There was also during 1907 a diminished death rate from diphtheria and scarlet fever.

**The Medical Association of the Greater City of New York.**—A stated meeting of the association will be held at the New York Academy of Medicine on Monday evening, February 17th. The programme will include addresses by the retiring president, Dr. Thomas E. Satterthwaite, and the president elect, Dr. Robert Tuttle Morris. The subject of Dr. Morris's address is Metaplasia of the Appendix Vermiformis and a New Diagnostic Point. Among those who will take part in the discussion are Dr. Robert F. Weir, Dr. Algernon T. Bristow, Dr. Robert Abbe, Dr. Carl Beck, Dr. Alexander B. Johnson, Dr. Joseph F. Bloodgood, Dr. Franz Torek, Dr. John B. Walker, Dr. Charles H. Peck, and Dr. Albert A. Berg.

**Something New in the Way of Baths.**—The Fleischman Baths, which occupy the three upper stories of the Bryant Park Building, corner of Forty-second street and Sixth avenue, New York, were opened to the public last week, a reception being given to the medical profession and the press on the evening of February 6th. The establishment is modelled after the baths of Diocletian, but with many modern improvements, embracing a number of unique and attractive features. They are fitted up in most elaborate style, and are provided with every kind of bath known to modern balneology. One particularly interesting novelty is the solarium, which occupies the entire top of the building. Sleeping apartments are also provided in connection with the baths.

**The Hodgkins Fund Prize.**—The Smithsonian Institution, Washington, D. C., announces that the Hodgkins Fund Prize of \$1,500 is offered for the best treatise on The Relation of Atmospheric Air to Tuberculosis, to be submitted to the International Congress on Tuberculosis, which will be held in Washington, D. C., on September 21 to October 12, 1908. The treatise may be written in English, French, German, Spanish, or Italian. The essays will be examined and the prize will be awarded by a committee appointed by the secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis. The right is reserved to award no prize if, in the judgment of the committee, no contribution is offered of sufficient merit. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded. Further information will be furnished, on application, by Mr. Charles D. Walcott, secretary of the Smithsonian Institution, Washington, D. C.

**Philadelphia Pædiatric Society.**—A meeting of this society was held on Tuesday evening, February 11th. Rheumatism in Children was the general subject for discussion, the following papers being read: The Etiology of Rheumatism, by Dr. Warfield T. Longcope; The Relation of Rheumatism to Chorea, by Dr. D. J. McCarthy; The Peculiarities of the Symptomatology of Rheumatism in Children, by Dr. Charles H. Dunn, of Boston; the Complications of Rheumatism in Children, by Dr. Alfred Stengel; the Cutaneous Manifestations of Rheumatism in Children, by Dr. Jay F. Schamberg; the Treatment of Rheumatism in Children, by Dr. J. P. Cozier Griffith. After the meeting a reception was tendered Dr. Dunn at the Hotel Stenton.

**Insanity in New York State.**—According to the annual report of the State Commission in Lunacy, the total number of committed insane in the State on October 1, 1907, was 29,093—13,927 men and 15,166 women. The number of inmates of the two criminal asylums at Matteawan and Dannemora was 1,104; the number in private licensed institutions was 977. The net increase for the year was 791. The total number of patients received on original commitments was 6,105. The maintenance cost during the year was \$3.53 a week. A slight increase in the rate of recovery is reported, the percentage of cures on the number of patients received on original commitments being 25.5. The total number discharged during the year as recovered was 1,557, and as improved, 1,236.

**The Philadelphia Academy of Surgery** held a meeting on Monday evening, February 3d. Dr. James K. Young presented a case of Excision of the Clavicle with Perfect Functional Results. Dr. Warren Walker exhibited a case of Tumor of the Orbit. Dr. Oscar H. Allis read a paper entitled The Nonabsorbable Ligature and Suture. Dr. John B. Deaver presented a report of the Saturday Surgical Clinics for Students at the German Hospital During 1906-7. Dr. Henry R. Wharton reported three cases of Fracture of the Proximal End of the Fifth Metatarsal Bone, a case of Multiple Fracture of the Lower Jaw Treated with an Interdental Splint, and three cases of Fracture of the Patella Treated by Open Operation and Suture. Dr. A. C. Wood exhibited an instrument for performing Osteoplastic Resection of the Skull.

**Examination for Surgeons in the Public Health and Marine Hospital Service.**—The United States Civil Service Commission announces an examination to be held on March 4th to secure eligibles from which to make certification to fill a vacancy in the position of acting assistant surgeon, Public Health and Marine Hospital Service, for duty at St. John's River Quarantine Station, Mayport, Fla., and vacancies requiring similar qualifications as they may occur. For the specific vacancy mentioned applicants must be expert in the diagnosis and treatment of yellow fever, and persons who are immune to that disease are preferred. Applicants must be citizens of the United States and must be twenty years of age or over on the date of the examination. Applicants should apply at once to the United States Civil Service Commission, Washington, D. C., for Application Form 1342.

**The Health of Philadelphia.**—During the week ending January 18, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 115 cases, 21 deaths; scarlet fever, 67 cases, 2 deaths; chickenpox, 36 cases, 0 deaths; diphtheria, 84 cases, 9 deaths; cerebrospinal meningitis, 5 cases, 5 deaths; measles, 75 cases, 2 deaths; whooping cough, 20 cases, 2 deaths; pulmonary tuberculosis, 128 cases, 70 deaths; pneumonia, 139 cases, 105 deaths; erysipelas, 8 cases, 2 deaths; German measles, 3 cases, 0 deaths; septicaemia, 3 cases, 0 deaths; mumps, 2 cases, 0 deaths; scarlatina, 18 cases, 22 deaths. The following deaths were recorded from other than transmissible diseases: Tuberculosis, other than pulmonary, 10; cancer, 10; pneumonia, 1; influenza, 1; other than influenza, 1; under two years of age, 10. The total deaths numbered 657 in an estimated population of 1,450,000, corresponding to an annual death rate of 45.4 per 1,000 of population. The total infant mortality was 124 deaths per year of age, or, between one and two years of age, 41. There were 44 still births, 26 males and 18 females. The total precipitation was 4.1 inches. The temperatures were high, the maximum being 57° on the north, the minimum 25° on the 17th.

**Personal.**—Colonel William C. Gorgas, chief surgeon of the Panama Canal Commission, has been elected an Honorary Fellow of the New York Academy of Medicine.

Sir Thomas McCall Anderson, professor of medicine in the University of Glasgow, died on January 25th.

Dr. Charles S. Crosby, of Columbus, Ohio, is registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

Dr. W. J. Collins has been appointed city physician of Springfield, Mass.

Mr. Malcolm Morris, the well known dermatologist, has had conferred upon him the title of K. C. V. O. (Knight Commander of the Royal Victorian Order).

Dr. Charles A. Phillips has been appointed physician at the new county jail, in Schermerhorn street, Brooklyn.

Dr. Arthur W. de Roaldes, of New Orleans, has been promoted by the French government to the rank of Commander of the Legion of Honor.

Dr. Howard A. Kelly, professor of gynecology at the Johns Hopkins Medical School, has returned from a six weeks' trip to Mexico.

**Army Medical Bill.**—Senator Warren's bill increasing the efficiency of the medical corps of the Army has been passed by the Senate. It constitutes the Medical Department of the Army of the following corps: Medical, medical reserve, hospital corps, reserve corps, and dental corps. The officers are to be a surgeon general, with the rank of brigadier general; sixteen colonels, twenty-four lieutenant colonels, 110 majors, and 300 captains or first lieutenants. The medical reserve corps is created by conferring authority on the President to issue commissions as first lieutenants to graduates of reputable schools of medicine. The rank will carry no rights to promotion. The regular officers under the proposed law are to receive the pay of officers of the line of corresponding grade, and the bill prescribes that promotion shall be by seniority. The House Committee has made a favorable report on the bill but recommends amendments providing for fourteen instead of sixteen colonels, twenty instead of twenty-four lieutenant colonels, and one hundred instead of one hundred and ten majors. The committee also made other slight amendments, among them being one which makes eligible to appointment in the regular corps any contract surgeon who is not over twenty-nine years of age at the date of his appointment as contract surgeon. The bill has been referred to the committee of the whole house and its passage seems assured.

#### Society Meetings for the Coming Week:

**MONDAY, February 17th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Hartford, Conn., Medical Society.

**TUESDAY, February 18th.**—New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Pathology); Triprofessional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Binghamton, N. Y., Academy of Medicine; Clinical Society of Elizabeth, N. J., General Hospital; Syracuse, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association.

**WEDNESDAY, February 19th.**—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery; Woman's Medical Association of New York City (New York Academy of Medicine); Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club; New Haven, Conn., Medical Association; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York.

**THURSDAY, February 20th.**—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Esculapian Club of Buffalo, N. Y.

**FRIDAY, February 21st.**—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Post-Graduate Medical School and Hospital; East Side Physicians' Association of the City of New York; New York Microscopical Society; Brooklyn Medical Society.

**SATURDAY, February 22nd.**—West End Medical Society, New York; New York Medical and Surgical Society; Union Medical Society, New York; Johns Medical and Surgical Society, New York.



## Pith of Current Literature.

## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

February 6, 1908.

1. The Treatment of Sarcoma with the Mixed Toxines of Erysipelas and Bacillus Prodigiosus.  
By WILLIAM B. COLEY.
2. The Treatment of Leucæmia with the Mixed Toxines of Coley.  
By RALPH C. LARRABEE.
3. General Paralysis as a Menace to Public Safety in Transportation.  
By PHILIP COOMBS KNAPP.
4. The Direct Examination of the Larynx and of the Upper End of the Esophagus by the Lateral Route.  
By HARRIS PEYTON MOSHER.

1. The Treatment of Sarcoma with the Mixed Toxines of Erysipelas and Bacillus Prodigiosus.—Coley speaks of his treatment which he instituted sixteen years ago, based upon the following accepted clinical facts: (1) That inoperable sarcomas, and even carcinomas, have been known to disappear and the patients to remain well and permanently cured as the result of attacks of accidental erysipelas. (2) That inoperable sarcomas have disappeared as a result of attacks of erysipelas produced by inoculation. In all Coley has personally treated about 430 cases of sarcoma with the mixed toxines. In forty-seven of these cases the tumor has completely disappeared; and in twenty-eight cases a period of from three to fifteen years has passed since the disappearance. Twenty-six patients have remained well from five to fifteen years. These figures cover a period of fifteen years, and during this period important improvements have been made, from experience, in both the preparation of the toxines and the method of administration. There is no appreciable risk from this treatment. In only three out of the 430 cases death could possibly be attributed to the toxines. All these three patients were in the last stages of the disease, with extensive metastases and very feeble heart action. Two of the cases presented extensive involvement of the mediastinal glands, and in both the treatment had only just been begun, for two or three days, and sufficient doses had not been given to produce any marked reaction. The patients died suddenly, apparently as a result of an embolus. The author describes the process of preparing the mixed toxines and cites a number of cases.

2. The Treatment of Leucæmia with the Mixed Toxines of Coley.—Larrabee has used the mixed toxines of streptococcus and *Bacillus prodigiosus* in four cases. One showed a degree of improvement amounting to symptomatic recovery, which has now lasted for upwards of four months. Another showed considerable temporary improvement. A third showed improvement in weight and general condition only. A case of the acute lymphatic type was uninfluenced. Although two are still under treatment there does not appear to be much hope of permanent cure. In estimating the value of this treatment, so far as we are justified in doing so from the limited material at hand, says the author, we must compare it with other methods in common use, particularly with arsenic and the Röntgen rays. As to arsenic, it must be admitted that in some cases excellent results follow its use.

though these results are never more than temporary and often fail entirely. In all of the cases under discussion arsenic had been used alone without definite results. In the writer's experience it is rare for arsenic to produce any such prompt and marked results as in two of the cases described. With the truly marvellous effects sometimes obtained with the x rays the writer is unable to say that toxines will compare favorably. Cases have been restored to complete health by the x rays, and, though they always relapse sooner or later, some have remained well for months. The toxines of streptococcus and *Bacillus prodigiosus* are decidedly more painful, and, in the writer's opinion, decidedly more dangerous. It is possible that their effects will prove more permanent. Their great advantage at present is that they can be used in many cases where radiotherapy is not available. The toxines can be administered by any physician or nurse of ordinary skill. They need no costly apparatus and do not require the patient to leave his bed. The author thinks that the results have been encouraging enough to justify further trial. It is in the hope that such further trial may be obtained that these cases are reported in their present incomplete state.

3. General Paralysis as a Menace to Public Safety in Transportation.—Knapp remarks that if men in responsible positions on our railroads were subjected to thorough examination by competent neurologists at regular intervals many of these cases of general paralysis and other brain diseases would be detected and the dangers attendant upon them would be averted. Many railroads demand a careful examination of all applicants for employment, but when this examination is once passed, the man is not examined again unless some striking disturbance is noted. The average railway surgeon, however, will inevitably overlook the slight but significant symptoms that reveal grave brain disease to the neurologist, and, even if he were capable of detecting them, it is only by examinations repeated at regular and rather frequent intervals that the onset of these diseases can be detected, and the danger averted. These affections are not responsible for all the cases of negligence that cause railway accidents, but they form one factor which can be eliminated. The state requires that certain railway employees shall pass examinations to prove that they can tell red from green. Is it too much also to require them to pass periodical examinations to prove that they can instantly understand the different meanings of red and green and act promptly on that knowledge?

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION  
February 8, 1908.

1. Enforcement of Medical Practice Laws by County Societies.  
By FLOYD M. CRANDALL.
2. The Indications for Operation in Elective Surgery.  
By GERRY R. HOLDEN.
3. Early and Late Cases of Gastric Ulcer.  
By WILLIAM FITCH CHENEY.
4. The Etiology of Epithelioma. A Laboratory and Clinical Study.  
By ARTHUR E. HERTZLER.
5. The Ambulatory Treatment of Hip Joint Disease.  
By F. G. ABBOTT and H. A. PENGELLY.
6. The Röntgen Ray in Oral Surgery.  
By G. E. PEABLER.
7. Seneca Delirium as a Symptom. With Report of a Case of Syphilis.  
By HARRISON METTIER.



8. The Major Operative Treatment of Middle Ear Suppuration and Its Indications,

By EDWARD BRADFORD DENCH.

9. Indications for Operative Interference in Cerebral Complications Due to Chronic Suppuration of the Middle Ear,

By CULLEN F. WELTY.

### 3. Early and Late Cases of Gastric Ulcer.—

Cheney observes that there is an early stage of gastric ulcer, lasting for weeks or months, during which rigid medical treatment suffices for cure; but the clinical picture of this stage does not correspond to the classical one presented in the textbooks, and the diagnosis at this time must be inferred rather than demonstrated positively. Many cases of chronic dyspepsia, characterized for weeks or months by flatulence, waterbrash, burning and distress after food, where the epigastrium shows tenderness and the test meal shows hyperacidity, are in reality gastric ulcer, even when the faces show no occult blood. Such cases cannot positively be diagnosed as ulcer any more than incipient tuberculosis can positively be diagnosed before bacilli are found in the sputum; yet they deserve routine treatment on suspicion in one instance as truly as in the other. If these dyspeptic cases are allowed to go on indefinitely without treatment or with only haphazard treatment, serious symptoms are likely sooner or later to appear that make the diagnosis clear, but that render the results of treatment much more dubious. In the later stage, commonly described as gastric ulcer, the symptoms are really due to complications rather than to the original disease; (a) to perigastric adhesions, (b) to pyloric stenosis, (c) to gastric dilation and retention, (d) to localized peritonitis, (e) to the opening of a large bloodvessel, (f) to perforation of the stomach wall; complications that lie beyond the realm of medical treatment and have crossed the border line into the surgeon's domain.

### 4. The Ætiology of Epithelioma.—Hertzler

thinks that cancer occurs at that point where irritation and exposure to an alkaline secretion coexist. When a chemical which has the power of combining with the acidophilic elements is injected into a tissue made up of epithelium and connective tissue the epithelium proliferates and invades the connective tissue, simulating the process in beginning epithelioma. The same chemical process which prevents blood from coagulating limits the invasion of one tissue by another. Epithelium everywhere rests on a tissue similar to the membrane elastica of the bloodvessel. It is this layer that confines epithelium within the normal limit. The aberrant growth of cells is but the expression of some disturbance in the chemical relationship of the different kinds of cells. The results of experiments, based on the knowledge of tinctio chemistry, permits us to state in general terms the nature of such disturbance of chemical balance.

### 5. The Ambulatory Treatment of Hip Joint

Disease. Abbott and Fugate describe the so-called German, English, Austrian, and American apparatus and are of the opinion that no one form embodies all the essential phases of mechanical treatment. In order, then, to apply more successfully the principles of fixation, traction, and protection, we are obliged, remark the authors, either to work

some entirely new form of appliance, or to combine the requisite features of those in common use, so that the product will carry the desired treatment into effect. If we take into consideration the matter of cost, which is indispensable in a clinic for the poor, it seems impossible to construct any form of apparatus along new lines of different material from that already suggested without putting it beyond the reach of most patients. They say that the plaster of Paris spica bandage affords the best fixation, the adhesive plaster straps the best traction, and the iron brace which extends beyond the sole of the boot, together with the high shoe on the opposite foot, and crutches, the best protection. The cost of this combination amounts to about \$5.75 for an average sized child. The application of such an apparatus is then described and fully illustrated. The authors have treated about two hundred children with their form of apparatus, and come to the conclusion that the patient is under excellent control, as the apparatus cannot be removed and replaced by the patient or family at will. The appliance can be produced at much less expense than any other that is efficient. The duration of the treatment may be lessened; there is less danger of abscess formation; and the preservation of the joint structure is more certain. The position of the limb can be regulated to a nicety otherwise obtained only through the use of expensive apparatus accurately adjusted by skilled hands and kept constantly under the closest observation.

## MEDICAL RECORD

February 8, 1908.

1. Blood Reactions of Inflammation; and the Diagnostic Prevention of the Terminal Stages of Infections of the Appendix and Gallbladder,  
By W. A. BARTLETT and E. E. SMITH.
2. Stricture of the Eustachian Tube with Its Baneful Consequences Traced to Adhesions in the Fossa of Rosenmüller,  
By W. SOHIER BRYANT.
3. The Organic Factor in High Blood Pressure,  
By ALEXANDER HAIG.
4. Incipency in Tuberculosis from the Standpoint of Sanatoria. The Safety and the Value of the Tuberculin Test when Safeguarded Solely by the Clinical Method,  
By HENRY B. DUNHAM.
5. Benjamin Rush as a Phthisiotherapist,  
By HENRY FARNUM STOLL.
6. The Misuse of the Voice and Its Cure. Vocal Muscles and Resonance,  
By N. F. FOWLER VAN BARGHENE.
7. The Favorable Influence of Small Doses of Arsenic and Bichloride of Mercury in Three Cases of Graves's Disease,  
By LEONARD WELBY.

2. Stricture of the Eustachian Tube with Its Baneful Consequences Traced to Adhesions in the Fossa of Rosenmüller.—Bryant states that the fossæ of Rosenmüller are subject to obstructions and adhesions which interfere with the physiological action of the Eustachian tube through imperfect movements of the tubal cartilage, resulting in stricture of the Eustachian tube. This can be demonstrated by the use of a salpingoscope. Relief from this impediment allows of more effective treatment of the middle ear condition. Early treatment of the obstruction of the fossæ is indicated as soon as the diagnosis is made. The disturbances in the middle ear, which are caused by the pathological conditions in the fossæ, will then yield more readily to appropriate treatment. The results are infinitely more sat-

isfactory than when the fossa is neglected altogether, since an amelioration of the aural condition invariably follows restoration of the function of the tubal mouth and fossa of Rosenmüller. The preliminary treatment of the middle ear condition consists in removing with the curette any lymphoid tissue present. The adhesions which obstruct the fossa must be broken down. The more delicate fibres readily give way to the fingers; the more resistant ones can sometimes be torn with the finger, but occasionally they are so dense that cutting is necessary. Often this process of rupturing adhesions, whether done with the finger or with the knife, must be repeated a number of times, and silver nitrate applied until the mucous membrane has healed and is free from adhesions.

**3. The Organic Factor in High Blood Pressure.**—Haig thinks that high blood pressure may be due to uric acid or to an organic factor or to both in varying proportions. In all cases (if there is time) the uric acid factor is removable; and the organic factor, if due to uric acid, is also to some extent removable. The capillary reflux and the blood pressure alter from day to day and hour to hour with the amount of uric acid passing through the blood; but there are undoubtedly other factors which influence blood pressure, and these may or may not be altered by treating uric acid. By acting on these indications we can in many cases get an answer to important problems affecting the causation of circulation diseases.

**4. Incipency in Tuberculosis from the Standpoint of Sanatoria.**—Dunham speaks in favor of using tuberculin as an agent in diagnosis. He follows Calmette's method. One drop of a 1 per cent. solution, or less at first, of purified tuberculin (*Tuberculin precipitatum*) is instilled into the conjunctival sac of the patient's eye. If the patient is tuberculous, a decided congestion and a watery and sero-fibrinous exudate occurs between three and twenty-four hours later. The percentage of error is probably a little more than with tuberculin used hypodermatically. Until the experience with it covers many more cases than at present, it would be wise to use tuberculin in the usual manner after all negative instillations, when the symptoms still point to the possible existence of the disease. When this is done the initial dose injected need not be as small as would otherwise be deemed advisable. Opportunities for inaccuracy and carelessness in the hypodermatic method of administration are plentiful, but not more so than with many, now familiar, painstaking medical accomplishments. The mode of measuring as used in the Massachusetts State Sanatorium is described. In measuring the doses of tuberculin the greatest care is exercised to insure accuracy. The tuberculin is weighed and then diluted with sterile water to make a solution of such strength that each minim contains one milligram of tuberculin. The solutions are always freshly made. A particular dropper is kept purposely for measuring the pure tuberculin. With this dropper it was repeatedly found that five drops weighed 180 mg. and one drop 36 mg. Consequently one drop of tuberculin thus measured, when diluted to 36 minims with sterile water, gives a solution of which a minim contains one milligram of tuberculin. Ten minims of this solution

(measured with a special dropper) is put into an aseptic glass hypodermatic syringe with enough more sterile water to make about twenty minims to be injected. Estimating that nearly one drop of this might have remained in the needle uninjected, then the patient receives perhaps one half a milligram less than was prepared. As the Saranac tuberculin is always reported as a little stronger or more concentrated than Koch's standard, this loss is considered to have been overcome. The tuberculin used during the first five years at the sanatorium was furnished through the kindness of the Saranac laboratory. Dr. Baldwin describes it as being, if anything, a little stronger than Koch's standard. Latterly some imported Koch's tuberculin has been used.

#### BRITISH MEDICAL JOURNAL

January 25, 1908

1. Some Misleading Abdominal Cases, By D'A. POWER.
2. An Analysis of a Recent Series of One Hundred Consecutive Operations for Acute Appendicitis, By A. H. BURGESS.
3. Intussusception Due to Polypus, By J. L. STRETTON.
4. The Passage of Food through the Human Alimentary Canal, By A. F. HERTZ.
5. Status Lymphaticus in Relation to General Anæsthesia, By W. J. MCCARDIE.
6. A Fatal Case of Status Lymphaticus, By H. HILLIARD.

**2. Appendicitis.**—Burgess reports a series of one hundred consecutive operations for appendicitis. The results are of great interest in connection with the question of early operation in appendicitis and its alleged risks. The cases, forty-five in number, operated upon within four days, yielded no mortality as contrasted with a mortality of twenty per cent. for the fifth day, thirty-three and a third per cent. for the sixth day, twenty per cent. for the seventh day, fourteen per cent. for the second week, and eight per cent. for the third week. These forty-five cases included examples of each of the groups of pathological findings, so that the technique and severity of the operation *per se* was the same as in the latter series. The mortality of the latter, therefore, cannot be ascribed to the operation itself, but is unquestionably due to the inferior condition of the patient at the time the operation was undertaken. The deaths occurred after the operation and in spite of it, but certainly not on account of it. In other words, the mortality which is so often urged against operations in the acute stage really represents the mortality of delay, with the consequent increased toxæmic state of the patient. The lesson to be drawn is not, on account of this mortality, to advise against such operations, but rather to encourage their performance before a stage of serious toxæmia is reached. The series here reported would indicate that, provided operation is undertaken within four days of the onset, the chances of recovery are exceedingly good, and in a previously reported series of forty-seven cases no death occurred after an operation within four days. These results scarcely endorse the view so frequently advanced as to the great danger of operating between the second and fifth days. But even though all these cases recover, yet the earlier the operation the better the recovery. In all the operations within twenty-four hours, and in the majority of those within forty-eight hours the recovery was exactly similar to that after an "internal" operation, without any risk of a weak scar. In most



of those on the third and fourth days drainage was necessary, convalescence was more prolonged, and the chances of a weak scar greater. Of the nine deaths in the series five had general peritonitis, two had diffuse peritonitis with gangrene of the cæcum as well as of the appendix, one a local abscess, and a large abscess extending to the subphrenic region. Surely these fatalities may be justly ascribed to delay rather than to operation; the operation certainly failed to save, but it cannot be said to have materially hastened the inevitable end. The great reduction in the mortality after operations for acute appendicitis that has followed the policy of "interfering" at an earlier period points irresistibly to the conclusion that, were all cases submitted to operation in the early stages of the attack, appendicitis would cease to be a fatal disease.

5. 6. **Status Lymphaticus.**—McCardie states that Paltauf was the first to carefully study and describe the so called status lymphaticus. He found an enlargement of the tonsils, of the lymphatic gland system, of the follicles at the base of the tongue, of the spleen, and lastly an enlarged thymus gland; in most cases also there was narrowing of the aorta. The sudden deaths which occur in patients of this type are ascribed to cardiac paralysis and acute cardiac dilatation. The subjects of the condition are unusually subject to infectious diseases, to death from shock and fright, and to death during anaesthesia. Even comparatively slight lesions in them may end fatally. The results of autopsies are very uniform, being characterized by the presence of a thymous gland of greater or less size, by an enlarged spleen with varying degrees of prominence of its follicles, by tumescence and hypertrophy of lymphatic glands in various regions (especially of the mesenteric, retroperitoneal, and cervical), by noticeable prominence and multiplication of follicles at the base of the tongue and in the pharynx, by enlargement of the tonsils and swelling of solitary follicles and Peyer's patches in the intestine, by a dilated heart (especially the right ventricle), and extremely flaccid cardiac muscle. In addition, there is sometimes found a small heart, contraction of the aorta, and dark fluid blood in the heart cavities. Less constant features are great pallor of the skin, enlargement of the tongue, enlargement of the thyroid gland, infantilism, œdema of the lungs and brain, fatty changes in the liver, and alterations in the bone marrow. So frequently is death during chloroform anaesthesia associated with status lymphaticus that the question has been raised whether death under chloroform ever occurs apart from that condition. The writer gives detailed reports of five instances of death under anaesthesia in cases of lymphatism. All were young and of the flabby type. They seem to suffer more acutely than ordinary patients from shock, and the distance between ordinary deep anaesthesia and danger appears to be shorter. Under chloroform there is often a tendency to grayness of complexion, weak heart action, and shallow heart action, and shallow breathing, so that a chloroform-ether mixture or ether has to be substituted for it, and in most cases the dose of the drug needed to keep up anaesthesia is unusually small. Several members of the same family may suffer from the condition. In most cases there is little or no previous history noted, in

deed, in many the patient was said to have been well and strong. In infants and small children there is frequently stridor causing noisy breathing—"thymic asthma." Among the conditions sometimes associated with lymphatism are exophthalmic goitre, epilepsy, rickets, and infantilism. Death in the case of anaesthesia is always sudden.

# LANCET

January 25, 1908

1. Why Is Tuberculosis So Common in Ireland? With Suggestions for Its Prevention and Treatment, By SIR J. BYERS.
2. The Epidemiology of Plague. With Special Reference to Its Mode of Spread and the Means by which it May Be Combated, By C. A. GILL.
3. Graduated Labor in Pulmonary Tuberculosis, By M. S. PATERSON.
4. The Effect of Exercise on the Opsonic Index of Patients Suffering from Pulmonary Tuberculosis, By A. C. INMAN.
5. Note on the Presence and Significance of Certain Rod Shaped Bodies in the Cells of Carcinomatous Tumors, By W. F. ROBERTSON.
6. On the Relationship of Cancer Cells to the Development of Cancer, By J. E. SALVIN-MOORE and C. E. WALKER.
7. Note Upon the Effect of Liquid Air upon the Graftable Cancer of Mice, By J. E. SALVIN-MOORE and J. O. W. BARRATT.
8. Treatment of Graves's Disease with the Milk of Thyroidless Goats, By W. EDMUNDS.
9. A Case of Acute Suppuration in a Thyroid Adenoma Due to the Bacillus Typhosus, By F. G. MELANDRI and T. P. LEGG.

1. **Tuberculosis in Ireland.**—Byers assigns the following causes for the great prevalence of tuberculosis in Ireland: 1. The damp climate. This is of relatively slight importance. 2. Dampness of the soil. While subsoil may be of some importance, yet other conditions are of much greater potency. 3. Emigration is supposed to have left behind a physically inferior population—a race of weaklings, all very susceptible to phthisis. 4. The susceptibility of the Irish to tuberculosis. This is denied by the writer. 5. Poverty and low social condition. 6. Food and drink. There is reason for believing that the increased use of tea and white bread instead of porridge and buttermilk, and the excessive use of alcohol, have lowered the resistance of the people to tuberculosis. 7. Manufacturing industries. The influence of these, as exposing to dust, etc., has been overstated. 8. Want of sanitary reform. 9. The domestic or home treatment of advanced cases of pulmonary tuberculosis. This the writer regards as the most potent cause which has prevented a lowering of the tuberculosis death rate in Ireland. With isolation of these advanced or "open" cases in any country the death rate falls. The measures advocated by the writer are as follows: (a) Compulsory notification. (b) Institutional treatment of advanced cases. (c) Education as to cleanliness, sanitation, and ventilation. (d) Temperance in all things. (e) Inspection of all meat. (f) State control of the milk supply.

3. 4. **Manual Labor in Phthisis.**—Paterson gives the results obtained in the tuberculosis sanatorium with which he is connected, of the introduction of manual labor as a part of the routine treatment of patients suffering from pulmonary tuberculosis. The grades of work are summarized as follows:



lows: 1. Walking from one half to ten miles daily. 2. Carrying baskets of earth or other material. 3. Using a small shovel. 4. Using a large shovel. 5. Using a pickaxe. 6. Using a pickaxe for six hours a day. Patients in grades 2, 3, 4, and 5 work four hours a day. The various grades are each subdivided into sections. The following points appeared to be determined: Suitably selected patients can be gradually trained to do the hardest laboring work for six hours a day, the result being that their general condition is much improved, whilst some lose both their sputum and tubercle bacilli. Certain patients who do not improve on light work show marked improvement on harder work. Patients who have slightly over exerted themselves and are kept at rest for the few following days are subsequently not only not worse, but may be in their own opinion better. The writer therefore concludes that graduated labor is a definite medical treatment for cases of pulmonary tuberculosis, and raises the general health and resisting power of the patients. The combination of rest, pure air, and overfeeding is not the only treatment for chronic pulmonary tuberculosis.—Inman studied the effect of the hard work on the opsonic index of the blood of the patients. His results show that the exercise supplies the stimulus needed to produce artificial autoinoculation, and that its systematic graduation has regulated this in time and amount. With the aid of the opsonic index the stimulus can be regulated with scientific accuracy.

5, 6, 7. **Cancer.**—Robertson, by using the palladium methyl violet method of staining, has demonstrated in a number of cases of cancer, one or more rod shaped bodies somewhat like tubercle bacilli in the protoplasm of many of the epithelial cells. In the examination of thirty-six tumors, these rod shaped bodies were present in every case of cancer. They are straight or slightly curved rods about 3 mikron in length and 0.3 mikron in thickness. The edges are smooth, the ends blunt, and there are no evidences of flagella. The rods do not stain by Gram's method or by the methods used for tubercle bacilli. The writer thinks that there is conclusive evidence that they are parasitic in nature. They present features which prove them to be growing organisms, and they have been cultivated in an artificial medium. The possibility of their being bacilli can be excluded at once. It can be shown that they arise from comparatively large rounded bodies which are certainly not bacterial organisms. They have none of the characters of the *Spirochata microgyrata* of mice cancer. The writer believes them to represent a stage in the life cycle of the protozoan organisms described by himself and Wade as occurring in certain carcinomatous tumors. It is probable that not one species of protozoan organism, but several closely allied species, are the pathogenic agents in the production of carcinomatous tumors. The forms found in carcinoma of the breast present certain characters which distinguish them from those that may be observed in squamous epitheliomata and in intestinal tumors, although the life cycles are essentially the same.—Salvin-Moore and Walker have found that exposure to liquid air at a temperature of  $-196^{\circ}\text{C}$  does not necessarily destroy the possibility of the existence of a mouse

tumor to produce fresh tumors of the same kind in mice into which such frozen tumor substance has been grafted. So that the production of new tumors may not be due to the introduction of the "cancer cells" at all, but upon the action of a virus which is independent of these cells, and retains its activity after being subjected to the temperature of liquid air. It is well known that a number of bacteria are not killed by this temperature. So that it is possible that there exists some such cause as an organized irritant or parasite acting as an agent in the production of cancer. But it is not absolutely certain that the cancer cells are killed by the low temperature.

#### LA PRESSE MEDICALE

January 8, 1908.

##### 1. Technique of Total Abdominal Hysterectomy.

By F. JAYLE.

##### 2. Dilution and Concentration of the Blood, By CHINAY.

1. **Total Abdominal Hysterectomy.**—Jayle says that total abdominal hysterectomy is considered to be more difficult, more serious, and to take a longer time than partial hysterectomy, and that consequently the latter operation is recommended and practised in preference by the majority of surgeons. He acknowledges that the total removal of the uterus is more difficult and takes longer than the partial removal, but denies that it is attended by any more serious danger. At the same time the cervix, which has been left *in situ*, is apt to cause trouble, require subsequent attention, and even prove the seat of a recurrence of cancer. Hence he prefers the total operation, which he describes in detail with the aid of thirteen illustrations. He divides his description into twenty steps, the details of each are given with rather too great terseness to be perfectly clear to any one not accustomed to witness the performance of the operation.

January 11, 1908.

##### 1. Gastric Radioscopy. Ptoisis and Atonic Dilatation of the Stomach. Maintenance of the Reduction of the Ptoisis by Means of the Pneumatic Hypogastric Cushion, By F. ENRIQUEZ.

##### 2. Cancer Caused by the X Rays, By F. JAYLE.

##### 3. Essential Insufficiency of the Heart in the Child, By R. ROMME.

1. **Ptoisis and Atonic Dilatation of the Stomach.**—Enriquez gives a brief account of the utilization of the x rays in the examination of the stomach, together with a description of the technique of their use, and then passes to the consideration of ptoisis and atonic dilatation of that organ. In every case of asthenic dyspepsia in a woman which he has examined he has found the lower border of the stomach very low, from six to twelve centimetres below the umbilicus, while radioscopy examination revealed a very marked ptoisis of the stomach associated with atony and dilatation of that organ. He has found to be of great service in the attempt to keep the stomach in position an air bag bound upon the surface of the abdomen in such a way as to support its lower portion.

2. **Cancer Caused by the X Rays.**—Jayle practically reproduces the twelve observations reported by Porter and White in the *Annals of Surgery* in which cancer developed after an exposure to the x rays.

January 15, 1908.

1. The Syndrome Produced by a Lesion of the Optic Thalamus, By P. HARTENBERG.
2. Gonococcus and Meningococcus, By J. MILBIT and I. TANON.
3. Parasites of Meat Transmissible to Man, By N. GAUTIER.
4. Pathogeny and Treatment of Alveolodental Cysts, By G. MABE.

1. **The Syndrome Produced by a Lesion of the Optic Thalamus.**—Hartenberg presents an excellent description of the symptomatology, anatomy, pathology, and diagnosis followed by a general discussion of the condition produced by a lesion of the optic thalamus, a condition first noticed in 1903, which has since attracted some attention. Briefly, the symptoms presented are: Hemianæsthesia of organic character, slightly marked as regards superficial sensibility, but very pronounced as regards deep sensibility, severe pains in the anæsthetic side of the face, brow, cheek, orbit, limbs, oftener superficial than deep, slight hemiplegia shown by a little facial asymmetry, hypotony and diminution of muscular power, without atrophy or contracture and with reflexes either slightly exaggerated or normal, slight hemiataxia not seriously impeding motor adaptation or locomotion, and choreoathetotic movements. This syndrome may be produced by a lesion of the posterior third of the external nucleus, a portion of the internal nucleus, the median centre and the pulvinar of the optic thalamus, as well as in a small number of fibres of the posterior portion of the internal capsule. The diagnosis may be made through the presence of a hemiplegia with a maximum of sensory and a minimum of paralytic troubles. The accuracy of this conception of the syndrome produced by a lesion of the optic thalamus is not universally accepted.

## LA SEMAINE MEDICALE

January 22, 1908.

1. Has Ulcerative Typhoid Inflammation of the Throat Diagnostic Value? By LÉON BLUM.
2. The Method of Permeation and Its Application to the Exploration of the Digestive Tract and to Treatment of Diseases of the Same.
1. **Has Ulcerative Typhoid Inflammation of the Throat Diagnostic Value?**—Blum states that the ulcerations of the throat which are met with in typhoid fever are characteristic in their aspect and site so that they can hardly be confounded with any other affection of the pharynx. They are usually seated on the upper part of the anterior face of the anterior pillars of the fauces, more rarely on the posterior pillars, on the uvula, or on the velum palati. Both sides are frequently attacked simultaneously and symmetrically; occasionally the lesion is unilateral. It is not exceptional to see several ulcerations scattered over the velum and the pillars. The ulcers are oval, placed obliquely downward and outward, following the direction of the pillars, of variable size, superficial, sharply cut, with red prominent margins and grayish base, not covered by a false membrane, but only with a little mucus, and bleeding readily when touched. They may appear within a quarter of an hour and disappear gradually. On the average they last about ten days. In seventy-six cases the author met with these ulcerations in fifty-seven men and nineteen women.

## MUENCHENER MEDIZINISCHE WOCHENSCHRIFT

January 7, 1908.

1. Relations of Typhus and Paratyphus to the Bile Ducts, By FORSTER.
2. The Cutaneous Tuberculin Test (von Pirquet's) in Children, By FEER.
3. Orthodiagraphic Observations Concerning the Position of the Heart in Pathological Conditions, By DIETLEN.
4. New Contributions to the Ætiology of the Orthotic Albuminuria of Children, By JEHLE.
5. Concerning Specific Hæmolytic Through Isotonic Salt Solutions, By VON DUNGERN and COCA.
6. Concerning a Case of Cholecystitis Paratyphosa, By LOREY.
7. Concerning the Carriers of Typhoid Bacilli in Lunatic Asylums, By GRIMME.
8. The Typhoid Question in Munich, By MANDELBAUM.
9. Modern Methods of Treatment in Gynecology, By RUNGE.
10. Concerning the Treatment of Lysol Poisoning, By FELDMANN.
11. A Brief Contribution to the Subject of Foreign Bodies in the Nose, By KLAUSSNER.
12. The Physician in the Mirror of Poetry, By SALZER.

1. **Relations of Typhus and Paratyphus to the Bile Ducts.**—Forster explains the appearance of sporadic cases of typhoid fever, as well as the endemic and epidemic appearance of the same, by the chronic excretion of typhoid bacilli in the bile of chronic typhoid bacilli carriers. The gallbladder forms the natural place where the bacilli are to be found in these chronic carriers, and the primary indication of treatment is to so treat patients suffering from typhoid fever that no permanent diseases of the gallbladder may be left behind. How this may be accomplished remains for the future to teach us.

2. **The Cutaneous Tuberculin Test in Children.**—Feer speaks very highly of this test as an aid to diagnosis in doubtful cases. The positive result in young children is rarer and more important (prognostically more serious) the nearer we come to infancy, and correspondingly the probability increases that the positive reaction indicates the presence of an affection which is suspected of being of a tuberculous nature. The frequent appearance of phlyctenule and very unpleasant irritation after the ophthalmoreaction contraindicates in his opinion the application of that test in scrofulous children.

4. **Orthotic Albuminuria in Children.**—Jehle says that, as nephritis can be excluded in the great majority of these cases, a milk diet is contraindicated and a strengthening general diet indicated. In addition, there should be physical treatment to increase the general strength, with special attention to muscles of the lumbar region.

6. **A Case of Cholecystitis Paratyphosa.**—Lorey reports a case of cholecystectomy performed on a man, twenty-two years of age, two years after an attack of typhoid fever. Cultures taken from the mucous membrane of the gallbladder immediately after the operation developed a pure culture of the *Bacillus paratyphosus alcalifaciens*. Some time after the operation a fistula appeared, from which there was an abundant discharge of pus stained by bile. Cultures taken from this revealed no paratyphus bacilli, but only the *Bacillus pyocyaneus*. Before the operation the same typhoid bacilli were found in the tissues, but could not be found after the operation.

7. **Carriers of Typhoid Bacilli in Lunatic Asylums.**—Grimme discusses the question of cholecystomy for the purpose of stopping the distribution of typhoid bacilli by chronic carriers, with special reference to the conditions in insane asylums.

10. **Treatment of Lysol Poisoning.**—Feldmann speaks of lysol poisoning as the commonest form met with at the present time because of the ease with which it may be obtained at the drug stores. There are three different kinds of lysol, the paralytol, metalytol, and ortholytol; the most poisonous is a mixture of all three kinds. He reports a case in which the following treatment proved effective very quickly. The stomach was thoroughly washed out, the patient placed in a hot bath, and then packed with hot cloths and hot bottles to prevent a lowering of the temperature, and two injections of 0.001 of atropine were given with an interval of ten minutes between them. The patient recovered consciousness in a quarter of an hour so as to be able to answer questions, and made a complete recovery in a few days.

January 14, 1908.

1. The Emptying of the Stomach, the Separation of Solids and Fluids, the Behavior of Fat, By PRYM.
2. Concerning the Value of the Ophthalmoreaction for the Diagnosis of Tuberculosis, By BLUM.
3. Concerning the Value of the Ophthalmoreaction as an Aid in the Diagnosis of Tuberculosis, By SCHRÖDER and KAUFMANN.
4. Concerning the Ophthalmoreaction, By WOLFF-EISNER.
5. Brief Remarks in Regard to the Ophthalmoreaction in Tuberculosis, By TREUEPEL.
6. Studies Concerning the Ophthalmoreaction in Tuberculosis, By SCHMIDT.
7. Is there a Specific Precipitate Reaction in Syphilis and Paralysis? By PLAUT, HEUCK, and ROSSI.
8. The Behavior of the Blood Pressure in Muscle Work, By KRONE.
9. The Influence of the Electric Stimulus upon the Distribution of the Blood in the Human Body, By GEISSLER.
10. The Influence of Mud Baths upon the Organs of Circulation, By SCHMINCKE.
11. The District Medical Officer and Infant Mortality, By GROTH.
12. Report Concerning the First Year's Work in the Institution for the Care of Children in Weissenburg, By DÖRFLER.
13. Pathogenesis of Fluor Albus, By NETER.
14. The Physician in the Mirror of Poetry (Concluded), By SALZER.

1. **The Emptying of the Stomach, the Separation of Solids and Fluids, the Behavior of Fat.**—Prym learned from experiments on small dogs that it makes a considerable difference whether pieces of meat are eaten first and fluid then drunk, or fluids taken first and meat eaten later. When the meat is eaten first it is to be found thirty-five minutes after the meal in a coherent mass surrounded by the fluid, while when the fluid is taken first the meat is found scattered through it at the same time after the meal. An hour and a half after the meal the pieces of meat are still together in a mass surrounded by the fluid and the brownish product of the peptically dissolved meat. Fat is scattered throughout in fine particles, which tend to unite and form large drops when the movement of the wall of the stomach is interfered with.

2, 3, 4, 5, and 6. **Ophthalmoreaction.**—Blum states that although the ophthalmoreaction may

indicate the presence of tuberculous disease it does not demonstrate the disease on account of which the test is made is of a tuberculous nature.—Schröder and Kaufmann assert that if no reaction follows the instillation of a drop of a half to a one per cent. solution of Koch's old tuberculin into the conjunctival sac, an active tuberculosis can be excluded with tolerable certainty.—Wolff-Eisner suggests that the name conjunctival reaction would be preferable to the word ophthalmoreaction, which is incorrect and misleading. He then briefly speaks of several recent papers, agrees with Mainini, objects to Klieneberger's conclusions, and protests against reference to the method as that of Calmette.—Schmidt is probably right when he says that sufficient evidence has not yet been collected to enable us to decide in regard to the utility of this test.

7. **Is there a Specific Precipitate Reaction in Syphilis and Paralysis?**—Plaut, Heuck, and Rossi answer this question in the affirmative, and report eight cases in which they have employed this diagnostic test with satisfaction.

9. **The Influence of the Electrical Stimulus upon the Distribution of Blood in the Human Body.**—Geissler investigated this subject on six healthy persons and fifteen diseased. Seventeen investigations were made on the six healthy persons; twelve of them resulted in an increase of the blood pressure, two in a lowering, and in three the blood pressure was not affected. Five of the persons showed an increase of the blood pressure with two exceptions at the first exposure; in these exceptions the blood pressure remained unchanged, and only one person always showed a diminished blood pressure. Forty-three examinations were made of the fifteen sick persons, all of whom suffered from diseases of the heart. The blood pressure was increased during the exposure thirty-two times, sank three times, and remained unchanged three times. A rise, followed by depression, was observed twice, and a depression followed by a rise three times. These observations prove that the electric stimulus has an influence upon the heart and vessels.

10. **The Influence of Mud Baths upon the Organs of Circulation.**—Schmincke says that, on account of its lesser action upon the temperature, the mud bath affects the circulatory system less than a water bath of the same temperature.

13. **Pathogenesis of Fluor Albus.**—Neter reports a cause of fluor albus in a child, three and a half years old, which was demonstrated to be dependent on obstipation.

#### THE JOURNAL FOR NERVOUS AND MENTAL DISEASE.

January, 1908.

1. A Study in Tactual Localization in a Case Presenting Astereognosis and Asymbolia Due to Injury to the Cortex of the Brain, By MORTON PRINCE.
2. Tactile Localization and Symbolia: Have They Localization in the Cerebral Cortex? By MORTON PRINCE.
3. General Considerations as to the Nature and Relationships of Hysteria, By R. C. WOODMAN.
2. **Tactile Localization and Symbolia.**—Prince remarks that a stereognosis, that is the perception of form in three dimensions (solidity), is plainly an intellectual process, and to attempt to localize it is to do that for which there is no analogy in the scheme



of cerebral localization. Intellectual judgments are not thus far, according to data at hand, localizable nor likely to be. The nearest approach to such a scheme is that of Marie's new theory of aphasia, according to which aphasia is an intellectual defect and localized in Wernicke's zone. This, to Prince's way of thinking, is the weak point in Marie's theory. It is true that Marie defines the intellectual defect as a special intellectual function, but he fails to define what he means by a "special function," though holding that it is not one of special sensory images—visual, auditory, etc. Though Marie may be quite right, says our author, in his general theory, and in the localization of his intellectual aphasia in Wernicke's zone, his denial that the special intellectual defect consists of a loss of sensorial images may be wrong, and does not seem to be warranted by any evidence that he brings forward; and it may well be, therefore, that if his localization is correct, it is only a localization of sensorial images. This denial of sensorial images in the mechanism of aphasia seems to weaken his theory rather than to strengthen it. Certainly, the localization of broad intellectual processes does not at present rest upon any sound basis of fact. The only conclusive evidence for the localization of symbolia must rest upon clinical observations in which there is found to be loss of power to recognize objects by touch, without loss of the subsidiary sensations and perceptions, and the final demonstration of focal localization in the cortex. No such case, exhaustively examined, with or without anatomical findings, has thus far been reported. In the absence of such a case there is absolutely no logical warrant in attempting to treat symbolia as a sense or concept or function and find for it a localization. Symbolia can only be spoken of and treated as a function symbolically, as a convenient expression to represent a complex process, and although it may be legitimate to do this for purposes of convenience, we are at once led into error when we attempt to localize the symbol. In localizing symbolia, we are interpreting the evidence which in every case involves the impairment of different forms of sensation; and the interpretation which localizes the tactual impressions and makes the symbolia depend upon the loss of sufficient information for judgment fulfills all the logical requirements of the case.

#### THE EDINBURGH MEDICAL JOURNAL.

February, 1908.

1. The Symptoms and Etiology of Mania.  
By LEWIS C. BAUER.
2. Deaths from Gastric and Duodenal Ulcer after Operation for Other Conditions.  
By ALEXIS THOMSON.  
The Value of Leucocyte Examination in Suppurative Conditions Arising from Middle Ear Infection.  
By JOHN M. DARTING.
3. Plastic Operation on the Renal Pelvis for Intermittent Hydro-nephrosis.  
By ALEXANDER MILES.
4. The Value of Novocaine as a Local Anesthetic for Subcutaneous Use.  
By J. W. SHERIDAN.
5. Cancer Originating from Bartholin's Gland.  
By LEWIS M. GIBSON.
6. The Symptoms and Etiology of Mania.  
Bruce says in his first lecture that it is a commonly accepted belief that maniacal states are conditions of brain toxæmia or brain poisoning, and that it is

also commonly accepted that hereditary predisposition is the chief predisposing cause of all insanities. As to the exciting causes of mania, there are evidences of bacterial toxæmia: (a) In the blood serum of over 90 per cent. of patients suffering from mania one can demonstrate the presence of an agglutinin which agglutinates the red blood corpuscles of healthy persons. An apparently similar agglutinin is present in the blood serum of many sane and apparently healthy persons. By infecting rabbits with streptococcal and staphylococcal bacteria, a similar agglutinin makes its appearance in the blood serum of the infected rabbits. The presence of such an agglutinin in the blood serum would therefore apparently indicate some form of streptococcal or staphylococcal invasion. As both the sane and the insane may show this symptom of bacterial toxæmia, there must be some further factor in the production of states of mania, and this further factor is probably an inherited or acquired unstable nervous system. This means that the sane and the insane may suffer from similar toxæmias, but whereas the brain of the sane man is stable the toxins produce no mental symptoms, while the brain of the insane man is unstable and readily becomes disordered by toxic action. (b) Although the bodily temperature shows little evidence of toxic disorder, a simultaneous observation of the white blood corpuscles of the patient demonstrates that a state of marked toxæmia exists in nearly every case. (c) The disorders of the alimentary tract are such as one would expect to find in persons suffering from toxic diseases. Further, the bacteriological flora of the alimentary tract is altered in at least 50 per cent. of the subjects of mania. (d) Lastly, the nitrogenous excretion by the urine in the subjects of mania indicates an excess of metabolism similar to that found in known infective diseases.

#### 3. The Value of Leucocyte Examination in Suppurative Conditions Arising from Middle Ear Infection.

Darling has observed a number of such cases and has made exact examinations of leucocytes. He remarks that in uncomplicated cases of acute middle ear suppuration, the total leucocyte count and the polymorphonuclear proportion were higher than normal in 62 per cent. of the cases. In cases of acute middle ear suppuration with mastoid complication the total leucocyte count was above normal in 66 per cent., and the polymorphonuclear cells in 77 per cent. of the cases. Little information of diagnostic value was obtained, because in a single examination of the blood the leucocyte count was in some instances higher in the uncomplicated cases than in those with mastoid complication. In uncomplicated cases of chronic middle ear suppuration, the total leucocyte count in 33 per cent., and polymorphonuclear proportion in 25 per cent. of the cases, were above normal. In cases of mastoid complication with an acute exacerbation, the total leucocyte count was above normal in every instance, while the polymorphonuclear proportion was above normal in 66 per cent. of the cases. In cases of mastoid complication without acute symptoms, the total leucocyte count in 44 per cent. and the polymorphonuclear proportion in 37 per cent. were above normal. In cases of acute and chronic middle

ear suppuration with and without mastoid complication, the leucocyte examination gave information of a general nature as regards the severity and progress of the inflammatory condition, but practically no aid in distinctive diagnosis. In cases of acute and chronic middle ear suppuration, with intracranial complication, the total leucocyte count was above normal in 88 per cent.; the polymorphonuclear percentage was above normal in all of them. If the polymorphonuclear proportion is less than 77 per cent., examination of the blood suggests the absence of an intracranial complication; when the polymorphonuclear percentage is above 86 there is strong presumptive evidence of an intracranial complication. In cases of extradural abscess and sigmoid sinus thrombosis, examination of the leucocytes gave no special features characteristic of the nature and site of the lesion. In the cases of brain abscess, the total leucocyte count did not exceed 14,000. In the cases of septic meningitis the total leucocyte counts were decidedly higher than in those of brain abscess, being in no case less than 17,000. The polymorphonuclear percentage, however, was only slightly higher. A total leucocyte count of less than 14,000 suggests brain abscess; a count of more than 17,000 suggests meningitis.

### Proceedings of Societies.

#### WESTERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Seventeenth Annual Meeting, Held in St. Louis, December 30 and 31, 1907.*

The President, DR. CHARLES W. OVIATT, of Oshkosh, Wis., in the Chair.

After a brief address of welcome by Dr. JOHN YOUNG BROWN, on behalf of the local profession, which was responded to by Dr. CHARLES E. BOWERS, of Wichita, Kansas, the reading of papers was begun.

**The Largest Common Duct Stone on Record.**—Dr. WILLARD BARTLETT, of St. Louis, reported this case, and exhibited the stone. The patient was a man, forty-six years of age, with a history of gallstone disease extending over twenty years, which was plainly referable to the common duct. The stone in the duct could be palpated through the abdominal wall; still the man was jaundiced only at times. The stone measured four inches in length by one inch and a half in diameter, and weighed two ounces and a half. The duct was partly sutured and was drained for a month. Five months later the patient was in better shape than he had ever been in his life before.

**The Pathological Gallbladder.**—Dr. B. B. DAVIS, of Omaha, in a paper with this title, said that because a patient had lived through an operation it did not necessarily mean that he was cured. Unless the gallbladder continued to perform its function normally and painlessly, the patient was not willing to consider himself cured. Many patients in whom drainage was instituted had a recurrence of the pain, and a secondary cholecystectomy became necessary. This usually produced relief from all

The following conditions, in the writer's experience, called for extirpation: 1, Adhesions between the gallbladder and the stomach, colon, or omentum. 2, Stenosis or even narrowing of the lumen of the cystic duct, due to old inflammation or pressure necrosis from an impacted stone. 3, Gallbladders with thickened walls due to long continued cholecystitis. 4, When external fistulæ or fistulæ between the gallbladder and the stomach or colon were present. 5, When the gallbladder wall was made up of scar tissue largely displacing the normal muscular coats. 6, When the gallbladder was found filled with mucus, clear or tarry, and there was no fresh bile. 7, In gangrene of the gallbladder. 8, In perforation of the gallbladder. 9, In empyema of the gallbladder, the mucous membrane being usually destroyed over large areas.

Cholecystostomy in the presence of the conditions given, as a rule, did not relieve, and extirpation had to be done later. In most cases the cholecystectomy could be done as a primary operation, without adding to the operative risk. The writer disclaimed taking too radical grounds, since he believed in the retention of every gallbladder that would not be a menace to future comfort.

**The Diagnosis of Duodenal Ulcer from Gallstones.**—Dr. W. D. HAINES, of Cincinnati, said that prominent symptoms in common were pain, vomiting, and accumulation of gas, together with the deleterious influence which these symptomatic manifestations exerted on the general health of the patient. Both complaints were referred to the upper right quadrant of the abdomen, and while the pain in cholelithiasis, which was sharp, decisive, and of sudden onset, was referred to a point opposite the right ninth costal cartilage, it might radiate over the entire right side of the abdomen, and not infrequently found expression in the right shoulder joint. Again, the pain might be the most intense in the region of the tenth dorsal vertebra. Vomiting, if present, was characteristic in that the ejected matter was bile stained, consisting largely of mucus, and it afforded no relief to the patient. Hot fomentations might give temporary relief, but full doses of morphine were usually required to allay the terrible suffering. In duodenal ulcer the pain occurred at intervals and was less sudden of onset and less severe in character. It was described as a burning or gnawing sensation, which might last a few days or continue for months after the primary attack. Unlike the lancinating pains of gallstones, pain in this disease was markedly influenced by the presence or absence of food in the stomach. A certain degree of relief invariably followed the ingestion of a full meal, lavage of the stomach, or the drinking of a quantity of alkaline fluid. The spasm of the pylorus was a frequent accompaniment of ulcer, but wholly unknown in early gallstone cases. Spasm of the diaphragm was evidence of severe pain, which, if referred to the region under consideration, indicated gallstones, as ulcer pain, in the absence of perforation, was not of sufficient severity to produce this symptom. Gaseous distention spoke for ulcer, and the accompanying pain quickly subsided after the expulsion of the gas by eructations or vomiting. Muscular rigidity and local tenderness were present in both ulcer and stone cases. Pain in duodenal

ulcer was due to the passage of acid stomach contents and to distention by gas. Vomiting was of less value as a symptom than either pain or distention, but it was well to remember that vomiting was full and free and followed by marked relief, and ceased promptly in ulcer cases, leaving little depression and no nausea. In late or recurrent gallstone histories vomiting was a prominent feature, and the same might be said of chronic ulcer. The slight transitory disturbance of the one and the invalid dealing influence of the other would materially assist in putting one right in the diagnosis. Hæmorrhage occurring during an attack of gallstones was accidental, but it was prominent as one of the late manifestations in ulcer. Jaundice, like hæmorrhage, was a late symptom and might be present in either of the conditions under consideration. Jaundice following lancinating pain of sudden onset, localized in the upper right quadrant of the abdomen, radiating over the right chest wall or accompanied by pain in the right shoulder, would warrant a conclusion of the presence of gallstones. Constipation was one of the early effects of duodenal ulcer.

In a certain percentage of the chronic and some of the acute cases of stone and ulcer, the distinction would have to be reserved for that erstwhile much used, sometimes abused, method of diagnosis—exploratory incision.

**Peptic Ulcer of the Jejunum.**—Dr. F. GREGORY CONNELL, of Oshkosh, Wis., reported one case of this character in which a secondary gastroenterostomy was performed three years after anterior gastroenterostomy for pyloric ulcer with stenosis.

After a consideration of the subject and an analysis of thirty-nine cases, he concluded as follows: 1. Peptic ulcer of the jejunum was a possible result of gastrojejunostomy. 2. It was probably of more frequent occurrence than the thirty-nine reported cases indicated. 3. It followed the long loop operation more often than the no loop operation. 4. The symptoms might be latent until either acute hæmorrhage or perforation occurred. 5. The symptoms might be chronic and simulate those of gastric or duodenal ulcer. 6. Peptic ulcer of the jejunum should be considered in all cases of return of symptoms after gastrojejunostomy. 7. A symptomless period after the operation was necessary to eliminate a continuation of the condition for which the gastrojejunostomy was performed. 8. A diagnosis could rarely be made before an operation. 9. Prophylactic treatment, aiming to reduce the excess of acidity, should be instituted after gastrojejunostomies for benign conditions, and should be continued for at least six months. 10. The treatment would be either medical or surgical, similar to that for gastric or duodenal ulcer. 11. The possible occurrence of ulcer of the jejunum was an additional reason for performing gastrojejunostomy only where it was positively indicated, namely, by pyloric obstruction.

**Acquired Atresia of the Common Duct Due to a Gallstone.**—Dr. JOHN C. HANCOCK, of Delmar, after referring to the literature, reported the case of a woman, aged sixty-six, who gave this history in connection with her illness, which had existed two years and nine months. Family history, negative. Previous history, also negative except for severe headaches and occasional palpitation. Her present

illness began in October, 1901, with sudden and severe pain in the abdomen in the region of the ninth and tenth ribs, vomiting, purging, chill, and fever. The attack lasted from one to two days, and subsequent prostration delayed the patient's return to her home for two weeks. Three weeks after her return home she began to experience excruciating soreness in the same region as before, and extending around the ribs to the right shoulder blade and shoulder. This condition, with variations in severity, lasted all winter. In April, 1903, she experienced a sensation of pushing and grinding, starting in the right side. This extended across the back and abdomen, and lasted two weeks. With this girdle pain the patient was confined to bed and jaundice set in. This had persisted. From a weight of 116 pounds the patient gradually lost 36 pounds, but the loss of strength was not so great in proportion as the loss of weight. With the jaundice there were loss of appetite, itching, dulness of the sensorium, many slight chills, and once a severe attack with high fever. The stools, which had been dark, became clay colored. The urine had been scanty and high colored most of the time since jaundice set in, and the patient had to micturate as often as four times a night. In April, 1904, her feet began to swell slightly, and later the body. The bowels moved three times in twenty-four hours, and the movements were accompanied by pain in the lower abdomen. At present the patient suffered no longer with headaches, but was faint at times, had enjoyed a fair appetite until the last few days, was not troubled with belching or heartburn, had some shortness of breath, without cough, and occasional palpitation, which, however, antedated the illness in question. The stools were watery and cream colored.

Examination revealed a short, jaundiced woman, with a body spare above the waist, prominent abdomen, and slightly oedematous lower extremities; pulse 90; temperature 99.2°; respiration 16; sclera bile tinged; lungs negative; heart apex beat in the third interspace inside the nipple; and no murmurs. The liver dulness extended from the fifth rib in the mammillary line to four fingers' breadth below the costal margin. Ascites was present and prevented the examination of other abdominal viscera. No tumor was made out or any tenderness, except near the costal margin on a line between the ninth rib and the umbilicus. The circumference of the abdomen at the umbilicus was 96 centimetres; the urine was high colored and acid, with a specific gravity of 1.032; bile was present; of albumin there was the slightest possible trace, but no sugar; there were occasional hyaline casts and some small round epithelial cells, probably from the kidney; there were a few abnormal red blood corpuscles, with an abundance of various forms of large epithelial cells, probably from the bladder, and pus corpuscles. The next day six quarts of ascitic fluid were removed, having a specific gravity of 1.011, and showing a trace of albumin. The abdomen was now soft and permitted of satisfactory palpitation. The liver was felt to be hard and smooth for three fingers' breadth below the costal margin on the right, and more than halfway to the umbilicus and thence across the epigastrium transversely, where the edge could be easily grasped between the fingers and thumb at the same time. Further exam-



trium, slightly to the right of the median line below the liver margin, numerous hard nodular masses, slightly tender and movable, were made out. The liver itself was not tender, but the region of the gallbladder was still markedly so. The spleen was enlarged. The examination of the abdomen otherwise was negative.

After carefully considering the hazards of an operation, in the presence of jaundice and more particularly ascites, the patient decided upon an operation. Accordingly, through a vertical incision through the right rectus, the abdomen was opened. The residual ascitic fluid was removed. The viscera were found congested, and in addition in the upper right quadrant densely adherent. So far the hæmorrhage was not extraordinary, but upon separating the adhesions the fresh surfaces bled freely and continuously, in spite of ligatures and the fact that no demonstrable vessels were severed. A hard, cirrhotic liver and several enlarged lymphatic glands were readily found, and a small contracted gallbladder was identified. From this stage on, further exploration had to be done almost entirely by palpation, on account of hæmorrhage. A movable stone, of the size of an olive, was felt in the common duct, but no evidence of malignant growth was made out. By this time the hæmorrhage had become alarming and had so obscured the field that the attempt to incise the common duct to allow for bile drainage had to be abandoned. The field was packed and the abdominal wound partly closed. The patient left the table showing signs of shock and hæmorrhage, and died fourteen hours later from complete exsanguination in spite of calcium chloride, etc.

Shortly after death a partial autopsy was made. The abdominal cavity was found entirely free from clots, although the pelvis contained free blood. The findings at the operation were confirmed. The gallbladder was contracted to the size of an olive. The common and hepatic ducts were greatly enlarged. At the junction of the cystic and common ducts was found a cicatricial contraction of the cystic duct. In the bladder and duct were several small flat concretions. Upon removal of the large stone from the lower end of the common duct the condition of atresia of this duct was discovered. The lower end of the duct was perfectly smooth without a sign of opening into the duodenum and might be likened to the blind finger end of a rubber glove. The bile tract, a portion of the liver, the duodenum, and the pancreas were removed *en masse*, and examined both macroscopically and microscopically. Macroscopically, the liver presented the appearance of hypertrophic cirrhosis, but under the microscope the changes of atrophic cirrhosis were present. Macroscopical examination showed atresia of both the common duct and that of Wirsung. The duct of Santorini could not be found, and there was entire absence of the papilla on the duodenal side. Microscopically, the ductus choledochus, that of Wirsung, the pancreas, and the duodenum showed chronic inflammatory changes, but no malignant elements. Bile was present in the common duct. The stone was found to be a mulberry calculus, composed almost entirely of cholesterolin, and made up, superficially at least, of bile pigment and calcareous salts.

Dr. CHARLES H. MAYO, of Rochester, Minn., said that he and his brother had done twenty-two hundred operations on the gallbladder and ducts. Of

this number, there were over six hundred cholecystectomies and about three hundred operations on the common duct. A few years ago they had a leaning toward the removal of the gallbladder if there was any disease of the mucosa perceptible, while now they were inclined to leave the gallbladder if the cystic duct was open. The operation, however, of the removal of the gallbladder as a secondary operation was not so serious as operations on the common duct which might be necessitated later, after the removal of the gallbladder. They believed that the removal of the gallbladder resulted later in the majority of cases in distention of the common duct. They had had five cases of the reformation of stones in the common duct, and three of them after the removal of the gallbladder. In all of the series he only recalled two cases in which, after the primary operation of removing gallstones from the gallbladder, stones had reformed in that viscus.

Dr. C. H. WALLACE, of St. Joseph, Mo., reported the case of a woman upon whom he had operated some two years before for the removal of stones in the gallbladder. The gallbladder itself was found in a fairly good condition; the mucosa was not diseased, not very much enlarged, and the walls were not much thickened. A number of stones were removed and drainage was established. A few weeks ago this woman began to have attacks again. In the third or second attack she passed three or four small gallstones. This was a case in which the question arose as to whether, in doing a second operation, the gallbladder should be removed or drainage again tried. He thought surgeons got the impression from those who did a large amount of gallbladder surgery that if in a given case there was a healthy gallbladder, with stones in it, where the mucous membrane was not diseased, if the stones were removed and the gallbladder was drained, the patient could be assured that he or she, as the case might be, would get well. Occasionally, however, such patients returned, and the guarantee of such a prognosis could not be given now with as much assurance as in former years.

Dr. J. E. SUMMERS, of Omaha, said that seven or eight years ago he had reported a case in which there was a tight stricture at the lower end of the common duct, and also one of the cystic duct, the common duct acting as a reservoir. The liver was very much hypertrophied, as was also the spleen. The technique employed was to open the common duct and to make an anastomosis between this and the duodenum. The patient made a good recovery after a long time. Mayo Robson had also reported one or two of these cases, which Dr. Hancock had not mentioned in the literature of the subject, and he thought Dr. William J. Mayo had reported one or two others.

Dr. JAMES E. MOORE, of Minneapolis, said that within the past six months he had seen two cases of gallstones of great interest. One was a case of Dr. Mayo's and the other a case of his own. Both patients had practically the same symptoms. In his case there were first the ordinary gallstone symptoms. The patient was operated upon, the stones were removed, and the gallbladder was drained. Later the patient had a recurrence of symptoms, and at the operation gallstones were found and cholecystectomy was performed. The interesting feature about his case and Dr. Mayo's was that these women were

at the present time suffering again from gallstone colic. What should be done? The only hope was that there was a stone or stones in the common duct that might be reached. He had not yet operated in a case of that kind. He thought, however, it was quite possible that these stones might be in the hepatic duct, because in the case in which he had operated and removed the gallbladder, the stones were many, small and soft, looked like millet seeds, and evidently came down from the gallbladder at that time. He had the feeling that this woman would surely have trouble some time in the future. It was only two years since he did the cholecystectomy, and now she was having serious symptoms and very grave attacks, but without jaundice.

Dr. JOHN C. MORFIT, of St. Louis, reported two cases of bowel obstruction due to gallstones, which had occurred within sixty days of each other in the last year. A woman of eighty had acute obstruction of the bowel, with finally total obstruction when he saw her. The bowel was obstructed at about eighteen inches above the ileocaecal valve by a stone an inch and a quarter in diameter and an inch and a half long, which evidently came from the gallbladder. She made a very satisfactory immediate recovery from the operation. Pneumonia, however, developed on the eleventh day, and she died on the fifteenth day after the operation. A post mortem examination was not made, but the question arose as to the pathological anatomy in the region of the gallbladder. How did this stone get into the intestine? Did it come through the common duct, or did an inflammatory anastomosis occur between the gallbladder and some portion of the alimentary canal? He believed that there was, as a result of preexisting inflammation, an ulceration or anastomosis between the gallbladder and duodenum, or possibly some portion of the small intestine.

Within a few weeks thereafter another woman, fifty-six years of age, presented herself with exactly the same condition. He was able to strike a stone in practically the same situation at once, the stone being of the same size and consistence. The intestine was opened by a linear incision, the stone liberated, and the incision closed, and the patient made an uneventful recovery.

**Harrington's Solution in the Treatment of Suppurative Inflammation of the Knee Joint.**—Dr. J. E. SCAMMERS, of Omaha, said that it had been proved experimentally and clinically that Harrington's solution would kill all the common germs met with in surgical practice in from twenty seconds to a minute, and was not caustic. After thorough washing of the hands in hot soapsuds and then immersing them for two minutes in this solution, if cultures were taken, there should be an entire absence of germs. Even when there was no preliminary washing of the hands before their immersion in the solution for two minutes, the results were remarkable. The author reported an interesting case in which this solution was used, and said that, while his experience with Harrington's solution was not great, it could be used very advantageously in infective wounds where it was applicable. After thorough surgical cleansing of a wound or abscess cavity, the solution was allowed to remain in contact with all its surfaces for from three to five minutes; it was

then irrigated or sponged away, and the particular wound dressed as required. Any one who would try Harrington's solution would like it. It had, besides its established antiseptic property, the power, when applied to a raw surface, to produce a copious discharge of serum, thus aiding the washing away of noxious elements from the wound.

Dr. CHARLES H. MAYO emphasized the value of Harrington's solution as an antiseptic, and said that it was one of the best and least destructive ones we had in use for suppurating wounds.

**The Removal of Gallstones in the Common Duct through the Lesser Omentum.**—Dr. M. L. HARRIS, of Chicago, said that the gallbladder and its contained stones might be enucleated without much difficulty, but should the common duct harbor stones, it might be impossible to reach them by the usual route. He did not now refer to those cases in which a stone was lodged in the ampulla of Vater, and could be reached by the transduodenal route, but to those in which the stone was in the upper part of the duct or movable within the duct, and which, owing to the pyloric end of the stomach having been drawn to the right by adhesions, lay behind this portion of the stomach as well as the duodenum. In two cases of this kind which had come under his care, after a somewhat prolonged fruitless effort to reach the common duct in the usual way, he had succeeded in reaching and removing the stones by following a new route through the gastrohepatic, or lesser, omentum above the pyloric end of the stomach. These two cases he reported in detail. The advantages of this route in these cases were the great saving of time over attempting to work one's way through an almost impossible mass of adhesions and the lessened dangers of injuring the duodenum or other structure.

**Removal of the Whole or a Part of the Humerus.**—Dr. E. M. SALA, of Rock Island, Ill., said that the removal of the whole or a part of the humerus was a comparatively safe operation, and one which should be carefully thought of in all cases where amputations were formerly the first aid to the injured in serious disturbances of the humerus. He thought too many arms had been sacrificed in the past that might have been saved had the surgeon cared to try an extirpation of only the diseased portion of bone. Almost any kind of an arm was better than none. Before the days of aseptic surgery there possibly was some excuse for amputating anything in the shape of an arm that looked bad, but to-day, with the aid of aseptic and antiseptic methods, we were expected to attempt greater feats in surgery. That it was possible for a whole or a part of the humerus to be extirpated, and the patient given a useful hand or forearm, was beyond doubt. One third of the upper end of the humerus might be removed, and the patient appear as though nothing had ever happened to the upper extremity, except shortening on that side. The whole humerus might be removed without serious disturbance to the hand and wrist, especially if care was exercised in saving the musculospiral nerve in its separation from the bone.

Dr. ROLAND HILL, of St. Louis, Mo., showed what could be accomplished by conservation in the treatment of lesions of the humerus, and that short arms

weeks ago he presented a case before the St. Louis Medical Society, in which the upper part of the humerus was involved and was removed. This man had been taken ill in 1892, with a septic condition involving the upper part of the humerus and also the glenoid part of the scapula. In the winter of 1905 he came to the city and Dr. Morfit opened the joint and removed some dead bone from the upper part of the humerus and also from the scapula. The patient returned home at the end of five weeks in a much better condition, but in the summer he began to be septic again. He came back to the speaker in July, at which time there was a constant discharge of pus. He opened up the parts freely, removed the head of the bone, and cleaned out the cavity thoroughly and packed it. The patient improved very much and went home, but the joint did not heal up. There was a constant discharge, and in March, 1906, the patient came back with the idea of having the arm removed. Dr. Hill made one more effort to save it, opened it up, curetted the diseased tissue, and found there was some necrosis at the head of the bone extending down to the medullary cavity, which was removed. He thoroughly dried it and sterilized the parts with carbolic acid and alcohol and then filled the cavity with Moorhof's bone mass. The arm was not dressed again for a week. In about six weeks thereafter healing had taken place. The arm was kept in a sling for four months, at the end of which time the patient was able to use it and had been using it ever since.

Dr. W. D. HAINES, of Cincinnati, mentioned a case in which, in 1898, he removed almost the entire humerus from a boy, ten years of age, who had a number of sinuses along the outer surface of the arm. No attempt was made to save the periosteum; the entire bone was removed down to within two inches of the condyles. The patient has to-day a useful arm. He endorsed this method as preferable to primary amputation, and said that amputation, if really necessary, could be done later.

**The Surgical Treatment of Hallux Valgus with Bunion.**—Dr. CHARLES H. MAYO, of Rochester, Minn., recommended for this condition a curved incision, base down, over the metatarsophalangeal joint. The bursa of the bunion was preserved and left attached to the base of the first phalanx. The head of the metatarsal bone with the greater part of the bunion was removed. The bursa was turned into the joint in front of the cut end of the bone. Thus was utilized a ready formed bursa to prevent joint fixation, a result which was obtained in other joints with difficulty by turning fatty tissue into a joint to develop such a bursa. The general function of the joint was nearly perfect and continued to be so after many years.

**Early Restoration of Function after Excision of the Elbow in Tuberculous Cases.**—Dr. G. G. COTTAM, of Rock Rapids, Iowa, related the history of the case of a young farm laborer who suffered from tuberculosis of the capitulum humeri, with ankylosis of the elbow, in which it was very desirable to secure early use of the arm. Excision by Kocher's incision was used, and through this means and by radical modification of the after treatment from that usually employed, together with the fact that the operation was done before the soft parts were extensively involved, brought about the desired

result, the patient being able to do the heavy work of his occupation after the eighth week. The paper concluded with the following summary of the points involved in producing such an outcome: 1, Early operation, that is, as soon as it was certain that the disease was present and not yielding to conservative treatment. 2, Choice of a method of operating which preserved the integrity of all the important nerves and muscles. 3, Removal of sufficient bone to insure free mobility. 4, Immobilization in the extended position, with maintenance of the angle of deflection. 5, Active motion at the end of three weeks.

(To be concluded.)

## Letters to the Editors.

### METCHNIKOFF SOURED MILK.

NEW YORK, January 23, 1908.

#### To the Editors:

In your issue of January 4th you publish an extended and very interesting article by Dr. Henry G. Piffard, called A Study of Sour Milks, in which he makes reference to our preparation known as bacillac. Ordinarily I should make no reply to an article of this kind, but several physicians who have come to have a friendly feeling toward us through benefits which their patients have derived from our preparation have urged me to respond, that there may be no misunderstanding in the matter. It is for this reason solely that I write you this communication, with the request that you will give it a place in your columns in answer to Dr. Piffard's comments on our product.

Dr. Piffard states that in microscopical examinations of our product made in June, July, and August last he found yeast germs, in the face of the fact that the papers issued by this company distinctly state that yeasts are not used in the preparation of our milk. He also states that he found *Oidium lactis* in each instance. As neither of these germs is pathogenic, Dr. Piffard's discovery becomes of importance only from the standpoint of purity and exactness in representation of the contents of the bottles. He states, too, that the name of the bacillus employed was not given on the labels, but he assumes that it was the *Bacillus bulgaricus*. I am somewhat surprised that the learned gentleman did not immediately recognize the bacillus employed in implanting this milk, in view of the fact that he so readily identified yeast germs and *Oidium lactis*. Our labels state that the milk is sterilized and then implanted with the bacillus isolated by Metchnikoff. In a paragraph following the above mentioned comments, Dr. Piffard accounted for the yeast he found by saying that the bottles used resembled "second hand beer bottles" and that they had probably been "insufficiently sterilized." The milk itself is also commented on as "not of the highest quality."

This company is the American licensee of *La Société le ferment*, of Paris, which is conducted under the scientific patronage of Professor Metchnikoff, of the Institut Pasteur. Our product of soured milk is made in the strictest accordance with Professor Metchnikoff's directions, and only a pure culture of the lactobacillus isolated by him is utilized. Yeast is not employed in any way. Every possible scientific precaution is observed to make



this milk an absolutely pure product. On the 19th of August last, for good and sufficient reasons, the management of this company made a change in the head of the bacteriological department. Since then we are confident no one can successfully question the purity of this milk.

This company has never used "second hand beer bottles." Last winter the gentleman then managing the company, desiring to secure quickly a large quantity of black bottles, made a contract for several hundred gross of Dublin stout bottles, which, properly purified and sterilized, make an excellent container. A part of this order fell as legacy to the present management. It may be that at the time Dr. Piffard states, through improper supervision of operatives, some of the bottles were not properly sterilized, but such is not the case to-day. Every container that we use is twice washed in the most approved bottle washing machinery, and is then completely sterilized. In fact, our bottles are twice sterilized, once immediately after washing, and then again on the day on which they are used for bottling the milk.

Dr. Piffard states that during the month of October he made an examination of this milk, and that at that time he found neither yeast nor *Oidium lactis*. This, I think, is a confirmation of my statement that subsequent to the nineteenth of August no fault could or can be found with our product.

In reference to the quality of the milk used by this company, we can only say that we have always used the best that can be had, furnished by our treasurer, Mr. L. B. Halsey, the founder of the Sheffield Farms Milk Company and the principal owner of the White Clover Farms Milk Company. To-day, notwithstanding that we purchase hundreds of gallons of milk weekly, we pay six cents a quart for our milk supply. Its quality and richness are well attested by the quantity of cream removed from it by our creaming machines.

Dr. Piffard states that in June last he sent the advertising papers of this company to Professor Metchnikoff by registered mail, asking him if he endorsed the statements contained in these papers. Dr. Piffard's article states that he had received no reply to his letter. In reference to this, I can only say that I am glad he sent the papers by registered mail, as that circumstance leaves no doubt that Professor Metchnikoff received them. Why no reply has been made by Professor Metchnikoff I cannot imagine. Perhaps it is because the professor deemed no reply necessary, the papers in question so faithfully representing his own views and those of the directors of *Le Ferment* in Paris, with which he is so intimately quite familiar.

THE LEECH RACHLETT COMPANY OF NEW YORK.

W. M. Bates,

General Manager.

COMPRESSED AIR FOR DILATING THE  
EUSTACHIAN TUBE.

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The Leech Rachlett Company.

It is quite possible that there may be nothing new in this method of dilating the Eustachian tube but it is certainly new to me, since I have never seen it

used elsewhere, or have heard the suggestion made. Having long been impressed with the failure of the Politzer method of inflation, it occurred to me that an attachment to the cut-off of the compressed air tube could easily be made and forty or fifty pounds of pressure be applied for the dilatation of the tube. This attachment was simply constructed out of the large end of a rubber Eustachian catheter. This catheter had the bayonet socket joint so that the union was firm, and it also accurately fitted into the mouth of an ordinary Eustachian catheter. I have been using this method of dilating the Eustachian tube for some considerable time now, and I have never injured either the tube or the drum membrane, even when as much as forty or fifty pounds pressure was used, and its advantage over the old Politzer's bag is so apparent that it has only to be tried by any one to be appreciated. Of course the use of any method of inflation presupposes that the tube is intact throughout its course, because if there is any abrasion, as occurs after the use of the Eustachian bougie, emphysema of the neck or face will inevitably result.

W. PEYRE PORCHER.

## Book Notices.

*The Prolongation of Life. Optimistic Studies.* By ELIE METCHNIKOFF, Subdirector of the Pasteur Institute, Paris. The English Translation Edited by P. CHALMERS MITCHELL, M. A., D. Sc. (Oxon.), Hon. LL. D., F. R. S., Secretary of the Zoological Society of London, etc. New York and London: G. P. Putnam's Sons, 1908. Pp. xx-343.

The work before us is a translation of Metchnikoff's *Essais optimistes* published last year in Paris. We can conceive of no good reason for this change of title except possibly from a commercial standpoint. It is not very many years since Metchnikoff revolutionized pathology by his promulgation of the doctrine of phagocytosis. Decried by nearly every contemporary pathologist at the time, it was soon found that the facts cited by the author were easily verifiable, and there was no gainsaying the conclusions to be drawn from them. Metchnikoff's next important work, on *Immunity*, still further added to his scientific reputation. His *Nature of Man* (English title) for lay reading is a work that should be read by every adult, containing as it does a mass of information not readily accessible to the general public, and many facts but little known even to the profession.

Lastly, the volume before us appeals to both the profession and the public. The author divides his subject into nine parts, of which the first six are respectively as follows: The Investigation of Old Age; Longevity in the Animal Kingdom; Investigations of Natural Death; Should We Try to Prolong Human Life; Psychical Rudiments in Man, and Some Points in the History of Social Animals. The first three of these are devoted to the causes that lead to premature decay, and the present unnecessary curtailment of existence. Briefly, the chief of these causes is intestinal autointoxication due to the development of toxins (indol, skatol, etc.) in the large intestine through the influence of the bacteria

factive bacteria. In the fourth part he indicates the remedy, to wit: the free ingestion of antagonistic bacteria capable of inhibiting the growth of the peccant putrefactive organisms and especially the free use of a certain Bulgarian microbe with which his name has been commercially associated. The fourth and fifth parts are exceedingly interesting. The seventh, eighth, and ninth are Pessimism and Optimism; Goethe and Faust; Science and Morality. We cannot but feel that it would have been better if these parts had been omitted or rather perhaps published separately, as we have laid down the volume with a sense of depression rather than elation, and in a pessimistic rather than an optimistic frame of mind.

The translation is a fairly good one. We have noticed a few crudities of expression and several evident mistranslations.

*Manual of Physiological and Clinical Chemistry.* By ELIAS H. BARTLEY, B. S., M. O., Ph. G., Professor of Chemistry, Toxicology, and Pædiatrics in the Long Island College Hospital, etc. Third Edition, Revised and Enlarged, with Fifty-one Illustrations. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. 202. (Price, \$1.)

Dr. Bartley's short manual of medical chemistry needs no introduction. In its third edition the consideration of the clinical side of the subject has been considerably broadened and enlarged. The author aimed to write a brief yet sufficiently explicit working textbook for students, and he has succeeded very well. Practising physicians who do their own laboratory work will also find the book useful as a practical guide. The tabular statements of many important facts add to the value of the book and aid the student's memory considerably. There are some minor defects and omissions which may be overlooked in view of the general excellence and practical character of the book.

*Materia Medica, Therapeutics, Pharmacology, and Pharmacognosy.* Including Medical Pharmacy, Prescription Writing, and Medical Latin. By WILLIAM SCHLEIF, M. D., Demonstrator of Medical Pharmacy in the Medical Department of the University of Pennsylvania. Series Edited by BERN B. GALLAUDET, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York. Philadelphia and New York: Lea Brothers & Co., 1907. Pp. 470.

It is not creditable that this book has seen a third edition without some attempt being made to correct the many errors of type and of statement that are to be found in its pages. Some of these errors verge on the ludicrous, like that one on page 28, where keratin is stated to be "A substance made from the wing cases of insects." Under the heading Medicated Wines, on page 42, the single prescription printed calls for 15 c.c. of wine of colchicum in 100 c.c. of peppermint water. By an amusing typographical error on page 60 musk root is represented to contain "volatile oil and resin, in combination with asafœdita, ferrous sulphate, and arsenic trioxide"; but the printer cannot be blamed for naming the garden lettuce as the source of lactucarium on the following page; and it is hardly fair to teach medical students that "cocaine is the hydrochloride of an alkaloid obtained from coca" (page 79). In addresses and papers much has been said of late of the adequate knowledge of pharmaco-

logy possessed by the newer graduates of medical schools, and it is not to be wondered at if the charge is true, considering the sort of information to be obtained from textbooks of the character of the one under review.

### Miscellany.

**Deaths of Physicians in 1907.**—During 1907 2,013 deaths of physicians in the United States and Canada were reported, equivalent to an annual death rate per 1,000 of 16.1, based on an estimate of 125,000 practitioners. This death rate does not differ materially from those of the previous five years, which were, respectively, 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The age at death varied from twenty-one to ninety-seven years, the average being fifty-eight years, eleven months, and eighteen days. The number of years of practice of the decedents varied from the first year of practice to the seventieth, with an average of thirty years, four months, and twenty-one days. About 11 per cent. of those who died were members of the American Medical Association. One hundred and ninety deaths were attributed to general infectious, malignant and nutritional diseases and tuberculosis; 225 to diseases of the nervous system; 107 to diseases of the digestive system; 243 to diseases of the circulatory system; 181 to diseases of the respiratory system; 140 to diseases of the genitourinary system; 83 to miscellaneous diseases, and 141 to violence. Chief among the assigned causes of death were heart diseases, 234; cerebral hemorrhage, 184; pneumonia, 147; nephritis, 120; tuberculosis, 66; senile debility, 50; malignant disease, 42; typhoid fever, 32; appendicitis, 31; septicæmia, 20; diabetes, 18; gastritis, 13, and influenza, 11. Two deaths each are reported from diphtheria, scarlet fever, and tetanus. The deaths from violence during the year numbered 141; of these 87 were due to accident, 37 to suicide, 16 to homicide, and 1 physician expiated the crime of murder in the electric chair. Falls, and steam and street railways accidents each were responsible for 25 deaths, poison for 12, drowning for 5, gunshot wounds and runaways for 3 each, and burns, suffocation, and automobile accidents for 2 each. The 37 physicians who are reported to have killed themselves chose the following methods: Gunshot wounds, 13; poison, 9, 4 of which were from morphine, 2 each from carbolic acid and potassium cyanide, and 1 from strychnine; 5 cut their throats; 3 hung themselves; stab wounds, drowning and jumping from heights each caused 2 deaths, and 1 was due to asphyxiation. Of the decedents 85 were between the ages of twenty-one and thirty, 253 between thirty-one and forty, 247 between forty-one and fifty, 344 between fifty-one and sixty, 404 between sixty-one and seventy, 331 between seventy-one and eighty, 172 between eighty-one and ninety, and 12 more than ninety years of age. One practitioner had been in practice for seventy years, 50 for from sixty to seventy years, 267 for from fifty to sixty years, 558 for from forty to fifty years, 961 for from thirty to forty years, 1,381 for from twenty to





**Public Health and Marine Hospital Service:**

*Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the week ending February 8, 1908:*

- BLOUNT, B. B., Acting Assistant Surgeon. Granted leave of absence for thirty days from January 31, 1908.
- BOGESS, J. S., Passed Assistant Surgeon. Relieved from duty at St. John, N. B., and directed to proceed to Chicago, Ill., reporting to the medical officer in command for duty and assignment to quarters.
- BROOKS, S. D., Surgeon. Granted an extension of leave of absence for ten days, on account of sickness.
- CARMICHAEL, D. A., Surgeon. Directed to proceed to Fort Stanton, N. M., and St. Louis, Mo., for special temporary duty; upon completion of which to rejoin his station at Buffalo, N. Y., returning via Washington, D. C.
- CORPUS, G. M., Passed Assistant Surgeon. Directed to proceed to Austin, Tex., for special temporary duty; upon completion of which to rejoin his station at Galveston, Tex.
- EARLE, B. H., Passed Assistant Surgeon. Granted leave of absence for seven days from February 4, 1908.
- FOSTER, A. D., Passed Assistant Surgeon. Granted leave of absence for one month from January 10, 1908.
- FRANCIS, EDWARD, Passed Assistant Surgeon. Granted extension leave of absence for seven days.
- HICKS, W. R., Acting Assistant Surgeon. Excused from duty without pay, December 15 to 23, 1907, inclusive.
- KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for five days from January 14, 1908, under paragraph 210, Service Regulations.
- McLAUGHLIN, A. J., Passed Assistant Surgeon. Relieved from duty at Naples, Italy, and directed to proceed to Manila, P. I., reporting to the Chief Quarantine Officer for duty.
- MONCURE, J. A., Acting Assistant Surgeon. Granted leave of absence for thirty days from February 20, 1908.
- SPRAGUE, E. K., Passed Assistant Surgeon. Granted leave of absence for ten days from February 11, 1908.
- SPRATT, R. D., Assistant Surgeon. Leave of absence granted Assistant Surgeon Spratt for twenty-one days from January 14, 1908, amended to read for eleven days only.
- STONER, G. W., Surgeon. Directed to proceed to Malone, N. Y., for special temporary duty; upon completion of which to rejoin his station at Ellis Island, N. Y.
- WALKER, R. T., Acting Assistant Surgeon. Granted leave of absence for four days from February 16, 1908.
- WICKES, H. W., Passed Assistant Surgeon. Granted leave of absence for two days from January 28, 1908, under paragraph 189, Service Regulations.
- WOLLENBERG, R. A. C., Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Naples, Italy, for duty.
- YOUNG, G. B., Surgeon. Detailed to represent the Service at the third annual convention of the American Society of Inspectors of Plumbing and Sanitary Engineers to be held at Chicago, Ill., February 10 to 12, 1908.

*Board Convened.*

A board of medical officers was convened to meet at San Francisco, Cal., February 3, 1908, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. T. Austin, chairman, and Passed Assistant Surgeon C. H. Gardner, recorder.

*Casualty.*

Acting Assistant Surgeon Stacy D. Williamson died January 25, 1908.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending February 8, 1908:*

- BOUCKE, JAMES, First Lieutenant and Assistant Surgeon. Relieved from duty as Surgeon of the U. S. A. Transport *Kilpatrick*, and ordered to Fort Leavenworth, Kansas, for duty.
- CARTER, E. C., Major and Surgeon. Appointed a member of an Army retiring board at Fort Leavenworth, Kansas.
- MILLER, E. W., First Lieutenant and Assistant Surgeon. Relieved from duty with the Army of Cuban Pacifica-

tion, and assigned to duty as Surgeon, U. S. A. Transport *Kilpatrick*.

MORSE, A. W., Captain and Assistant Surgeon. Appointed a member of an Army retiring board at Fort Leavenworth, Kansas.

MUNSON, E. L., Major and Surgeon. Left Fort Sheridan, Ill., on ten days' leave of absence, with permission to apply for an extension of twenty days.

TALBOTT, E. M., Captain and Assistant Surgeon. Relieved from duty at Fort Leavenworth, Kansas, and ordered to duty with the Army of Cuban Pacification.

**Navy Intelligence:**

*Official list of changes in the medical corps of the United States Navy for the week ending February 8, 1908:*

- McCLURG, W. A., Medical Director. Commissioned a medical director from June 16, 1907.
- McDONELL, W. N., Passed Assistant Surgeon. Detached from duty at the Naval Hospital, New York, N. Y., and ordered to the naval recruiting station, Chicago, Ill.
- ORVIS, R. T., Surgeon. Commissioned a surgeon from March 1, 1905.
- WHEELER, L. H., Assistant Surgeon. Ordered to the naval training station, Newport, R. I.

**Births, Marriages, and Deaths.***Married.*

BARUCH—EMMETAZ.—In New York, on Wednesday, February 5th, Dr. Herman B. Baruch and Miss Rosemary Emmetaz.

CUNNINGHAM—TREANOR.—In San Jose, California, on Friday, January 24th, Dr. W. Edgar Cunningham and Miss Edith Cecelia Treanor.

KISHLER—HOLLINGSWORTH.—In St. Marys, Ohio, Dr. W. G. Kishler, of Wapakoneta, and Miss Henrietta Hollingsworth.

McDUFFIE—HELMER.—In Asbury Park, New Jersey, on Wednesday, February 5th, Dr. Marshall Williams McDuffie, of New York, and Miss Hattie W. Helmer.

*Died.*

ALLEN.—In Cobleskill, New York, on Friday, January 31st, Dr. Peter A. Allen, aged sixty-nine years.

BARRON.—In New York, on Thursday, February 6th, Dr. John Conner Barron, aged seventy years.

BECKHAM.—In Shelbyville, Kentucky, on Saturday, February 1st, Dr. Beverly M. Beckham, aged eighty-two years.

CDARHOLM.—In Brooklyn, on Friday, February 7th, Dr. David L. Cedarholm, aged forty-five years.

DEE.—In Buckport, New York, on Sunday, January 26th, Dr. W. H. Dee, aged seventy-nine years.

DYE.—In Philadelphia, on Monday, February 3d, Dr. Frank Hazzard Dye, aged thirty-two years.

FLEWELLING.—In Somerville, Massachusetts, on Friday, January 31st, Dr. Douglass S. Flewelling, aged forty-six years.

FULLER.—In Bellefontaine, Ohio, on Thursday, January 30th, Dr. S. W. Fuller, aged ninety-four years.

GREEN.—In Pittsburgh, Pennsylvania, on Monday, January 27th, Dr. J. J. Green, aged sixty years.

HOLCOMBE.—In Great Barrington, Massachusetts, on Saturday, February 1st, Dr. Charles Clifford Holcombe, aged seventy-eight years.

LECKNER.—In Detroit, Michigan, on Thursday, January 27th, Dr. Frank P. Leckner, aged forty-eight years.

McCREIGHT.—In Bastrop, Louisiana, on Saturday, January 5th, Dr. William R. McCreight, aged seventy-one years.

MILLARD.—In Chicago, Illinois, on Saturday, February 1st, Dr. Samuel R. Millard, aged ninety-two years.

MORRISON.—In Fort Worth, Texas, on Tuesday, January 28th, Dr. Claude A. Morrison, aged thirty years.

NEAT.—In New Albany, Indiana, on Saturday, February 1st, Dr. Thomas C. Neat, aged sixty-seven years.

PAINE.—In Oneida, New York, on Sunday, February 2d, Dr. Ridley C. Paine, aged fifty-one years.

ROEHLER.—In Chicago, Illinois, on Thursday, January 30th, Dr. Henry D. Roehler, aged thirty-four years.

SHARP.—In Arcade, New York, on Wednesday, January 29th, Dr. Henry P. Sharp, aged fifty-three years.

VARNER.—In Evansville, Indiana, on Wednesday, January 29th, Dr. W. T. Varner.

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### Original Communications.

#### SOME OF THE TRIUMPHS OF SCIENTIFIC MEDICINE IN PEACE AND WAR IN FOREIGN LANDS.

*With Suggestions up on the Necessity of Important Changes  
in the Organization of the Medical Department  
of the United States Army.*

BY LOUIS LIVINGSTON SEAMAN, A. B., M. D., LL. B.,  
F. R. G. S.,  
New York.

Late Major Surgeon, United States Volunteer Engineers.

If any doubting Thomas questions that the crowning glory of the profession of medicine is the prevention of disease rather than its cure, a visit to the American tropics should convince him of his error. For centuries the continents, both north and south of the equator, have stood in constant dread of dysentery, bubonic plague, malaria, and yellow fever. Terrible epidemics of the latter have ravaged the coastwise cities in spite of rigid quarantines, for prior to 1902 the nature of its transmission was not understood, and effective quarantine was impossible where the stegomyia mosquito thrived. Only a few years ago, in the harbor of Santos, thirty-one ships of almost every nationality rode at anchor for months without a living creature aboard, many of their masters and crews having fallen victims to "yellow Jack," with little possibility of replacing them.

"Fifteen men on the dead man's chest,  
Yo-him, ho, and a bottle of rum,  
Drink and the devil had done for the rest."

only in this instance the devil was yellow fever, which was of such frequent occurrence as to scarcely excite surprise. The South American coast was dreaded by the mariner more than the Spanish main in the days of the pirate bold and the buccaneer, so much so that the Lloyds often refused to underwrite vessels visiting these hotbeds of infection. But how is it to-day? Through the brilliant discoveries suggested by Finley, of Havana, and proved by the commission headed by Major Reed, the true method of its transmission was established and its eradication became a possibility, although in the prosecution of their experiments the majority of the members of the commission fell martyrs to the disease. What Dr. Wood, Dr. Reed, and Dr. Gorgas accomplished in its extinction in Havana and Santiago, and Dr. Gorgas repeated so effectively in the Canal Zone, as you heard him so graphically describe at a recent meeting of this Academy—Dr. Cruz stopped

cated with even greater success in Bahia, Rio de Janeiro, and Santos, the most prolific culture grounds of the disease in the world, because their sanitary problems were there more difficult. Not until the last named scientist was given absolute control in his own department, however, were his labors crowned with success. A terrible epidemic of the fever had visited Rio and Santos, the commerce of Brazil was paralyzed, the population of the cities decimated. Foreign capital was deserting, and the outlook was most gloomy. Millions of dollars were required for its extermination, and, after violent political opposition, Dr. Cruz was ultimately given control of his department, with correspondingly fortunate results, for in a comparatively short time the country was free from disease. He established an admirably equipped department of sanitation, with a corps of over 2,300 well paid, uniformed men, whose sole duty was to fight yellow fever and bubonic plague, and who carried out their orders with almost as much celerity as the members of the fire department do in this city. Horses stood harnessed in their stables, ready to be hitched to ambulances and disinfecting carts, loaded with the necessary equipment for isolating cases and purifying the surroundings, so that the moment a new case was reported it was isolated by double screens, and the spread of the disease was effectually prevented. As a result, desirable immigration is no longer frightened away, foreign capital is flowing in to develop the limitless resources of the land, commercial interests have enormously increased, and the material and financial gains parallel those of humanitarian character. Brazil demonstrated the axiom that prevention is better than cure, and that, as a financial proposition, it pays to give the medical officer adequate authority in his own department.

The splendid work of Cruz in eradicating yellow fever has been equally successful in his campaign against bubonic plague, which for years had ravaged the coast with serious mortality. The final extinction of both these transmissible diseases in South America will soon be an accomplished fact, if the present policy of prevention and sanitation is maintained. In addition, Cruz established a school of experimental medicine in Rio, rivaling similar institutions in Europe and America, which will justly give Brazil an enviable position in the scientific world. A large corps of assistants are constantly occupied in the preparation of the various sera used in the prophylactic or curative treatment of bubonic plague, diphtheria, typhoid, and other diseases, and distributed over the country on the demand of physicians. The stables of the animals used in the prosee-

cution of this work are marvels of cleanliness, and in the operating room asepsis is observed as faithfully as in a modern hospital.

Rio de Janeiro maintains an excellent institution for the preparation of vaccine virus, also a medical college, which is to celebrate its centenary during this coming summer. It is admirably equipped with laboratories, especially for the study of hygiene and sanitation. Its Academy of Medicine is a most select body, and the walls of the lecture rooms of the college are graced with life size portraits of its leading professors. Aseptic precautions are observed so carefully in some of the hospitals that operating arenas are separated by plate glass partitions from the remainder of the room, so as to completely isolate them from contaminating atmosphere, where the students are seated.

The most serious defect observed in all the institutions of South America was the lack of trained nurses. Many of the hospitals in these old countries were formerly convents, and the labor of nursing was performed by the members of the various sisterhoods. These women, although often inspired by high motives, lack the skill necessary in the care of serious diseases, or for obtaining the best results in the after treatment of operations. And here I may be pardoned for a moment's digression to pay a word of tribute to my old traveling companion and friend, Dr. Nicholas Senn, whose sudden and lamented death recently shocked the world.

It was my privilege to circumnavigate the continents of Africa and South America with him, visiting the coastwise cities and hospitals en route, and penetrating through the jungle to the interior, wherever railway connections permitted.

While crossing the Peruvian Andes in September, near Lake Titicaca, 12,000 feet high, and La Paz, the highest city in the world, he was seized with the attack of *soroche* or mountain sickness that hastened his end. In passing from the Pacific Ocean through the Cordillerian and Andean ranges, over the great divide that separates it from the Amazonian slope, we rose to an altitude of nearly three miles in fifteen hours. The tremendous tension put upon the circulatory system in this already rarified atmosphere resulted in an attack of acute cardiac dilatation, with its distressing sequelae, aggravated by bronchitis contracted in the Straits of Magellan.

To dwell upon the achievements of this great man would only be to repeat that with which the scientific world is already familiar. Aside from his remarkable originality in the field of surgery, Senn was a naturalist of deep learning, well versed in the flora and fauna of almost every land in the habitable globe. His fame was world wide. His capacity for work exceeded that of any man I have ever known. He was a close observer, a conservative operator, an eloquent clinical lecturer, and in the emergency of war served his country faithfully and well. In his death America has lost an honored son, science a distinguished pioneer, and the world a gentle friend, whose fame will linger longest in the short and simple annals of the poor.

You have so recently heard of the brilliant results attained by Dr. Gorgas in the Canal Zone that a rehearsal of them is unnecessary. But the great les-

son pointed out at the time of his lecture. It must be remembered that during the first year of our occupation of the Panama district disease ran rampant, so much so that at one time the abandonment of the entire enterprise was considered. It was then proved that sanitation was the fundamental problem requiring solution, even before the engineering question could be solved. The original Isthmian Commission included no member of the medical profession, but was composed entirely of politicians and officers, ignorant of sanitation and hygiene, who ignored or so limited the authority of the chief sanitary officer as to render the enforcement of his regulations and measures impossible. This officer, Dr. Gorgas, was subordinated to the governor of the zone, to the chief disbursing officer, to the chief of the Bureau of Materials and Supplies, to a Mr. Grunsky, to the commission, to the Secretary of War—subordinated, in fact, to the seventh degree from the source of authority—just about as the medical officer of the United States army is, under the decrepit system under which he is compelled to serve to-day.

The chairman of the Legislative Committee of the American Medical Association, Dr. Reed, says:

"Here was Dr. Gorgas, recognized as the foremost authority in the world in the solution of the peculiar problems pertaining to tropical sanitation, subordinated to a series of other subordinates, all of whom were confessedly ignorant of the very question with which he was most familiar."

"The working of this wonderful mechanism," continues Reed, "is interesting. Thus, if Major La Garde, superintendent of Ancon Hospital, makes a requisition for supplies, he must make it in due form, take it for approval to the chief sanitary officer, then to the governor of the zone, then to the chief disbursing officer; whence it goes to the commission at Washington; then to the Mr. Grunsky as committeeman; then back to the commission; then, if allowed, bids are advertised for; awards are made; the requisition is filled under the supervision of a purchasing agent notoriously ignorant of the character and quality of medical and surgical supplies; the material is shipped to the Isthmus, consigned to the chief of the Bureau of Materials and Supplies, who notifies the disbursing officer, who notifies Colonel Gorgas, who in turn notifies Major La Garde, who applies to the quartermaster—the boss of a coral—for transportation, and, so much of the stuff as is in the judgment of, first, the governor, next the chief disbursing officer, next the commission, next, and more particularly, Grunsky, the committeeman, ought to be allowed to the superintendent of Ancon Hospital, finally arrives, or does not arrive, at its destination, where the necessity for its use has probably ceased."

This is no fanciful picture; it is exemplified in practically every requisition that went forward and illustrates the tortuous course of the regular military channel, as it now exists in the United States Army.

And what was the natural consequence of this wretched system at Panama? A costly epidemic—the death of some members of the commission and of many laborers—a stampede of the remainder that threatened the success of the entire canal scheme and caused a delay of nearly a year in its completion, and the loss of interest on its heavy investment, that would have paid for the sanitation of the zone for years. Not until the imminence of failure dawned upon the Washington authorities was a medical officer made a commissioner, with authority to carry out his sanitary measures. The success resulting from this power being conferred upon our honored colleague again demonstrated the wisdom



of making a medical man supreme in his own department; a truth Congress was for once forced to recognize.

Foreign governments foster their medical discoverers; ours does not. When Pasteur made his brilliant discovery of the microbic origin of disease and found the magic key that unlocked the secrets of infection, the French government recognized his great work by placing him at the head of an institution under governmental patronage that enabled him to more successfully prosecute his experiments and researches. When Koch discovered the bacillus of tuberculosis, he was a comparatively unknown country practitioner, but his government placed him at the head of a department with abundant means to continue his work; it sent him to Africa to investigate the rinderpest, and after the successful solution of that problem sent him once more to the dark continent, where for the past two years he has been conducting a heroic battle against those dreaded diseases of the African tropics, sleeping sickness and malaria.

In Africa I met Dr. Ollwig, Koch's chief assistant, who, in his scientific battle with malaria, is carrying out the two policies suggested from an etiological point of view: (1) The destruction of the anopheles by ridding the surrounding jungle as far as possible of its breeding places, and (2) the neutralization of the plasmodian parasites by hypodermic and internal administration of quinine, continued for many months. Favorable results have thus been obtained, although the difficulties of exterminating the mosquito have not yet been overcome. The period during which the infected stegomyia continues as a source of danger in the transmission of yellow fever is limited to fifty days, whereas the infected anopheles retains its power of infection for three years, thus making the task of eradicating malaria far more difficult.

The results of Koch's investigations of tripanosomiasis are already well known to the medical profession. The infected tsetse fly is undoubtedly the most dangerous enemy of man and beast, where it exists, as up to the summer of 1906 the bite of an infected fly was invariably fatal. Its ravages in a belt of territory near Victoria Nyanza in the year we were there resulted in a fatality among the natives of over 200,000, many districts being almost depopulated. Horses, mules, cattle, antelopes, zebras, and wild buffaloes died in countless numbers. The zone of these depredations was rapidly increasing, and for that reason the German government sent Professor Koch to study the habits of the fly and discover, if possible, a method for its extermination.

How can the Japanese government look upon the health of its citizens? When Kitasato, after careful research and experimentation, discovered the bacillus of bubonic plague, the government promptly rewarded him by placing him in charge of a great institution for the study of infectious diseases, where the sera are made for the prophylactic and curative treatment of the most deadly diseases of the country, and where much original investigation is being conducted.

In England every little town has an officer of

health, appointed by the general government to guard its citizens against disease.

Lister, Pasteur, and Koch opened the door to scientific research; but long before their day, smallpox had been brought under control by the immortal Jenner. This loathsome disease would long ago have disappeared from the earth forever, but for the ignorant attacks of fanaticism. As has been truly said: "Nothing has tended more to retard the advance of science than the disposition in vulgar minds to vilify what they cannot comprehend."

Cholera and hydrophobia have been conquered by Pasteur, and Lister and Koch pointed the pathway to victory over the death dealing microbes of transmissible diseases. Through their instrumentality disease has become the slave rather than the master of mankind. No longer do diphtheria, tetanus, septicæmia, typhoid, cholera, puerperal sepsis, hospital gangrene, erysipelas, and wound infection hold the world in dread.

Notwithstanding that in 1904 the victims of bubonic plague in India numbered 1,022,000, and in the first six months of 1907 reached the appalling number of 1,060,000, a scientific campaign of prophylactic sanitation would soon stamp out the last vestige of its existence, were it not for the superstition of the natives which renders such a course impossible.

If scientific medicine has won these gigantic victories over disease, and in methods of its prevention, in the last twenty-five years, what wonders of discovery may not be divulged in the coming centuries. Let us for a moment see what results have recently been accomplished by an intelligent application of scientific medicine in the field of war. Its last and most noteworthy application was in the great Oriental conflict just concluded.

General Terauchi, Japanese minister of war, stated on November 23, 1905, in an address before the Red Cross Society of Japan, that "the total number of soldiers dispatched to the front during the war amounted to over 1,200,000, 80,000 of whom died, and 300,000 fell sick. Of this vast number only about 9,300 died from wounds, and 20,000 from sickness." This would leave the total from killed and battle casualties about 60,000; and from disease 20,000, or about one from sickness to three from casualties of war.

In April, 1906, a year after the last great battle had been fought, and when the totals were completed, Dr. Lynch (our military attaché in Japan during the war) in his report to our war department published the following official figures:

TABLE I.

Total in battle and from disease	88,888
Total from disease	20,000
Total died	80,000
Of these, less than one seen from battle casualties than from disease.	

The records of essential statistics for the past one hundred years as shown in the *Standard Tables* of Longman and elsewhere, are that four men have died from disease to one from battle. These figures of the Japanese army, therefore, constitute the most remarkable series ever published in

the history of wars. Almost similar figures have been unwarrantably contradicted by officers of the United States army, but the report of Major Lynch, our own medical attaché, just published with official records down to April, 1906, cannot be challenged.

In another table our military attaché states that in the Japanese war with China, in 1894, for every man who died from wounds 12.09 died from disease. In the war with Russia, ten years later, for every man who died from wounds, 0.46 died from disease, or one twenty-seventh as many.

In their titanic conflict the Japanese kept over 600,000 men in the field for over a year and a half; they fought some of the greatest battles of history, one of twelve days of incessant conflict, and another of sixteen days; skirmish fighting went on constantly during the entire period of hostility. In their campaigns the soldiers had their camp kettles, water boilers, blankets, and mosquito nets, and every man was protected by a net during the mosquito season. Their casualties have been nearly 40,000 in a single battle, or twice the entire number of soldiers we sent to Cuba, and yet, every man was promptly, carefully, and scientifically cared for. They fought through a country where insanitary conditions prevailed, often camping on the germ-infested sites of their enemies, and yet, by the incessant precautions of a numerically adequate medical corps, with power to enforce sanitation and hygiene, the army was enabled to make a health showing unheard of before in the annals of war.

In contrast to this picture let me for a moment invite your attention to the Puerto Rican expedition in that opera bouffe performance known as the Spanish-American war, for nowhere in history is there found a more illuminating instance, a graver lesson, or a more terrible warning, than is here portrayed. For our country is the "Mene, mene, tekel eupharsin," the handwriting on the wall, so easily decipherable that he who runs may read, and yet, in the glory of victory, and the enjoyment of prosperity, its lesson has passed unheeded.

The story of the expedition is brief. About 20,000 American troops landed in Puerto Rico, while the Spanish on the island numbered about 17,000. Several skirmishes occurred, in which, according to the surgeon general's report, three men were lost from the casualties of war. The object of the war, the breaking of the chains of Spanish despotism and spoliation, which for centuries had held a race in shameful moral serfdom, was soon accomplished, and the war—from the strictly military standpoint—was over. From our first arrival, the natives of the island welcomed our battalions with vivas of applause, strewing our advancing march with flowers, and their masses were prepared to joyfully second our efforts for their more complete emancipation.

That is the beautiful story that history presents. Lest we forget, as a nation, and lie supine in the easy content of this picture, let me invite your attention for a moment to a further study of the report of the surgeon general for that war. It states that although three men only fell from the casualties of battle during that entire campaign, 262, or nearly one hundred times as many, died from preventable

of hospital admissions nearly equaled the entire strength of the invading army, and that the camps of the army from one end of the island to the other, were pestiferous hotbeds of disease before they had been occupied a month, so that, had the bugle sounded for action, only a small percentage of the units would have been in a condition to respond to the call. Nor was this state of affairs confined to Puerto Rico. In the invading armies of the Philippines and Cuba the same conditions prevailed. The official figures, as shown on Table II, were furnished by the surgeon general of the army on the 10th day of October, 1905, and cover the vital statistics of the United States military expeditions for the year 1898.

TABLE II.

	Deaths from	
	Battle Casualties	Disease.
In the Philippine Islands .....	17	203
In Puerto Rico .....	3	262
In Cuba .....	273	567
In the U. S. home camps, etc., ..	..	2,649
Total deaths .....	293	3,681

or about one from casualties to fourteen from disease.

The report further shows that, while the average mean strength of the army enlisted for the Spanish war was about 170,000, the total number of admissions to the hospitals was on September 10, 1898, over 158,000, or 90 per cent. This in a war of less than three months' duration, and in which more than three-fourths of its members never left the camps of their native land. The Japanese army for the same period had about 4 per cent. hospital admissions, or one twenty-second as many.

The vast difference in the Japanese figures illustrates the value of a medical and sanitary department, properly equipped to enforce practical sanitation, dietary and conservative surgery.

The splendid achievements of scientific medicine in civil life in the prevention of disease should be even more effectually obtained in the army, where only healthy men are accepted, and vigorous outdoor camp life should keep its units, who are subject to strict military discipline, in perfect physical condition. Health alone, however, is no guarantee against the insidious attack of the silent foe that lingers in every camp and bivouac. It is this foe, as the records of wars for the past 200 years have proved, that is responsible for four times as many deaths as the guns of the enemy, to say nothing of the vast number temporarily invalidated or discharged as unfit for duty. It is this dreadful unnecessary sacrifice of life from preventable disease that constitutes the hell of war. In every great campaign an army faces two enemies. First, the armed force of the opposing foe with its various machines for human destruction, that is met at intervals in open battle; and, second, the hidden foe, always lurking in the camp, the spectre that gathers its victims while the soldier slumbers in barrack or bivouac—the far greater, silent foe, disease. Of these enemies the history of warfare for centuries has proved that in extended campaigns the first or open enemy kills 20 per cent. of the total mortality, while the second or silent enemy kills 80 per cent. In other words, out of every hundred men who

fall in war, twenty die from the casualties of battle, while eighty perish from disease, most of which is preventable.

TABLE III.  
Battle Casualties. Disease.

In the Russo-Turkish War the deaths were	20,000	80,000
In the six months of the Crimean campaign, as is asserted on eminent authority, the losses of the allied forces were	20,000	50,000
In our war with Mexico the proportion was	1 to 3	
In our civil war, about the same proportion	1 to 3	
In the French campaign in Madagascar, in 1894, of 14,000 sent to the front, twenty-nine were killed in action, and over 7,000 perished from preventable disease	20	7,000
In the Boer War in South Africa the English losses were about	1 to 10	
In our war with Spain fourteen lives were needlessly sacrificed to ignorance and incompetency for every one who died on the firing line or from the result of wounds, the figures being	203	3,081
In the Russo-Japanese War the figures were	58,887	27,168
or more than two from battle casualties to one from disease, thus reversing the records of all wars for the past 200 years.		

The difference between the martyr and the victim, between the soldier who falls on the field of honor and the man who meets a miserable death from preventable disease, for which his government is criminally responsible, is as wide as the celestial diameters. The one meets death compensated in the thought that his life is given in the protection of his country's flag and honor; the other is ignominiously forced to his grave through the neglect of the government that shamefully fails to protect the life he offered in its defense.

That the monstrous sacrifice of 80 per cent. is almost totally unnecessary has been abundantly proved in the records of the Japanese war, where 1,200,000 men were sent to the front, in a country notoriously unsanitary, and only 27,000 men died from disease, to 59,000 who fell in the legitimate line of duty on the field of honor. In the army of the United States in 1898, 2,649 picked soldiers died in three months, without leaving the country, in the pest camps of this, their own native land.

Unless an army maintains a thoroughly organized sanitary corps, prepared to fight germs and diseases in advance of the fighting forces, testing the water supplies, and avoiding the dangers from contagion and infection, the medical department might as well be abolished. If the Japanese had not realized this before their last war and taken measures to prevent disease, their army would never have won their brilliant and uninterrupted series of victories. If they had sustained the same ratio of mortality from sickness as in their war with China ten years before, their losses from disease alone in the Russian war would have nearly equaled the total of their entire losses from

all causes. This proves the value of the medical and sanitary corps, and illustrates its importance as a factor in the winning of the final issue.

The days of operative surgery on the field of battle or at the front passed with the discovery of asepsis and antisepsis. The Russo-Japanese war taught many lessons and destroyed many ideals in matters military as in matters surgical, where the hitherto accepted idea of the duties of the military surgeon was shown to be erroneous, where asepsis and antisepsis relegated the use of the scalpel to comparative obscurity and demonstrated conclusively that preservation of the army by prevention of disease is the surgeon's duty, first, last, and nearly all the time. In surgical technique, or in the after treatment of the wounded and sick, the Japanese taught the foreigner comparatively little, but in the field of sanitary science and dietetics they demonstrated, what had never been done before, viz., that preventable diseases *are* preventable and can be controlled; and that the great incubus of an army in the field, the presence of crowded hospitals and the large and expensive force necessary to equip and conduct them, can to a large extent be eliminated.

It is a sad reflection on our civilization that, while we regard as essential separate departments of State, Agriculture and War, in the executive cabinet at Washington, and issue bulletins for public distribution on swine cholera, cabbage culture, and crop reports, principally used by speculators, we deliberately ignore the safeguarding of our people from the horrors of infection and contagion. While the rest of the world has been making these splendid advances in the humanities, America—except in institutions fostered by private philanthropy—has stood in stolid indifference, doing little to stem the tide of destruction. We have allowed the wreckage and waste to go on, to cripple the energy with which we must challenge the future.

The relation of our federal government to public health has assumed some national importance, and if the efforts of the various medical societies of the country, the American Association for the Advancement of Science, the American Museum of Safety Devices, various insurance, accident and allied associations, are successful, it may receive a little more recognition. The paramount want is for a National Board of Health with a secretary in the cabinet of the President.

If this cannot be secured, a more liberal policy toward the National Bureau of Health, connected with the Marine Hospital Service, is much to be desired. Through an extension of the services of this organization the death rate of the country may be enormously decreased, possibly to the extent of one third to one half, and the general health of the community benefited by the eradication or amelioration of disease from preventable causes. But, as Dr. Welsh recently stated: "If the millions spent for the extermination of hog cholera during the last decade had been spent for the preservation of the public health, we should be far ahead of where we are to-day."

In the light of modern and sanitary science there is little excuse for the enormous losses by illness and death through typhoid, diphtheria, scarlet fever,



cholera infantum, and dysentery, all of which are preventable. The names of these diseases do not inspire the same terror as bubonic plague, yellow fever, cholera, and smallpox, but their victims are just as dead, and their bereaved are just as desolate. And these diseases might be stamped out quite as effectually as the others, with proper enforcement of sanitary precautions.

It is stated that the appointment of a Secretary of Health in the President's cabinet and the enforcement of regulations for the public health would interfere with the rights of States, but do the germs of cholera and yellow fever and tuberculosis and bubonic plague and measles respect State lines? And do streams polluted with cholera and typhoid bacilli cease to flow at State borders? Interstate commerce is not considered as an interference with State rights: then, why should interstate disease be so regarded?

Prior to the enactment of the pure food laws, which are now producing such beneficial results in the preservation of the public health, the same argument was advanced, but the passage of the act, instead of restricting the States, has induced them to enact similar or even more drastic laws in the same line; and no one objects—except the manufacturer or seller of adulterated products.

The estimation in which the authorities at Washington hold the only national institution we have for the preservation of the public health was recently evidenced by the efforts of a late member of the cabinet to abolish or restrict the work of the Marine Hospital Service on account of its expense. Many kinds of fools are required in the making of a world, but the American who would seriously advise the abolition of this last named institution combines in his single self the whole "fifty-seven varieties."

Disease is an enemy that causes more fatalities in a year than the combined armies of the world do in a century. As well might a general in an enemy's country abolish his pickets and outposts as for America with its extensive coastlines, its foreign commerce, and its enormous immigration to do without its Marine Hospital Service. I have seen these zealous guardians of our public health in almost every port with which we have commercial relations, always watchful lest contagious or infectious diseases might elude them and fasten on our native land, and with a fairly liberal personal experience and knowledge of our government in its various departments at home and abroad, I assert that the United States Public Health and Marine Hospital Service is the one department of which Americans have most reason to feel justly proud. Instead of restricting its powers, they should be amplified; instead of cutting down its appropriation, it should be increased. In no department of our government does the nation receive better returns on its investment, even through some of the mentally myopic politicians of the present administration fail to discover it.

And this argument applies with equal force to the medical department of the army. We go on expending nearly half a million dollars a day for the maintenance of our military schools, the education of men in the art of war, and the manufacture

of machines for human destruction, and in the plant necessary for putting these machines into execution, while in the study of the equally important subject of prevention of disease—the foe that kills four times as many as the enemy's bullets—is left comparatively unheeded. Every death from preventable disease is an insult to the intelligence of the age; if it occurs in an army, it becomes a governmental crime. The state deprives the soldier of his liberty, prescribes his hours of rest, his exercise, equipment, dress, diet, the locality in which he shall reside, and in the hour of danger expects him, if necessary, to lay down his life in defense of its honor. It should, therefore, give him the best sanitation and the best medical supervision that the science of the age can devise, be it German or Japanese—a fact of which congress will do well to take cognizance before it begins another war. For just as surely as the engineer who disregards the signals, or the train dispatcher who gives wrong orders, is legally responsible for the loss of human life in the wreck that follows, so congress, or the wretched system of the Medical Department of its army, is responsible for the thousands of soldiers' lives needlessly, criminally sacrificed—not on the glorious field of battle, but in diseased camps—from preventable causes. I believe that, if the Medical Department of the Porto Rican Expedition had been properly systematized with sufficient numbers, with supervisory control over the ration, and with power to enforce sanitary and hygienic regulations, the units of that army would have returned to their homes at the close of the campaign in better physical condition than when they had entered it, improved by their summer outing.

The Medical Department of our army, whose archaic system almost parallels that of Peking, while falling far below that of Patagonia (and I am familiar with both and speak advisedly), although unequal to cope with the exigencies of the Spanish campaign, is to-day, as the surgeon general states, relatively 50 per cent. worse off in numbers than at the close of the civil war in 1864, or at the termination of the Spanish-American campaign. The theory upon which it is founded, that the cure of disease rather than its prevention is its objective, still remains in vogue. Although men of brilliant attainments and individual merit are found on its staff, the deplorable system under which they are compelled to serve, and their lack of authority to enforce sanitation and hygiene, render the advisability of the continuance of the department under present conditions problematical. If it had been totally abolished during the Spanish-American war, and the army placed under the control of the Health Department of this city with such an officer as Colonel Waring, or its present incumbent, in charge, there would not have been such a disgraceful and infamous record. And why? Simply because that department would have had authority to enforce the orders respecting sanitation, diet, and hygiene, and would have assured the safety of the troops.

Under the present system, the same old medical regulations remain in vogue to all intents and purposes as prevailed before the microbic origin of disease was discovered and the key to sanitation found. So that, if another war were to be de-

clared next summer, our government would again convert the units of its army into hospital patients, and its veterans into pensioners.

The deplorable collapse of the Medical Department in the Spanish war resulted in the introduction into congress of a measure to increase its efficiency. The essential features of this bill are merely to increase the commissioned personnel of the medical corps, thereby abolishing the present system of employing contract surgeons, to afford an adequate flow of promotion and to establish a so called medical reserve corps, recruited from recent graduates, who, after examination, may be listed as available for service in time of war. No provision, however, is made for the instruction or training of these reserves.

As a measure of true reform the bill is hopelessly deficient in most essential features. It makes no provision for that most important of all adjuncts, an adequate sanitary department. One keen, up to date sanitarian, thoroughly skilled in hygienic, dietetic, and bacteriological knowledge and armed with the necessary authority to enforce sanitary measures, is worth a hundred so called surgeons to an army in the field, restricted, as they now are, by red tape and lack of authority in matters relating to their special department. No provision is made for an independent transport system, nor are medical officers given advisory authority over the Commissary Department or the soldiers' ration. A regiment may be suffering from diarrhoea or intestinal catarrh (and I have seen 90 per cent. of an entire command in this condition at one time), compelled to live on a diet of pork and canned beans and fermenting tomatoes until they became hospital cases. Up to this time, the medical officer has no authority to even order a rice diet, which would have prevented the men from becoming invalided. This was one of the principal causes that brought our army of 170,000 men in the Spanish war almost to its knees in the three months, and sent them home in the shrunken and shriveled condition well remembered by many here to-night.

Under the present system the line officer of the army is under no obligation to accept the recommendation of the medical officer as to the site or sanitation of a camp. Even in time of peace, he has no executive power to enforce sanitation, although he may be convinced that the health of every man is being jeopardized.

I quote from a letter received last week from a prominent medical officer in the Philippines; he says:

"Recently a post commander, without the knowledge of his medical officer, gave permission to a native to dump a stream on the reservation. The post had been kept free from mosquitoes and malaria only by the nearest vigilance. The medical officer, distressed personally, ethically, and by special sanitary reasons, but to no purpose. Almost every house soon became infected, one of the surgeons lost his wife, and these were our first cases. Finally a local post commander sent out the dump. The post was Camp Baraga."

One would suppose that every effort of the medical officers to maintain the health and vigor of the fighting units would be welcomed, and all the authority necessary to keep them so would be gladly accorded, by the officers of the line, so is the reality

of battle the men would be in the best physical condition. But this is not the case.

The officers of artillery, of cavalry, of infantry, the engineers, and of the signal service, can compel obedience to their orders, but the medical man, whose department fights the foe that has killed 80 per cent. in the majority of the great wars of history, cannot enforce an order, but can only make a recommendation, which the line officer can accept or reject at his discretion.

The bill ignores the pressing need for medical inspectors and contains no provision for the establishment of a department of pharmacy. This should have at its head a commissioned officer like the late Dr. C. C. Rice, of Bellevue, with commissioned subordinates, as is found in several of the best organized armies abroad. It should be charged with the purchase and distribution of all medical supplies, the sterilization and care of all surgical instruments, first aid materials, and the care of hospital records. This would relieve the medical officer of the complicated system of bookkeeping, invoicing, other similar work, that now makes him little more than a property clerk and decreases his value as a physician in ratio to the time he remains in service and wastes the valuable hours he should devote to the legitimate duties of his profession. The civil practitioner gave up the practice of toting his pills and powder when the scientific pharmacist appeared, but congress, apparently unaware of the advent of this adjunct to the medical art, still compels the army surgeon to peddle his shop wherever he goes, and holds him personally and financially responsible and liable for every item of equipment of the hospital and drug department of which he has charge, be it base, field, or post hospital.

Wherein is the fault of the present system? First and foremost, in the faulty organization of the Medical Department. The rank of surgeon general should be commensurate with the importance of the department of which he is the head. Under a proper system, this officer should be responsible only to a National Secretary of Health, who should be a cabinet officer, to the Secretary of War, or to the President, and there should be conferred upon him and his subordinates authority in all matters of sanitation and hygiene, except in the emergency of battle, when, of course, all authority should devolve on the officers of the line.

The importance of the medical, as compared with the other staff departments, has never been recognized or appreciated. Until it is realized that the most important function of the medical officer is in the prevention of disease rather than its cure, the old custom will prevail. To be efficient the medical officer must not only be a good physician, but a sanitarian, a bacteriologist, often a chemist as well as an administrator. Upon him devolves the duty of preventing disease, and his part in maintaining the effectiveness of the units makes him an important factor in the military establishment. His status is essentially military, not in the sense of fielding command, but as an integral part of an organization, complex in its composition, and whose different members should be so organized as to produce a harmonious and effective whole. Under the present

ing system, he is looked upon simply as a doctor, whose sole function is treating the sick and wounded—whose duties should be confined to the hospital, and whose recommendations should be submitted only when asked for.

In all the wars in which the United States have engaged, disease has been responsible for more than 70 per cent. of the mortality, more than one half of which could have easily been prevented, had the Medical Department been properly organized and equipped. Preventable disease more than wounds swells the pension lists. Statistics of the Pension Office prove that if this unnecessary loss had been avoided the saving in pensions alone would have paid the cost of the resulting war every twenty-five years. Aside from the sorrow of the homes made desolate, consider the economic value of the 70 per cent. of lives now uselessly sacrificed that might be saved as breadwinners in industrial pursuits.

The entire appropriation of the Medical Department for the fiscal year of 1898 was less than \$1,000,000; this was increased at the outbreak of hostilities with Spain by something over \$2,000,000. Then came the war. As a result of that almost bloodless conflict, the actual hostilities of which lasted only less than six weeks, we paid last year alone \$3,471,157 in pensions, with the further assurance of an annual increase for many years to come. The rolls of the Pension Office to-day bear the names of 24,000 pensioners, over 10,000 of whom are invalids and survivors of this war, and over 18,000 additional claims are now pending; although the total of the Cuban army of invasion was only 20,000 men. Last year we paid in pensions a total of \$146,000,000; this year the appropriation estimated for has increased to \$151,000,000. Are the fatalities of the past to be dismissed from the equation of the future? Instead of repeating our own blunders, why not emulate the successes of others? Possibly the recent action of the Executive in placing a medical officer in command of a hospital, although that hospital chanced to be afloat, may indicate a ray of hope.

It is far from certain, however, that congress alone is responsible for the deplorable system of our Medical Department. Why does not the surgeon general demand from congress all that is required to make the department really effective, even though the needed appropriation may be increased tenfold? Why does he not marshal his facts and figures and present them in illustration of the suicidal policy of allowing this great waste from preventable disease, thereby demonstrating the value of the medical man as a financial asset? Why does he not show that his department could pay for itself many times over in the annual saving of pensions, now resulting from its neglect—that statistics prove this loss amounts every twenty-five years to more than the cost of the war that caused it? Why does he not show the enormous increase in the efficiency of the army that would result from having fighting men instead of invalids in its ranks? Also the enormous economic value of the lives of the 70 per cent. now wasted that might be saved to their families as breadwinners instead of invalids and pensioners? Then let congress refuse his demand, if it dares assume that responsibility. The liberality and gener-

osity of our nation to its pensioners proves we are not always actuated by base or sordid motives; and if congress or the American people could be convinced of the necessity for these reforms, there would be little difficulty in obtaining their enactment.

Permit a moment's digression to narrate the personal experiences of a soldier, a member of the Association of Military Surgeons of the United States, which occurred within sight of the dome of the Capitol at Washington. He writes:

"My Dear Seaman:—On May 1, 1898, my regiment was sent from our home station to Homestead, L. I., for reorganization from a National Guard Regiment to a Regiment of Volunteers for service in the war with Spain. Our hospital corps of trained men was taken from us, as well as our medical supplies and instruments, and the regimental staff of three surgeons was reduced to one, with the rank and pay of a first lieutenant—rather short-handed for a full regiment of 1,333 men. Early in July I was detailed as Sanitary Inspector of the army corps to which we were attached, as typhoid fever was breaking out rapidly in every organization attached to the corps.

"My instructions were to inspect all camp sites, sinks, water supply, drainage, food, method of cooking, etc., and report in writing to the chief medical officer of the corps daily. I assumed the duties with great zeal, for sanitary problems had long been a favorite study, as I had been chief medical officer of my home city with its population of nearly 400,000 for six years.

"There was at that time a young man in my regiment, who formerly belonged to my hospital corps, a graduate of Cornell University, who had taken a postgraduate course in analytical chemistry and was well qualified for chemical and bacteriological work; also a private in a hospital corps detachment, encamped near us, who a few days before his enlistment had returned from Germany, where he had been a student and assistant in Koch's laboratory for four years. A valuable microscope was found in the first division of the hospital, which, as it was not used there, we were assured we could have.

"A list of the required material was prepared, with a probable cost of less than fifty dollars, and everything looked favorable for a successful inauguration of my plan. I accordingly drew up a communication to the chief medical officer of the corps, outlining the proposed work, showing how we could analyze suspected foods, and water, make the Widal test, blood counts, etc., and do such other work as would naturally present itself. I also informed him that all details had been arranged, and the only thing required to inaugurate the work at once was the proper orders from corps headquarters. It is impossible to express my surprise and disappointment when my plan was returned 'disapproved,' giving as the reason that the men whom I had selected to do the scientific work were not commissioned officers, but only enlisted men and that 'it would violate all the traditions of the army to do this work in this manner,' and that 'it was useless to establish a bacteriological laboratory in the field, as it could be of no practical benefit.' In vain I pleaded the urgent need of the hour, that the work could be done in my name, or even in the name of the chief medical officer, but all to no purpose. The plan for the scientific work was thoroughly 'sat down on.'

"I then respectfully asked what plan could be substituted, and was informed that application would be made for a detail of contract surgeons, especially qualified, who would aid in the work as outlined. My zeal, acquired as an old National Guard officer, subsided, and I plodded on in my work, looking on and seeing preventable disease sweeping away our soldier boys, and nothing, *absolutely nothing being done* to find the source of the infection or prevent its spread.

"The summer passed, the war was over, taps had been sounded over the graves of hundreds of brave boys who had never heard the hum of a hostile bullet, and early in September we were ordered to our home station to be mustered out.

"It was a beautiful Sunday morning, and the site where more than 20,000 men had been encamped was practically



deserted. I could hear the sound of the drums and bugles coming faintly through the woods, as the regiment marched to the railroad. I lingered at the site of the first division hospital with an ambulance, to bring the last of our sick away, when my orderly informed me that an officer wished to see me, and pointed to a man seated on a stump near by. I approached him, and was informed that he was a contract surgeon, sent by the department to report for bacteriological work. I told him that I was glad to see him, but that the war was over, that such of the soldiers who had not died of disease were now on their way home to be mustered out, and that I hoped he would stick to his post, so he would be ready for service when the next war broke out."

And there is nothing in the Medical Bill now before congress to keep that man on the stump, so he may be ready when the next war does come, or for his substitute in case he, too, may have joined the great majority before that time.

Is the great medical profession—a profession that in one of the bloodiest wars of history has contributed so largely in reducing the mortality of deaths from disease—to remain subservient to the dictates of the variety of judgment just cited, or is its department in our army to be reorganized upon rational lines, and its personnel empowered to enforce its mandates, so that the medical and moral rights of the soldier may be safeguarded and the country receive the benefit of his protection?

*Boast as we may* of our national patriotism and philanthropy, our altruism in freeing Cuba from the tyranny of Spain, and in elevating the status of that bunch of trouble, the Philippines; our foreign missions, and our great systems of charity at home; the cold, clammy fact remains that the sons of Nippon in their war with Russia treated their prisoners with far more humanity than our nation does its own soldiers.

In the great Oriental conflict just concluded, not once did the Muscovite win a victory, but from the Yalu to Mukden was driven from the field and often left to his victors the care of his sick, his wounded, and his dead. Sixty-seven thousand sick Russian prisoners were brought to Japan from Manchuria and nursed back to health. And to the eternal credit and glory of Japan let it be remembered that from the first aid dressing on the firing line, to the transport, the subsistence, the medical care, and the gentle nursing in her home hospitals, no difference was made between the treatment of her own soldiers and those of the enemy. Therefore, without minimizing the splendor of her victories on land or sea, at the Yalu, Port Arthur, Mukden, Shaho, Liaoang, or with Ego at Fushinoo, the fact remains that Japan's most splendid evolution and her greatest triumphs have been in the humanities of war. By careful preparation and organization, the use of simple, easily digested rations for her troops, and the application of practical sanitation by a fully equipped and empowered medical department, she almost obliterated infectious and preventable diseases from her army, and saved its units for the legitimate purposes of war, to wit, the smashing of the enemy in the field. She reduced the mortality in her own army by over 80 per cent, and treated her prisoners with a charity and consideration heretofore unheard of in the history of war, and established a standard in the humanities which the rest of the civilized world will do well to attain.

Let us hope that the day is not distant when the true value of the medical man in war will be appreciated in our own land and will be given the authority in his own sphere that will make it possible for our army in the day of emergency to equal, if not surpass, this splendid record. Braver men never served with the colors than the American soldiers, as we proved on both sides of the civil war, where many battles (in one of which, at Cold Harbor, ten thousand men fell in ten minutes) exceeding anything known in the Orient, and where it was conclusively proved that our soldier deserves every care and protection a generous government can bestow.

247 FIFTH AVENUE.

## ART AND SCIENCE AS APPLIED TO THE PRACTICE OF MEDICINE.\*

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No sooner had I accepted the flattering invitation to deliver the address upon this the opening of the new college year, than I realized how large a mountain loomed up before me in the selection of a profitable and interesting theme. Before so general an audience as this a technical discourse would be quite out of place. In consonance with the occasion it seemed to me that I might speak of the *art* and the *science* of medicine, especially the principles underlying the broad conception of art and science, as applied to the *practice* of healing, and yet not be wholly unentertaining.

One thing I very promptly concluded not to do, namely, to retail the history of medicine "from Hippocrates down," as is so often and wearisomely done upon these occasions. The task would doubtless have been an easy and time saving one, with the assistance of a good encyclopedia and a rapid stenographer. I have listened to such addresses and have usually all but gone to sleep. As Bacon intimates, it was their easy writing that made the listening to them hard.

Another trite theme which arose in my mind and about which we are compelled to hear much to-day, is the wonderful progress of modern medicine. Tempting as such a theme is, I quickly discovered good and valid reasons for passing it by. The recent advances of medicine are being iterated and reiterated upon every possible relevant and irrelevant occasion. Vaccination, bacteria, serum therapy, anesthesia, and surgical technique have become, as subjects of medical discourse, as platitudinous as the state of the weather or the condition of the crops. In most instances the announcement of the title, modern advances of medicine, foretells for the audience a very humdrum address and a very poor speaker to deliver it. To present so self-evident a subject, with all its technicalities, attractively demands on the part of the orator a certain degree of brilliancy of style, and a versatility of ideas. Few medical speakers, however, can lay claim to such

distinction. The advances of medicine, as a matter of fact, are no greater than are the advances all along the line of science. This is the age of investigation and deep research, and medicine is merely keeping well in the van of progress. Most of my hearers will know in a few weeks more about these advances than I could begin to relate in the few moments at my disposal.

The goodness, charity, and self-sacrifice of the medical profession is another frequent theme that, in my judgment, is always ill timed and impertinent when handled before a lay audience. To put one's self on the back and to sound the bugle of one's own praise is, to say the least, indelicate and a bit humorous. It is childish and tends to make the medical profession a laughing stock in the eyes of the rest of the world. I have never been convinced that physicians, as a class, are more charitable or kindly disposed to their fellow creatures than is any other class of worthy and reputable citizens. The latter, to be sure, have not the advantage that the physicians have in exhibiting *personally* their beneficence and good works; but with what means they do possess, money and sympathy, I think they do quite as much charitable work as the physicians do. Much of the so called charity in our profession, be it said to our shame, is for personal advertisement and self aggrandizement. We must guard here against adding hypocrisy to the unpleasant charge of thinking too well of ourselves. It is pointed out that medical men give their services freely to the hospitals and dispensaries. True, they do give their services without salary or direct monetary return; but can it be candidly said that they give those services as a self sacrifice, without any hope of ultimate benefit? I think not; and I am entitled to think so, because there is abundant available proof that they do not. Let us be frank and have the courage of our convictions, declaring that in, as well as out of, the profession the laborer is worthy of his hire. Ability, competition, supply, and demand rule here as elsewhere; and as to charity and philanthropy, be it said, the medical profession ranks second to no other. It does what it can, in the best way that it can, to alleviate the sorrows and sufferings of the world. The spirit of charity is something that belongs to the man whether he be a medical man or not. It is not an exclusive endowment, nor is its exercise a special privilege, conferred upon him by a medical diploma. Therefore I will have nothing to say upon the philanthropic spirit of medicine. I prefer, if such a spirit really exists to any superior degree in my profession, to let my neighbor, the nonmedical man, speak of that.

And finally I know how pleased you will be when I tell you that I do not purpose preaching a sermon to the students in this audience. There is nothing so cheap and uncalled for, it seems to me, as the average talk upon morality and good behavior often doled out at the opening of the medical schools. A medical man is rarely a good preacher by heredity, training, or past mode of life; and for him to drop into the giving of monotonous, singsong platitudes to a body of men who have reached years of discretion and who are about as experienced in life as he himself is, bespeaks either laziness, mental vacuity,

or an coming old age. Medical students are as alert, attentive, and eager for knowledge as any body of men I know of. I am satisfied that a lecturer who finds it necessary in his class room to be incessantly admonishing his hearers, is himself the source of the trouble, his manner of presenting his subject being, in all probability, stale, stupid, and lacking in originality. *Science is never uninteresting.* It needs no help from sermons, admonitions, and moral discourses to make it attractive. It is the labored, flat, inartistic, inconsequential way in which science is often doled out that makes it seem repulsive. The dry rehearsal of mere facts and phenomena is neither brilliant nor illuminating. It is more often not even scientific, though such is what it usually is supposed to be in the class room. Explanation, correlation, and illustration are always fascinating, and when properly presented in conjunction with the description of facts and phenomena will constitute the attractive element in the scientific lecture. Of this I will have more to say anon.

The terms *medical art* and *medical science* are ever upon our lips. They stand for two separate and distinct ideas. It is my desire to emphasize the distinction so as to discover, if possible, how near to and how remote from we stand to-day, in actual medical practice, the fundamental conceptions of art and of science.

The *Century Dictionary* declares that an *art* is "the combination or modification of things to adapt them to a given end; the employment of given means to effect a purpose." Obviously, then, the term involves the idea of skill and dexterity.

From the same authority we learn that *science* is "knowledge; comprehension, or understanding of facts or principles; knowledge gained by systematic observation, experiment, and reasoning; knowledge coordinated, arranged, and systematized." Note that this definition does not say anything about facts and phenomena when merely described as being scientific. It affirms that the comprehension and understanding of the facts and underlying principles constitute science.

The ultimate aim of both art and science is the realization of truth.

Wherein they differ is the manner of arriving at the truth. Science accomplishes it by means of analysis and criticism; art by means of synthesis and reconstruction. As Karslake has well said, "Science and art may be said to be investigations of truth, but science inquires for the sake of knowledge, art for the sake of production."

There is a partial overlapping, of course, of both art and science, just as there is in all the complex forms of human activity. There is some art or skill required in the analyses and criticisms of science, and there is much science lurking behind all forms of art expression. The truth aimed at in the art and science of medicine is health. The art endeavors to reveal that truth in all its physiological beauty and perfection by employing the most effective means for the restoration and maintenance of health. The science searches for that truth by uncovering the hidden laws and principles upon which health is founded. Not wrong are we, therefore, when we speak of the art of medicine as distinguished from the science. We are wrong only when we fail to give due recognition

to both the art and the science, and like the quacks practise the art without the science, or, like certain narrow minded laboratory men, emphasize the science to the belittling of the value of the art.

Let me ask, for a few moments, your consideration of certain characteristics which belong to the practice of an art; and then I will request you to apply those characteristics to the practice of medicine as we see it about us to-day. In doing the latter you will remark many things that may prove suggestive and profitable to yourselves.

Art, being synthetic and constructive, the dominant element in the cultivation of it must necessarily be the personality of the artist. In direct ratio with the natural endowments of a given individual will his artistic efforts be. The ability may rise to the level of talent, even to that of genius. It is something that cannot be acquired, though by cleverness it may be somewhat remotely and unevenly simulated. It depends upon some mysterious and inherent mode of brain action, about which we as yet know absolutely nothing. It is a unique, special, and congenital faculty. It is always the cause of much envy, but it cannot ever be directly acquired any more than can a desired increase of height. Moreover, it is seldom, if ever, understood by those who have it not. An old lady once said to Turner, after gazing at one of his most gorgeous paintings in the British Museum: "Mr. Turner, why do you use such brilliant coloring in your pictures? I never see such reds and blues and greens as that in nature." "Don't you wish you did, madam?" was all the reply he vouchsafed her. Of the things that the artistic mind is capable, most of us can only wish that ours were capable of them too. In medicine a man sometimes legitimately wins a large practice, obtains a surprising series of cures, or makes a most happy run of correct diagnoses. How he does it we cannot tell. Like the artist, he cannot always tell himself, for of all men the genuine artist is the poorest of critics and the least helpful of advisers. His mental mechanism seems to work instinctively, not through the slow processes of logic and rational deduction. When Sir Joshua Reynolds declared he mixed his colors with brains, he meant the brains of Reynolds and not the brains of anybody else. No mere knowledge of rules will furnish one with an artist's mind. Nobody, perhaps, knew the secrets of the art of painting better than did Ruskin and Hamerton; yet the pictures of these two great critics were mere daubs beside those of Turner and Millet. A nobleman once asked Guido who was the model he sketched his beautiful Madonnas from. The painter, placing his color mixer, a huge, ugly, and ungainly man, in an appropriate pose, said to his visitor, "Count, that is my model," while at the same time he went on drawing the outlines of a most exquisite female figure.

So instinctive are the workings of the mind of the true artist, and so unknown are the laws of its mechanism, that the possessor of it is times and times again veritable law unto himself. Beethoven was once sharply criticised for breaking an established rule of harmony. In a burst of anger he exclaimed: "I make my own rules!" Thereafter the composer's alleged blunder became an accepted musical form. Little minds, and those not of the true artistic type, often

ape this apparent lawlessness of genius, just as the gilded youth once imitated the collars of Lord Byron. An imitation, however, is always detectable, because it is always more or less lawless and inappropriate. Beethoven did not make his own rules of harmony, as he angrily exclaimed; but, by following instinctively his own transcendent genius, he merely revealed the principles of musical beauty which up to that time had not been portrayed by any one.

The dominance of the personality in the concept art precludes all possibility of simple imitation being in any sense true art. Photography is not an art any more than is the working of a turning lathe. The models from which both the camera and the turning lathe began making their copies may, in some way, have revealed the personality of the artist; but then it was the selection and the arrangement of the models, not the making of reproductions, that constituted the art. As Emerson puts it, speaking of trade and every mechanical craft, "there is in each of these works an act of invention, an intellectual step, or short series of steps, taken; that act or step is the spiritual act; all the rest is mere repetition of the same a thousand times." Imitators are never true artists. As soon, however, as they inject the slightest degree of their own personality into their work, that work at once becomes artistic in the broadest sense. Art, therefore, modifies, instead of imitating, everything that it touches. The modification indicates something that belongs *sui generis* to the artist. "Art has the advantage of nature," says Lubbock, "in so far as it introduces a human element, which is in some respects superior even to nature." A Webster dictionary can never be regarded as a work of art; a Scott novel can never be regarded as anything else. A Beethoven adagio is beyond all imitation, whereas a Richter exercise in counterpoint may be duplicated innumerable times. Wonderful copyists are the Chinese, but their art is of a very low grade. The accuracy and finish of Boileau's *L'art poétique* does not make it a work of art; the personality of the poet is utterly wanting in it. Mere imitation and accuracy can never alone result in the practice of the art of medicine. They will reach only as far as externalities and nonessentials. They are the cause of much of the quackery both in and out of the profession.

In this age there is much multiplication of everything, books, railroads, machinery, tall buildings, shirts, and cigars; but in the midst of it all there is comparatively very little genuine art. Lubbock says that "in art two and two do not make four, and no number of little things will make a great one." A physician's practice may be large and yet be as devoid of the art of medicine as a fourteen story skyscraper is of the art of architecture. Diagnosis and therapeutics, however elaborately practised, do not alone constitute the art of medicine. The management of a single case, revealing a unique degree of appropriate intelligence, stands more for the practical art of medicine than do a hundred cases merely observed and haphazardly prescribed for. A large clientèle, like a multitude of bales of cotton, may be very profitable, and in a commercial sense may be very beautiful and rich. In no way, however, does it constitute the art of medicine.



trary, it is more likely to bespeak inferiority; for increase of quantity is usually synonymous with diminution of elegance and completeness. In the art of medicine "two and two do not make four and no number of little things will make a great one.

Once a nobleman asked Bismarck to place his son in some high office, urging that the boy was highly educated and well fitted for the position, since he could converse in a dozen different languages. The great chancellor knitted his brow and, after reflecting a few moments, replied to the anxious father that, in his opinion, his son would make a splendid headwaiter in a cosmopolitan hotel.

Dominant as is the personality of the artist in all of his work, that personality is further distinguished by being uniquely initiative, creative, enthusiastic, and positive, rather than conservative, destructive, calculating and negative. The artistic temperament is ever driving its possessor into doing something, however great or small that something may be. It leaves him little time or inclination to merely criticise and analyze what already exists. This creative faculty is far from being a common one. It provokes astonishment in those who, having it not, behold its strange and unwonted revelations. For this reason it generally confers upon its owner the leadership among his fellows. Its very wonder working keeps alive interest and enthusiasm. It is always positive, believing that affirmation and construction, however slight, are nobler than mere denial and annihilation. It holds that Shelley's Ode to the Skylark is a greater work than are a thousand tomes of descriptive ornithology. It insists that the Greek Slave of Powers transcends a whole museum of human anatomy. It points out that the six hundred and twenty books of Varro, the most learned of Romans, are lost, while mere fragments of the poems of Sappho are still treasured beyond all price. Man himself being the most wonderful of creations, it is the exclusion of his personality from science that gives the supremacy to art. And therefore Thoreau exclaims: "My friends mistake when they communicate facts to me with so much pains. Their presence, even their exaggerations and loose statements, are equally good facts for me."

Novelty constitutes a prominent element of art; hence art is always hard to criticise. Very rightly do we say of a work of art that it is good or bad according to one's taste. Being a creation, it is wholly new and portrays for the first time the artist's taste, which may or may not correspond with ours. Hottentot music is not art to us; and much less would our music, I fancy, be art to the African savage. Works of art are always unique and distinctive.

Art is always most happily cultivated in an artistic environment. That is the reason why artists live, singly or in little groups, so much apart from the world. In the light of the importance of environment, it is not difficult to understand why Greece and Italy are the home of art, while Guiana and Kamschatka are not. The family life of the Bachs was enough in itself almost to turn out a remarkable group of musicians. The keeping together of the Lake poets gave a distinctive touch to their works. The Preraphaelites showed plainly their close intimacy with one another. The Elizabethan

age of literature and the New England coterie of authors owed not a little of their distinction and individuality to the times and local associations. A physician who yearns to excel in the art of medicine dare not live apart and away from the influences that tend toward the best and highest in his calling. The doctor must dwell in his books, his medical societies, his intellectual companionships. He must absorb the best they have to afford him, yield placidly to their highest influences, and feed his mind upon them every day. But alas! how often the rich literature of medicine is neglected for cards and club gossip! What arenas for petty squabbles and cheap politics are some of our medical societies! What miserable little jealousies are allowed to separate men who, as professed practitioners of a noble art, could be so helpful and inspiring to one another! Such conditions always betray a lamentable want of the proper temperament and environment. It indicates a raw commercial atmosphere; a dull, primitive level of barter and sale; not perhaps necessarily wrong in itself, but oh! so wearisomely monotonous, cheap, and commonplace. Babies and animals know very little beyond the desire and struggle for nutriment, and in the exercise of their incessant cunning to obtain it they are less despicable than certain adults who work the medical societies, journals and hospitals solely as a means of advertisement, whereby they may earn an extra pot of potage. Such individuals wither and blight the art of medicine.

Another important fact to be noted in regard to the practice of an art is the laboriousness of it. Because the artistic temperament is a natural faculty the world has usually fancied that its exercise required no special effort. No greater mistake was ever made. Indeed genius, which is generally deemed the exemplar of the highest art, is sometimes defined as merely the capacity for taking infinite pains. I have heard it stated, upon good authority, that Paderewski repeated uninterruptedly a certain cadenza, during one of his practising periods, some seven hundred and odd times. "Art is no recreation," says Ruskin; "it cannot be learned at spare moments nor pursued when we have nothing better to do." As Bryant sang:

"Deem not the framing of an immortal lay

The idle pastime of a summer's day."

Yet many students and practitioners play at this most difficult and exacting art of medicine.

Ruskin further tells us to "remember always that there are two characters in which all greatness of art consists—first, the earnest and intense seizing of natural facts; then the ordering those facts by the strength of human intellect so as to make them, for all who look upon them, to the utmost serviceable, memorable, and beautiful." There are laws and principles—great truths, if you please—that underlie all art. Painting without a knowledge of color, drawing, and perspective is Chinese art. Music devoid of harmony and rhythm is not even, as Johnson defined music, "the least objectionable form of noise."

And now this brings me to the second part of my discourse, the *science of medicine*. As I have just intimated, the art of medicine is a farce unless it is guided by certain truths and based upon certain

established principles. These, however, constitute the science of medicine.

No term is more misused at the present time than this term science. Practically nowadays every sort of silly routine, every systematic form of human activity, is denominated a science. There is the science of pedestrianism and pugilism. Cookery and haberdashery are said to be sciences. There is a Christian science, and a scientific Christianity. Everything, everything, from the mowing of the lawn to the sleeping in one's bed at night is taught scientifically these days *ad nauseam ad infinitum*. Seriously, however, science is knowledge, and stands only for the correlation of phenomena whereby causative factors and underlying laws are discovered. The mere application of principles for the accomplishment of certain ends is no more science, in the true sense of the word, than are the mere observation and description of unexplained isolated phenomena. What is there scientific in eating peanuts for sixty days to prove that life in a certain individual can be sustained on such a diet? Such a performance and many like it repeated in our laboratories is about as scientific as the eating of a green apple by little Willie to prove that a painless existence is, after all, the happiest. Much of what is dignified as modern science is a roaring farce. It is nothing more, to say the most of it, than individual experience, and ranks with such knowledge as that corns on one's toes are disagreeable and that wintry blasts are apt to be cold. Phenomena and their mere observation are not, as a rule, very illuminating. They need some explanation, some generalization, possibly even some theory or hypothesis to raise them to the dignity of scientific facts. When the Church of Rome forced Galileo to make his famous retraction in regard to the movements of the heavenly bodies, it based its authority upon simple observation and ecclesiastical dogma. It knew nothing of, and even denied, the generalizations and hypotheses that Galileo had worked out. It was satisfied that the earth stood still and all other bodies revolved around it, because such was the testimony of every man of common sense who had eyes to see. The inevitable soon occurred. The Church was shown to be puerile in its thinking, Galileo scientific. Tycho Brahe's long records in regard to the positions of the celestial spheres did not elevate astronomy to the plane of a science; only the generalizing of Kepler, from those long and laborious observations did that. Millions of people have watched apples fall. It was Sir Isaac Newton's enunciation of the hypothetical law of gravitation, however, that raised the phenomenon and its observation to a position of scientific interest. Medieval alchemy was the poor culmination of the mere observation of certain phenomena. The science of chemistry was born when Dalton and others developed the atomic theory and related explanatory hypotheses.

There are medical men to-day who publish form and detailed reports of cases which they have observed. There are pathologists who describe and depict most elaborately what they behold under the microscope. There are physiologists who construct most ingenious apparatuses for recording cardiographic tracings. There are psychiatrists who

cover reams of paper with mere repetitions descriptive of the actions of asylum inmates. The labors of every one of these men have, of course, a certain value. An infant's observation of the moon has also value. The worth of both sets of observations falls short of being scientific, until they are properly correlated and in some way explained. For the scientific elucidation of phenomena the inductive method of Bacon, when employed alone, is as faulty as the deductive method of Aristotle. Isolated and unexplained data stand for mere phenomena. Phenomena as such represent mere sensory reaction on the part of the observer. The observation is the only thing about them that can be truthfully denominated a fact. Observation *per se* is always liable to error by reason of the observer's personal equation and sensory instability. Such error can only be eliminated by the correlation of observations, by their rigid comparison and contrast, and this involves and results in the employment of imagination, reason, and judgment.

Facts, even most so called scientific facts, are not entirely beyond the charge of being mere descriptions of our sense organs. The word fact, so revered by the great untrained mind of man, is not synonymous with truth. It means when so used by this great untrained mind of man merely sense observation or phenomenon. It becomes synonymous with truth only when it stands for some correlated phenomenon, some principle, some law discovered amongst a mass of sense observations. Redness is a fact to common sense, but it is not a truth. The same is to be said of sound. The truth in both instances is a particular form of movement, vibration. All knowledge is more or less relative, and a commonly called fact is the most relative thing of all. This is the reason why the advance of human knowledge has been borne along on "facts" that have almost invariably been found later on to be in need of different interpretation. The newer interpretations have arisen out of the discovery of the causes and underlying principles. The latter and not the so called facts then established the science.

This confounding real knowledge with the mere observation of phenomena explains many curious things in the history of science. It renders intelligible, for instance, the fact that science had its origin in ancient mythology. It accounts for its long struggle through mediæval witchcraft, necromancy, and astrology. It affords a *raison d'être* for the modern camp following of science, consisting of the half informed, semireligious, queer folk.

The origin of life in the sea, typified in the ocean born Venus; the panorama of the dawn so poetically sung in the story of Orpheus and Eurydice; the growing and moaning of the forests, attributed to the Dryads; the unceasing flowing of the brooks, urged on by the sportive nymphs; the wanderings of the moon among the stars as Demeter chasing the deer; and the intense brilliancy and creativeness of the sun, depicted under the form of the glorious Apollo, are not more fantastic than are some of the half-scientific, supernatural explanations offered nowadays for phenomena which require rational, not mysterious and supernatural, explanations. Dreams, revelations, telepathy, spiritualism,





relation, systematization, something far more than the mere accumulation of statistics. Science is knowledge. As Stanislaus says, "Science, when well digested, is nothing but good sense and reason." Mere observation and the accumulation of statistics do not make very elaborate calls upon either good sense or reason. Oliver Wendell Holmes gently satirizes these mere observing, statistical men when he says, "Science is a first rate piece of furniture for a man's upper chamber, if he has common sense on the ground floor. But if a man hasn't got plenty of good common sense, the more science he has, the worse for his patient." As Stern intimates, this form of learning, namely, statistical observation, is the dictionary, whereas sense is the grammar of science. Anybody with drudgeliike persistency can compile a dictionary, but to create or evolve a grammar calls for a rare and superior type of intellect. This type of intellect is not more common in the medical profession than it is in any other class of men. Here, however, we witness much passing under the name of science that is nothing but multiplication of the simplest sort of observation. Long case reports full of insignificant detail and repetition, minute pathological descriptions, curious physiological experiments, and elaborate rehearsals of well known clinical phenomena are doubtless of some value, even as a child's description of an elephant, that it may have seen in one of its straying spells from home, is of value; but unless some explanation or correlation is vouchsafed at the same time, some hypothetical yet well deduced law affirmed for future approval or disapproval, the value is small. An eminent pathologist showed me some years ago a brain which he had just received, and which he said was histologically a most extraordinary specimen. His tone of dejection I shall never forget when he further said that the specimen was all but practically worthless for scientific purposes because the clinician who had sent it to him had not attempted to study the case in all of its symptomatic relationships. The clinical report could not be correlated with the pathological findings, and hence, though much time had been expended in mere observation in both, no real scientific knowledge was forthcoming. The lament of Thoreau voiced itself thus: "I should say that the most prominent scientific men of our country, and perhaps of this age, are either serving the arts and not pure science, or are performing faithful but quite subordinate labors in particular departments."

We are living in the age of science. Future historians will devote a chapter to it, as they do now to the Greek age of art, the Roman age of law and order, the ages of feudalism and of chivalry, of the Renaissance and reformation, of discovery and political revolution. The age of our time, the age it is to live in!—is treading close upon the footsteps of the Creator. It is learning the secrets of His handiwork. It is discovering the forces that He has employed in building the world, in the universe, through boundless space, in fixing the rocks and oceans and oceans in their appointed places, in developing life through all its varied forms up to the divine culmination, the human intellect. Wonderful are the revelations that daily open up before us. We marvel at our old ignorance and superstitions. We await in awe the newer light yet to be shed upon the

So rapid and startling are these scientific revelations and so wizardlike are their practical applications for our personal comfort, that, like little children upon a Christmas morning, we are excited, confused, and all but paralyzed with ecstasy. Some of us have utterly lost our heads and grown irreverent and egotistical. Others among us seem to crouch with fear and fly to newer and more ridiculous forms of superstition. Nearly all of us have become prone to laugh at authority and to stand with hands folded, obstinate and expectant, if not actually sceptical.

This is a transition age we live in. We have left darkness behind us, with yet many hidden mysteries in front of us. Now, if ever, do we need clear brains and reverent spirits. In an age like this men are wont always to go to extremes. Stunned by the magnitude of its discoveries, they seek relief in petty detail or prattle flippantly about that which is still unknown. Why do we not find the greatest thinkers of the world of art and literature among us today? Because of our engrossment in the petty details of research. Indeed, this age has been facetiously called "the age of the little"—the little story, the little piece of music, the little genre painting, the little bacteria. While this not strictly true, it is true that there is much overemphasis of the little at the present time. Our apparent bigness, as instanced in our railroads, office buildings, financial transactions, and commercial corporations, is largely a matter of mere reduplication. Hence one feels at times like Berlioz, I think it was, who, after leaving one of Chopin's most exquisitely soft and delicate piano recitals, shouted so loudly upon the street that one of his companions asked him if the music had, indeed, made him crazy. "No," he replied, "I am not crazy, but I have been listening to so much pianissimo that now I want a little fortissimo!"

This tendency to excess of detail, with bigness consisting of mere reduplication, leads, in this age, to the dangerous magnification of means with corresponding blindness to the end. As a recent writer in the *Atlantic Monthly* pointed out, the dominant fault of the average man is the hopeless losing of himself in the means. He allows himself to become immersed in it like a fly in a spider's web. As the writer shows, this is preeminently noticeable in the financial and commercial worlds. Money making has become the end here, though every child knows that money is absolutely useless except for what it brings or as a means to an end. Many are to-day entranced with machinery, telescopes, microscopes, automobiles, and the other means whereby we are striving to climb to knowledge and happiness. As this entanglement in the means results in the money world in greed, strife, discontent, irreverence, and even criminality, so in the world of intellectual achievement it results in a similar state of affairs, in the same kind of blindness, in the same kind of hypocrisy. That which is not knowledge is fawningly or fraudulently palmed off as knowledge. Truly, as the writer says, "the world is full of men who are like lizards in their phials, science has done for him what he could not do for himself. He has been engulfed in the little and lost in admiration of the means. He has been so busy with the means that he claimed that he could never learn anything from the fields and trees, or like Samuel Johnson when he announced that 'having seen a great deal, you find

seen them all." If ever an age were in need of well balanced idealists, men of broad liberal minds, men who can distinguish mere agency from finality, it is this age. Very recently I read a long and exhaustive article, published in two installments, full of petty details of description and illustration, at the conclusion of which the distinguished authors stated that what they had been trying to demonstrate was still a matter of complete uncertainty. All that paper and ink for that vapid conclusion! It doubtless looked and sounded very scientific. An investigator, however, less entranced with mere agencies, would have saved his readers' time and eyesight by stating that he had no information to give upon the subject in question. Let it be repeated, *science is knowledge*, not mere statistical accumulations. The greatness of Goethe's Faust lies partly in the fact that it represents a protest against the belittling, detailed science which is devoid of idealism and intellectual breadth. The present age is beginning to weary of scientific coxcombs, men who arrogate to themselves the name of scientists but who never add a single grain to the sum total of human knowledge. It wants men who can *interpret* and *explain*, not merely observe, the phenomena of the world about us. It has small rewards for the mere compilers of the commonplace, the laborious collectors of dry statistical husks and irrelevant accumulations.

In conclusion, then, let it be clearly recognized that there is an *art* and there is a *science* of medicine. Those who practise medicine as a fine art and as a real science are far from being numerous. In fact, they constitute quite a minority in the profession. There is still abundance of room for him who sincerely desires to develop this noble art and wonderful science. What Lincoln said about fooling all the people all the time is as true here as elsewhere, depend upon it. An honest and earnest effort to attain that which is the best, the highest, and the truest, even in medicine, never goes long unrecognized and unrewarded. I would merely add as my final word to you, young men, that you be true to yourselves and to your divine privilege of manhood. Live up to the full stature of your endowments and make for the advancement of your chosen profession along the lines of true art and science, as I have endeavored, all too briefly, to indicate them to you.

100 STATE STREET.

#### THE MANAGEMENT AND TREATMENT OF TUBERCULOSIS IN INFANTS AND CHILDREN.

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The general principles of the management and treatment of tuberculosis in early life are, of course, the same as in later life. They have to be somewhat modified in their application, however, because of the manner in which tuberculosis manifests itself in early life and because of the different way in which children bear exposure and react to climatic conditions.

The chief characteristics of tuberculosis in infancy are its malignancy and its tendency to dissemination.

The restriction of tuberculosis to a single organ and the involvement of the lungs, as it occurs in later childhood and in adult life, are very unusual. The fatality of tuberculosis at this age is so great, therefore, that little can be hoped for any form of treatment. In young children the tendency to localization is greater. The bones and serous membranes are much more frequently involved than the viscera, and there is also a decided predilection for the lymphatic system. In older children pulmonary lesions are more common, the frequency increasing directly with the age, but they are comparatively rare before puberty. The course of pulmonary tuberculosis at this age is more rapidly progressive than later. At puberty the lesions, course and treatment are essentially the same as in adults.

Children are more rapidly enervated by warm, moist climates than are adults. They are not, as a rule, robust enough to bear extremely cold climates, although there are exceptions. They are much less able than adults to bear exposure, and great care must be taken in "hardening" them, especially if they are young and delicate.

It is, as a rule, much easier to carry out proper treatment with children than with adults. They do not have to consider their own livelihood or that of others; they are not wage earners; nothing depends on them. Consequently they can devote their whole time to their treatment. Their mental attitude is better; they do not worry about themselves or others. They are more amenable to treatment and almost always make good patients. It is, however, rather more difficult to get them to sleep out alone as they are often afraid. They require, on the other hand, more attention and amusement. They must have manual and physical employment; they must be instructed and educated. It is easier to take care of them because of their small size. They can be carried about more easily; they require less room. A small balcony, for example, will do for a child, while a large one may have to be built for an adult.

They accommodate themselves to institutional life much better than do adults. They are almost never homesick after the first few days. They are not constantly wishing to get out and go to work. They are not anxious about their own future or that of their families. They are usually very happy with the other children and take to the life naturally. Discipline is much easier with them than with adults.

For practical purposes, tuberculosis in children may be divided into two classes; surgical, including "scrofulosis" and "lymphatism," and visceral.

Experience with children suffering from surgical tuberculosis in the sanatoria abroad shows that, on the whole, they do better at the seashore than inland, and that they do better at the seashore if the climate is temperate rather than cold or warm. Our experience at the Convalescent Home of the Children's Hospital, in Boston, however, shows that they may do well inland and in a cold climate. Experience also shows that in order to obtain a cure, a stay of at least a year is necessary, and that a few weeks or months is entirely insufficient. Children of the erithritic type, that is, the delicate, slender, and neurotic, usually do better, at any rate in the beginning, inland in comparatively mild climates. It is important not to overdo exercise with this class

of children. Children of the "torpid" type, that is, the heavy, coarse and phlegmatic, do better at the seashore than inland, and in comparatively cold climates. They bear "hardening" well and can take a good deal of exercise. If amyloid or kidney disease develops, both classes do much better in a warm and dry climate.

This country is far behind many of the European countries in the establishment of sanatoria for surgical tuberculosis, whether for the rich or poor. New York, as you know, has begun to do something during the last three years. Boston has for some years been doing a little at the Convalescent Home of the Children's Hospital in Wellesley. It is probable that other cities are also beginning to take steps in this direction. What is being done, however, is absolutely insufficient. Very few children are being taken care of, and these are not kept nearly long enough. Much more is being done in the way of excursions, country weeks, and so on. These are merely makeshifts, however, and while well enough as far as they go, are absolutely inadequate to give any permanent results.

Tuberculous peritonitis, while really a form of visceral tuberculosis, is as regards its climatic treatment and management essentially a form of surgical tuberculosis.

While visceral tuberculosis in adult life means to all intents and purposes pulmonary tuberculosis, in the vast majority of instances uncomplicated, this is not the case in early childhood. At this age pulmonary tuberculosis is usually not a local disease but part of a more or less generalized tuberculosis. The younger the child, the truer this is. The prognosis of pulmonary tuberculosis in early life is therefore much worse than in later life, and much less is to be expected from climatic treatment. In young children the disease is usually too far advanced when recognized to warrant sending them away from home, as at this time they belong, as a rule, in the incurable class. Children with pulmonary tuberculosis are even less able to bear extreme cold than are those with surgical tuberculosis, and withstand "hardening" and exposure very poorly.

The dietetic treatment of tuberculosis in early life is essentially the same as in adult life. Milk and eggs are at this age also the most valuable articles of food. Much greater skill is required, however, to feed a child, especially a young child, properly without upsetting its digestion, than an adult.

The drug treatment of tuberculosis in childhood is purely tonic and symptomatic. The susceptibility to opium in any form at this age must be remembered.

The various forms of tuberculin have been used much less in children than in adults, and there are comparatively few statistics on this point. I know nothing about it from my own experience. There seems no reason, however, why equally good results should not be obtained in children as in adults, if allowance is made for the greater severity of the disease at this age and the greater tendency to dissemination.

Thus far only children with tuberculosis have been mentioned. Two other classes ought, however, to be considered. These are the healthy children of tuberculous parents, and children with latent

tuberculosis or those who are predisposed to tuberculosis by the presence of other diseases or their parentage.

The children of tuberculous parents should, if possible, be sent away from home. The Society for the Protection of Children against Tuberculosis in France, established by Grancher, is adopting the proper methods for these children. When they cannot be sent away from home much can be done by regulation of their life and by guarding them against infection from the parents.

Children suffering from latent tuberculosis or for any reason predisposed to it should, if possible, be given proper climatic treatment or sent to sanatoria. If this is not possible, every attention should be paid to their hygiene, food, rest, and care. The children of the poorer classes should be sent to fresh air schools, and given the advantages of country weeks or seashore air whenever possible.

Finally, the great problem of the management of tuberculosis in childhood is to prevent its spread. It is very easy to see what should be done, but very difficult to carry it out. In the first place, all children in families in which there is open tuberculosis should be removed and sent to the country or seashore. The schools should be inspected at least once in six months and those affected with tuberculosis sent to sanatoria. Fresh air schools should be established for the pretuberculous and proper provision should be made to provide them with extra food. Children suffering from latent tuberculosis and surgical tuberculosis should be sent to sanatoria separate from those for open tuberculosis. When they cannot be sent away they should go to day camps established for the purpose. Those suffering from early open tuberculosis should be treated in camps or sanatoria. The advanced cases should be treated by themselves in special hospitals. It is very evident, however, that this course cannot be followed at present because of the expense, which is prohibitive. In any case, the matter is too large a one for private charity and must be taken up by the municipalities and States. While these plans cannot be carried out as they should be, there is, however, no reason why everything that can be done should not be done.

#### PRECAUTIONS TO BE TAKEN IN COMING SOUTH.

By W. F. ROBINSON, M. D.,  
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As an introduction to this article the writer may state that he has been engaged in the practice of medicine for eight years in hot climates, and that the statements made in this article are the result of his experience during this time.

It is often very amusing to one accustomed to the Southern country to hear the various opinions held among the laity in the North as to the advisability of coming South from the standpoint of health. If a person from the North comes to Florida and contracts an attack of diarrhoea he is apt to hurry home as fast as the train can carry him and warn all his friends not to go to that terribly unhealthy country, as they will be certain to get sick if they do go. Another tourist will contract a



severe cold and hurry home with the same story. A third will have a severe attack of indigestion, and he will be inclined to blame the country and think it a poor place to go to.

These cases occur constantly, and are very easy of explanation. First, the journey, like all journeys, is apt to be tiresome. The travelers perhaps lose their rest and are forced to go without sufficient food. As a result they arrive in a strange climate tired and worn out and with the system in the most favorable condition to contract disease of any kind. In addition to this, they often start right out and do extremely foolish things, either through ignorance or carelessness. Then they wonder why it is that they get sick in a climate that they have been told is so very healthy.

Let us see now if there is not some way to avoid illness under these circumstances and what had better be done.

First, in view of the inevitable fatigues of travel, people should be very cautious when arriving at their journey's end, especially if they arrive just before or at dark. In hot climates there is apt to be quite a little fall in temperature about this time. A person who has traveled through the heat and dust of a tropical day is naturally tired, hot, and probably perspiring; he is dressed perhaps in the heavy clothing which he put on when he started his journey in the cold North. The sudden coolness of the late afternoon seems very refreshing, but before he realizes he has become unduly chilled, and the next day he may be attacked with a severe cold, if he is fortunate enough to escape pneumonia or pleurisy.

The writer sees these diseases constantly, but has yet to meet the first case that was not contracted on the train or immediately on arriving. Every traveler should be provided with a good warm wrap and should be careful to wrap himself up well in it if he arrives in the cool of the evening.

If the traveler is delicate or perhaps convalescent from acute disease, it is an excellent plan to go to bed on arriving, and if hot and perspiring, an alcohol bath and a stimulant would not be amiss. On waking the next morning, if not fully rested and refreshed, it might be just as well to stay in bed during the morning or even the whole day.

In this connection the case of a strong, healthy man may be mentioned who came to Palm Beach last winter. The weather was cold when he left the North and he got a chill on the train. He was half sick when he arrived, but refused to rest or take any care of himself. Instead, he insisted upon going out on the beach, where a strong and cool sea breeze was blowing, and he lay down on the sand to rest himself and enjoy it. As a result of this indiscretion he was obliged to go to bed with a severe attack of pneumonia, from which he very nearly died. If this man had taken the simple precautions which I have mentioned he would in all probability have escaped the attack, or at least would have had it in very much milder form. Cases of this kind could be multiplied by the writer if there was any object in so doing.

*Diet.*—Another important matter in this connection is diet. Just as a change of air is trying at first to the throat and lungs, so a change of diet and wa-

ter is a strain upon the digestive function. In the first class hotels of the South the food is just about the same as in the North, so that there is nothing special to be said in this regard. There are two articles of diet, however, that deserve special mention, namely, fish and fruit. Both these articles are especially fine in the South, and it is just for this reason that it is necessary to utter a note of warning.

One can go out to the plantations which cluster around all the resorts and see growing oranges, tangerines, kumquats, guavas, grapefruit, pineapples, and many other tropical fruits. To a person who has never seen this before it is a beautiful and wonderful sight, and the first impulse is to buy a lot of the luscious fruit and have it sent to their rooms. Once there they are almost certain to indulge too freely and bring on an attack of acute indigestion. When a doctor is consulted they are much surprised to learn that the fruit is the cause of the trouble. It should be said in explanation that fruit is an excellent thing to eat and very healthy. If travelers would begin eating fruit in moderation until the system becomes accustomed to the new diet, they would receive benefit instead of harm. It is the sudden and excessive indulgence that causes the mischief.

As with fruit, so it is with fish. The fish of Florida is justly celebrated, and lovers of this kind of food often come South prepared for a great treat. There are many kinds of fish caught in Southern waters, and one or another of them are generally served at every meal, so that the fish lover may eat his favorite dish three times a day. If he does, the same result that happened in the case of the fruit is almost certain to occur, and for precisely the same reason. After one lesson of this kind the sufferer learns by experience and may eat fish in moderation all the rest of his stay in the South.

*Clothing.*—Just a few words of caution as to the matter of clothes. People coming South in winter naturally have on their heavy clothing, and when they arrive at their destination they find them very oppressive and are anxious to get rid of them as soon as possible. This is perfectly right, but it is very important that the change to lighter clothing be made in a proper way, otherwise harm may result. A peculiarity of hot climates is that it is often hot and close in the early morning, and then later a breeze will spring up and it will be quite a little cooler. Suppose a newcomer gets up in the morning and puts on fairly heavy clothes. He goes out in the sunshine and finds it very hot and uncomfortable, so that he is glad to come back and exchange his heavy clothing for much lighter fabrics. He finds these very much more comfortable and starts out again, but this time he finds it quite a little cooler, with a brisk breeze blowing, and before he knows it he feels chilly and has taken cold. In view of these facts the writer formulated a rule in the early days of his practice in hot climates which he has never ceased to preach to the newcomers whom he meets professionally or otherwise. The rule is this: Never change the clothes you have on for lighter ones during the day. Look out of your window in the morning on rising, and if the day is warm and sunny do not fear to put on the thinnest things you have in your trunk and go out. If you find them too thin as the day goes on, then is the time to change to your



rush of blood into the ocular vessels, exercising a deleterious influence upon the inflammatory process.

The most important drug in the treatment of inflammatory conditions of the iris is atropine, which should be used energetically and continued until its physiological effect upon the pupil is manifest. A complete dilatation of the pupil as well as a complete immobilization of the ciliary muscles is desirable. The drug should be employed in order to keep the pupil well dilated until all the inflammatory symptoms have subsided. Atropine is best employed in a one per cent. solution and is instilled as often as occasion requires. In the beginning of the disease one drop should be instilled every hour until complete dilatation has been obtained; after that one drop three times daily in the affected eye should be used to maintain the mydriatic effect. Poisonous effects in adults need not be feared; in children, however, symptoms of atropine poison may easily manifest themselves, so that sometimes the drug has to be withdrawn and substituted by some other mydriatic.

R Duhoisine sulphate, .....gr.  $\frac{1}{4}$ ;  
Distilled water, ..... $\text{℥i}$ .

M. Sig.: One drop in the affected eye three times daily.

R Scopolamine hydrobromide, .....gr.  $\frac{1}{4}$ ;  
Distilled water, ..... $\text{℥i}$ .

M. Sig.: One drop in the affected eye three times daily.

Rarely is it necessary to discard with the more powerful mydriatics on account of poisonous symptoms and substitute the less effective drug homatropine until the symptoms of poison have disappeared. The homatropine must be instilled every hour and in a 4 per cent. solution.

R Homatropine hydrochloride, .....gr. x;  
Distilled water, ..... $\text{℥ss}$ .

M. Sig.: One drop every hour in the affected eye.

During the course of treatment one should carefully watch the tension of the eye so as to be on the guard against a possible development of secondary glaucoma. A temporary rise in the intraocular pressure does not mean necessarily a glaucomatous condition. This may be observed during the course of the disease, at certain times lasting several hours. A good evacuation of the bowels and absolute rest will soon reestablish a normal relation. It is best, however, to stop the atropine for twenty-four hours. Should the tension not be reduced to its normal condition, eserine may be employed:

R Eserine sulphate, .....gr.  $\frac{1}{2}$ ;  
Distilled water, ..... $\text{℥i}$ .

M. Sig.: One drop instilled in the affected eye every hour.

One drop of this mixture instilled every hour will soon reduce the high tension. It is not very often necessary to have recourse to this measure. Still more rare is the necessity to employ surgical means in the endeavor to bring down the tension of the eye. The value of atropine in iritis exists in the fact that it dilates the pupil and thus guards against the development of posterior synechiae; it contracts the iris and thus reduces the congestion, and, paralyzing the ciliary muscles, it puts the iris in a condition of absolute rest, very essential in the treatment of all inflammatory conditions. Atropine occasionally fails to dilate the pupil; it is well then to combine it with

the other powerful mydriatics, especially scopolamine, when its action is enhanced. Not infrequently it happens that all the mydriatics combined fail to produce the desired effect upon the pupil until some constitutional remedies have been administered for their general effect.

The pain in iritis requires special attention. When the pain is not very severe and is caused by the congestive condition of the iris the instillation of atropine will bring relief. In some cases the pain is more marked and atropine does not bring the desired relief; hot compresses applied to the eyeball will be found of great value. The best and most convenient way is the hot, moist compress. The compress must be changed as soon as the water evaporates. In Germany hot camomile is commonly employed. Poultices of any kind are not necessary, and they are more difficult to prepare than the ordinary hot, moist compress. During the acute stage of the disease this compress should be steadily used. If the pain is not relieved by this method, then it is best to resort to bleeding. In hospitals blood may be withdrawn by means of the artificial leech (*Heurte-loup's*); in private practice this instrument is not practical, and it is best to employ the living leech. One or two leeches applied to the temporal region will in the majority of cases relieve the pain. If necessary they may be repeated. No bad effects result from their use, while the pain is always lessened, and in the majority of cases the pain is completely relieved. In some cases, however—and especially is this the case in rheumatic iritis—the pain in the eyeball and the orbital region radiating to the head becomes intolerable, and all agents previously mentioned fail to give relief; the patient is very restless, he cannot sleep, and is in misery indeed. Under such circumstances it is best to employ an anodyne and hypnotic. Morphine is the best agent. It is best to use it hypodermatically. It may also be incorporated with the other medicaments for the constitutional condition. In rheumatic iritis the morphine may be combined with the silicates:

R Sodii salicylatis, ..... $\text{℥ss}$ ;  
Morphine sulphatis, ..... $\text{℥iii}$ ;  
Potassii iodidi, ..... $\text{℥ss}$ ;  
Syr. sarsaparillæ comp., ..... $\text{℥i}$ .

M. Sig.: Teaspoonful every four hours.

Whenever morphine is employed to relieve the pain it is well to administer an aperient so as to keep the bowels in good shape. As soon as the pain subsides the morphine should be stopped, and it should not be given unless the indication for its use is manifest.

Adrenalin is a useless agent and may be harmful in some cases.

Darier employs a combination of dionin (ethyl morphine hydrochloride), cocaine, and atropine locally.

R Ethyl morphine hydrochloride, .....gr. ii;  
Cocaine, .....gr. ss;  
Atropine, .....gr. ss;  
Water, ..... $\text{℥i}$ .

M. Sig.: One drop in the affected eye six to eight times daily.

This is a very useful combination.

Dionin does not, however, relieve the pain, but is a useful agent in promoting the absorption of the



inflammatory product. In some cases it also enhances the action of atropine, and thus it becomes a valuable synergetic in our armamentarium in the treatment of this disease.

Hypopion complicating iritis does rarely require special treatment. Rest, hot compresses, diionin locally, and a cathartic will usually cause the exudate to be absorbed. In rare cases surgical interference (paracentesis) may be necessary.

*Posterior synechia.* As a result of the inflammatory exudation very often the iris becomes adherent to the anterior portion of the lens, either in part, or, as it rarely happens, in total. This, of course, requires our utmost attention. The ideal treatment is prevention. Should, however, after all the vigilance of the physician, adhesions develop they must have special care. A few small adhesions do no or very little harm, and they are, perhaps, better let alone. An effort may be made to break the adhesions by means of a strong mydriatic. Occasionally it is well to contract the pupil first with eserine, then followed by a counteraction with a strong solution of atropine. If no success follows this process it is best to discontinue the drugs. It must be remembered that the prolonged administration of atropine may give rise to a secondary glaucoma. Large posterior synechia, and especially the annular synechia, are dangerous to the eyes, not because they are responsible for the recurrences, but because they eventually destroy the usefulness of the eye by causing a secondary glaucoma. It is advisable to do an iridectomy, although even the surgical procedure is not always crowned with good result.

When we consider the fact that iritis is only a local condition when it is of traumatic origin, that in the vast majority of cases the causal element is to be found in some constitutional diathesis, we can then well appreciate the necessity of constitutional treatment. The local treatment is of great service in giving complete rest to the inflamed organ, reducing the congestion as far as possible, but it is the constitutional treatment that aims at the removal of the causal factor. In fact, the efficacy of the drug used for its local effect is made more potent by the administration of internal medication that produces a constitutional effect. A study of the constitutional disorder is therefore essential in the scientific application of therapeutic measures. In other words, the ophthalmologist must be a general practitioner as well, for the local inflammatory process will not yield to any local application unless a powerful impression has been made upon the constitution. Occasionally we find that the iris will not yield to the mydriatic influence of atropine, or even to a combination of the most powerful dilators, until we resort to general internal treatment we have been able to produce a constitutional effect upon the inflamed organ—in other words, the potency of the local application has been enhanced by the physiological effect produced with the constitutional remedies. The medical treatment of iritis is both local and general.

By far the most important constitutional remedies in this class are those to combat syphilitic diathesis. All ophthalmologists agree with Taylor that at least 40 cases out of 100 are caused by syphilis.

It occurs mostly in the secondary stage, and has a great tendency to recur. Syphilitic iritis usually runs a milder course, the pain being less acute. Mercury is, of course, the remedy *par excellence*. It is best administered in the form of an ointment. One drachm of the unguentum hydrargirum should be rubbed into the skin twice daily, choosing different parts of the body at each application. Should symptoms of mercurialism manifest itself the quantity of the drug should be reduced, while the intervals between the application should be made longer. During the application of mercury an alkaline mouth wash should be prescribed and the effect of the drug should be carefully watched. Occasionally it is necessary to entirely withdraw the mercury on account of poisonous symptoms. The inunction is very easily employed. The hypodermatic method, the only virtue of which is that it enables us to know the exact quantity of the drug absorbed, can only be applied by the physician, is painful, and patients are not willing to submit to it readily. When the inflammatory symptoms are declining, potassium iodide is of great value in promoting the absorption of the inflammatory product. Small doses of mercury should be given even after the eye shows no more signs of inflammation. It is the only safeguard against a recurrence, which is so frequent in syphilitic cases, and which I believe is often caused by an altogether too early withdrawal of the constitutional medication. When on account of gastrointestinal disturbances the syphilitic treatment has to be withdrawn for a short time the syrup of hydriodic acid will be found of great value. The next in frequency, as far as existing causes are concerned, is rheumatism. Whatever may be understood—at the present state of our meagre knowledge of this disease—by this term, so much is beyond any doubt, that it is a constitutional disease which very often gives rise to inflammatory conditions of the iris.

The iritis being a local manifestation of the constitutional disturbance, it runs a severe course, and is accompanied by intense pain. Here the salicylates are of great value. They are best given in powders. In the beginning of the disease and during the height of the disease it is best to administer large doses, while small doses are advisable in the declining stage of the inflammatory process. During the acme of the disease one drachm should be administered daily in ten grain doses. At bedtime it is well to give twenty grains, especially when the pain is marked. When the patient, on account of severe pain, cannot sleep, we may combine with the salicylates morphine. Very often by making a powerful impression upon the constitution we find that the salicylates not only help to relieve the pain, but help through general effect to dilate the pupil, which atropine alone could not do.

If the salicylates are insufficiently potent should be combined with the salicylates and should be given in five grain doses four times daily. When larger doses are prescribed it is well to guard the action of the heart.

Eliminative waters are useful in the treatment of iritis. The iron preparations are very often useful. In all syphilitic and rheumatic patients iron is of great value.

dispensable drug. This was best demonstrated in a case under my care, in which I could not affect a dilatation of the pupil by all the powerful mydriatics known until I administered Blaud's pill. In scrofulous cases the hypophosphates seem to have a favorable influence. Good results have also been obtained by the use of oil of gaultheria in gonorrhoeal rheumatism. In malaria quinine is, of course, indicated. Fresh air, good food, and judicious medication are essential in building up the patient's constitution so as to combat with the aid of local therapeutics the inflammatory process of the iris.

To prevent recurrences it is best to continue treatment after the inflammatory symptoms subside for a short time. This is very important, for recurring iritis always reduces the visual acuity, and in a considerable number of cases as a result of the sequelae the eye becomes a useless organ.

97 SPRUCE STREET.

### SOME UNUSUAL EFFECTS OF GONOCOCCUS INFECTIONS.\*

BY WILLIAM FRANCIS CAMPBELL, M. D.,  
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It was once thought that certain infectious diseases which manifested in a certain locality were purely local diseases. Now we know that pneumonia is no more a local disease of the lung than typhoid fever is of Peyer's patches. From more recent indications it becomes evident that gonorrhoea will have to take its stand as a general disease along with the others. It is true that in 80 per cent. of the cases gonorrhoea is localized, but with a margin of 20 per cent. for untoward effects, it is evident that affections of such a nature may manifest themselves in numerous ways.

A review of the literature on gonorrhoea shows that there is not a single organ in the body which at one time or another may not be the victim of such an infection. Should we add to this the indirect effects of gonococcaemia, the disease under consideration takes on a most serious aspect. It is because of its very commonness that it is dangerous. Beginning with the meninges of the brain and ending with a felon, the gonococcus has manifested an ability that other germs would find difficult to emulate.

Ever since it was demonstrated by Neisser, in 1879, the gonococcus has repeatedly been shown to be an inhabitant of places both remote and foreign from the common site of infection. Thus we read with peculiar interest the case reported by C. A. Powers where a diffuse and severe inflammation of the entire upper extremity of one side was found to be due to a mixed infection with gonococci and staphylococci. A little later this author was able to isolate the gonococcus from the neck, chest, and parotid gland of the same patient. No less interesting is the case of gonorrhoeal pleuritis, reported by Mazza in 1894. Here, too, gonococci were found.

We have become so used to hearing the expression "gonorrhoeal rheumatism," that from a surgical

standpoint it has ceased to be the subject of absorbing interest it was some time ago. One peculiar effect, however, that may be connected with this outcome of gonorrhoea, is the interesting fact developed a few years ago by R. Kienbock. According to this investigator a protracted gonorrhoeal arthritis, especially of the wrist, is productive of a high grade of rarification of the bones attacked. We can easily imagine what this means to the bone.

Although not coming directly under the theme of this paper still because of the bearing it may have, a few figures in connection with gonorrhoeal arthritis may be cited. From 100 cases collected at random the gonococcus pure was found in 4 per cent., mixed in 13 per cent., and in 83 per cent. no organisms were found at all, the diagnosis being made from the history, objective and subjective symptoms, etc. In twenty-four cases mentioning the time of occurrence of the joint affection, fourteen followed the first attack, six the second, and of the four remaining cases, one occurred after the third, and three after subsequent attacks. In twenty-one of these twenty-four cases the disease ran a chronic course.

In connection with the subject of arthritis the case reported by Baer is worthy of attraction. His patient, the subject of acute gonorrhoea, had injured his wrist, but there was no open wound. After a short time the wrist swelled and became purulent. Gonococci were demonstrated in the pus.

Of further interest may be the statement of some authors that they obtained no toxine from the contents of joints the subjects of gonorrhoeal inflammation. However, once the gonococcus has invaded the blood, there is no knowing where it will strike, and the surgeon might just as well be ready for an abscess of the liver with this germ as the causative factor, as he is for pyosalpinx or suppurative prostatitis.

An effect not very common, but by no means rare in gonorrhoea and where the blood plays the leading rôle, is "gonorrhoeal pyæmia." While this turn of the disease is probably as old as the disease itself, the first case reported is that by Roswell Park, who, at a meeting of the Genitourinary Surgeons held in Washington in 1888, spoke of a case under his care where pyæmia followed acute gonorrhoea. When two weeks after the infection the discharge ceased, it was followed shortly by swollen knees, sepsis, a typhoidal condition, and death. At the autopsy pus was found in the sternoclavicular articulation in which also there was erosion of bone. Other joints also contained pus. The mesenteric gland and the spleen were enlarged. Dr. Park was not certain whether this was the patient's first attack of gonorrhoea, and he was not acquainted with the condition of the urethra before the attack.

Other cases have been reported since then, interesting among which is that of Silverstrim in whose patient the attack among other things caused great enlargement of the liver and icterus; and of T. J. Strong's patient in whom a metastatic focus formed and presented a large abscess in the neck.

Strange as it may seem cases of gonorrhoeal peritonitis have also been reported occurring in the male. Thomas reported two such, but very recently.

\*Read before the New York Medical Club, November, 1907.

A distressing surgical complication in which the gonococcus plays an important part is that of gonorrhoeal proctitis. According to König the affection is most frequent in the female sex, the ratio between the sexes being 1 to 8. He states that the gonococci are seldom demonstrable in the excreta and that the process may extend into the flexure, or by causing pararectal abscess lead to fistula. He mentions a case where perforation occurred into the vagina.

Though we are ready to be amazed at his report, Meyer brings it down to the commonplace when he declares that in his case of a felon from which the gonococcus was obtained in pure culture, contact infection was the responsible factor. This patient was a woman, twenty-three years of age, affected with gonorrhoeal vaginitis and multiple arthritis. A short time previous to admission she had injured the radial side of the index finger of the right hand by means of a small iron instrument. Three days after this accident a blister about the size of a quarter developed at the point of injury which contained thick, yellowish pus, and its base presented a ragged appearance. The skin defect took three and one half weeks to heal. The tendons and joints in the immediate neighborhood were not affected.

Less fortunate than this patient was the one reported by Jacobi and Goldman, who, following an injury of the tendons of the wrist and while the subject of gonorrhoeal infection, became afflicted with tendovaginitis, which left a kylosed joint.

The ability of the gonococcus to localize itself at a point where we would least suspect it, is further illustrated by the case of M. A. Gershel, who reports positive findings in a subcutaneous abscess in a child two years of age. The child was taken down with typhoid fever, and two days after admission to the hospital gave symptoms of gonorrhoea the origin of which could not be determined. The abscess occurred a week after admission and presented at the left of the anus. Three days later a similar abscess presented at the right side. Other cases with gonorrhoeal abscess of the skin and subcutaneous tissues have also been reported.

CASE.—On January 2, 1907, a male, eighteen years old, was thrown from a wagon and sustained a compound Pott's fracture. He was treated with all aseptic precautions, drained, and the limb immobilized in splint. Four days later pus appeared in the wound and continued to spread up the leg as far as the thigh, requiring extensive incisions about the leg and thigh to secure adequate drainage. Without any reference to the gonococcus, but desiring to find the germ cause of the extensive suppuration, a culture was made from the wound discharge a month after admission, and the gonococcus found. It was then discovered that the patient was suffering from gonorrhoea, a fact which had not been obtained on his admission to the hospital. He stated that he had acquired the infection three days after being exposed, about six weeks previous to his admission to the hospital. After four months the patient was discharged from the hospital cured with regard to the fracture, but still having slight urethral discharge. In this case infection by direct contact was impossible while the patient was at the hospital, and the cause of the suppuration can only be accounted for in two ways, (a) either the gonococcus circulating in his blood found a point of low resistance and there set up an focus, or (b) at the time of the accident the patient may have become inoculated from the germ in question present on his clothing. Personally I am inclined to believe the first of these suppositions to be the correct one.

## CARCINOMATOUS DEGENERATION OF BREAST CYSTS.

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The subject of precancerous conditions in the female breast is one which is ever of importance to the surgeon. The recognition of these conditions along with improvement in diagnosis and the education of the laity toward the appreciation of their significance, has led to our present success in operative measures. While the percentage of cures is increasing, we can hope for further advance only by careful observation and prompt surgical intervention in all cases which have any tendency toward malignancy. It is well known that the disease commonly termed chronic cystic mastitis, because of the marked tendency toward epithelial hyperplasia, frequently undergoes carcinomatous degeneration.

In a recent paper<sup>1</sup> I called attention to the fact that this degeneration occurs in a fairly large percentage of cases, 12 to 16, and since that series was collected I have had the opportunity of seeing three additional instances of malignancy secondary to chronic cystic mastitis. We find carcinoma likewise developing secondarily in other benign diseases, Greenough and Simmons<sup>2</sup> asserting from their studies that 15 per cent. of papillary cystadenomata undergo cancerous change. Cases have been carefully studied in which a malignant process apparently originated in the lining of cysts, a part of the series of changes observed in abnormal involution. References to such a transformation in the case of simple retention cysts are, however, meagre. Because of this danger and the necessity for its observance the writer is led to regard the condition as precancerous and, therefore, one demanding consideration.

The case which forms the basis of this paper occurred in the service of Dr. Edward Martin, to whom I am indebted for permission to report it. The history of the case is as follows:

The patient, aged sixty-seven, the mother of five children, gave an absolutely negative history in regard to mammary trouble. Nine months before her admission to the hospital she received a blow over the left breast, the force being of moderate severity. A short time after this, she noticed in the outer side of the breast a small nodule which was tender on pressure. The growth of the tumor was very slow at first, but during the two months before her admission it had quite perceptibly increased in volume. Accompanying this change the skin became purple in color, and there was constant, although not severe pain. On examination, a mass the size of an orange was detected in the lower and outer quadrant of the breast. Over its surface numerous large veins were seen, and fluctuation was elicited in the tumor which was freely movable on the underlying structures. There was no retraction of the nipple, the skin was slightly adherent to the growth, and a few axillary nodes were found enlarged and indurated.

While the cystic character of the tumor was appreciated, the possibility of malignancy due to the patient's age, the adherence of the skin, and the enlargement of the axillary lymph nodes demanded a radical operation. Accordingly the entire breast, including the cyst, was removed, and the



and has remained well for the sixteen months since the time of operation.

On opening the cyst, which was situated directly beneath the skin to which it was adherent, a thin, black fluid was evacuated. In view of the history of trauma, the color of the fluid was believed to be due to degenerated blood. The wall of the cyst presented a peculiar reticulated appearance, not unlike that seen in the ventricles of the heart. The remainder of the breast was in no way different from that seen in the state of normal involution, a fact confirmed by the microscopical examination. The histological examination of the cyst wall showed an infiltration of cells, epithelial in character. Numerous sections failed to reveal the point from which this invasion began, due possibly to marked degeneration and atrophy of the lining membrane of the cyst. The carcinomatous areas consisted of closely compressed cells arranged in thin processes, not unlike a scirrhous cancer. The surrounding tissue was almost devoid of glandular elements and was typical of an involuting breast. The case represents then the rather uncommon malignant degeneration of the lining of a retention cyst of the breast. The thorough examination of the surrounding mammary tissue excluded the possibility of a carcinoma infiltrating the cyst wall from without.

A discussion of the varieties and mode of formation of breast cysts, is not the object of this paper. References are not common in the literature concerning the formation of a malignant growth in a preexisting cyst although it is well known that cyst formation often results in malignant tumors. At one time it was denied that a cancer could primarily arise from a cyst, but recent studies have shown the contrary to be true. The occurrence of malignancy in fibroepithelial formations has already been alluded to. Occasionally we find a cancerous invasion of the cyst wall from without, the process developing primarily in the breast. Such a case is reported by Sheild.<sup>3</sup> While the origin of the carcinoma in many cases is not clear, the retrogressive changes which the epithelium undergoes is largely the cause of the malignant degeneration. The columnar cells become compressed as the result of the pressure exerted by the contents of the cyst, and are transformed into cuboidal or flat cells, or may undergo atrophy. In addition, retrograde changes in the fibrous wall may be detected; these varying factors having a more or less important rôle in the malignant degeneration which may follow. The actual origin of the cancer is not so important when once the disease is well established, for a radical operation is immediately indicated.

The diagnosis according to Sheild depends upon the age of the patient, the majority being forty to fifty years of age. Rapid enlargement of the cyst, especially if followed by the involvement of the axillary lymph nodes, should be regarded as very significant of beginning carcinomatous degeneration. The cysts are large, as a rule, round or oval in shape, and the contents clear, amber colored, or discolored by blood. In the majority of cases the presence of blood in a cyst, without an intracystic papilloma to explain the hemorrhage can be regarded according to Bloodgood,<sup>4</sup> as diagnostic of malignancy. When cysts are opened at the time of operation the lining should be carefully examined for thickened or indurated areas, and papillary projections. The latter in particular are apt to be overlooked, and even when quite small may be the seat of an early but highly malignant process. A case illustrating this danger was recently observed. An apparently benign cyst was re-

moved, and only on a second and more careful examination was a suspicious papilloma discovered. This, on microscopical examination, proved to be a malignant papillary cystadenoma, a fact which altered the prognosis and treatment of the case to a considerable extent. Aspiration of cyst contents as a diagnostic aid is no longer regarded as a proper surgical procedure, for if not immediately followed by operation much harm may result.

The treatment of cancerous cysts differs in no way from that of any malignant tumor of the breast. While in many cases the degree of malignancy is low, we are not justified in temporizing, but should resort to the usual radical removal when on inspection of the cyst contents and its walls, malignancy is suspected.

328 SOUTH SIXTEENTH STREET.

#### NOTES ON DENGUE IN CUBA.

By A. H. ALLEN, M. D.,  
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Assistant Surgeon, United States Navy.

(Published under the Imprimatur of the American Society of Tropical Medicine.)

The towns of Lajas and Santo Domingo are situated about forty miles from the sea coast in the interior of Santa Clara province. Mosquitoes are abundant during the entire year, the most frequent species being the stegomyia, culicidæ, and anopheles, in the order named.

In August of 1907 I observed some cases of dengue fever which are reported on account of their mild character and failure to assume an epidemic form. In all, there were eighteen admissions to the sick list in two companies of United States marines stationed in the two towns mentioned.

*Incubation.*—The incubation period in one patient was three days, in two patients four days, in the others unknown, but probably not over three or four days.

*Prodromes.*—There were no prodromal symptoms, the first sign of the disease being frontal headache and vertigo, which were pronounced. Pain in the eyeballs was a prominent symptom in every case. Only one patient had severe pain in the joints, although six complained of pain in the loins and back, and all complained of a very slight rachialgia. One patient had abdominal pain with vomiting and diarrhoea, which lasted for twelve hours. In all patients the digestive system showed only the ordinary signs of the febrile state. In no case was pain a prominent feature.

Defervescence started on the first or second day, without crises of any kind.

*Rashes.*—The rash appeared on the second or third day. The so called "primary" rash was present in five cases. The face was flushed and the mucous membranes of the nose and throat were somewhat congested. The conjunctiva was slightly reddened. This condition disappeared in from twelve to twenty-four hours, either before or during defervescence, and was succeeded by the typical rash. This eruption showed a preference for the dorsal surface of the forearms, internal surface of the thighs, and the back and chest. It was present

in all cases. Its character was discrete, roundish maroon, or reddish spots from one quarter to three quarter inches in diameter, slightly raised. On the forearms and thighs the spots rapidly coalesced; on the back and chest they remained comparatively discrete. In one case the rash on the arms and neck gave the appearance of a severe sunburn. Fading took place in from twelve to twenty-four hours in the majority of cases, although in one the rash persisted for seventy-two hours, and in three for forty-eight hours. A very slight furfuraceous desquamation succeeded its disappearance.

**Glands.**—In three cases the superficial cervical glands were enlarged. In fourteen cases the inguinal glands became swollen without pain, although the fact that most of these patients had a previous venereal history must be noted.

**Temperature and Pulse.**—The highest temperature was  $103^{\circ}$  F., which occurred on admission, the average being about  $102.2^{\circ}$  F. The pulse was uniformly low. With fever of  $103^{\circ}$  F. the pulse was 92; with temperatures of  $102^{\circ}$  F. in six cases the pulse varied from 80 to 100. The highest pulse rate was 102.

**Blood.**—No blood examination was possible, as there was no microscope available, and the United States Army Hospital at Cienfuegos, Cuba, was contending at the time with an outbreak of yellow fever.

There was no albuminuria or any tendency to hæmorrhage in any case.

**Transmission.**—The theory of Graham and Bancroft, who consider the mosquito the infective agent, seems to receive some corroboration in these cases. In previous reports the presence of one case of dengue is soon followed by an epidemic. In these cases the barracks were fumigated with sulphur dioxide to destroy all infected insects, and the use of the mosquito bar was rigidly enforced. The patients were immediately removed to a screened building and treated under mosquito nets. One case of a hospital apprentice, who nursed the cases and was attacked with a typical seizure of the disease three days later, was thought to be due to lack of care in the use of the bar, as another apprentice, doing the same work, yet protecting himself securely at night, was not attacked with the disease.

**Conclusion.**—In summing up, the most noticeable features of the cases were the uniformity of the rash, the very slight amount of pain associated with the disease, the comparatively low pulse, the mild character of all cases, and the possibility of the mosquito being the transmitting agency of dengue.

### Correspondence.

#### LETTER FROM TORONTO

*The New Year of the Toronto General Hospital.*

Toronto, February 16, 1915.

For over sixteen months the special committee of the board of governors of the Toronto General Hospital have had under consideration a proposition to the staff of that hospital. Their final report has been made, and it has been very definitely laid down, especially when attached to hospitals with the little influence under the rule of men who have

years zealously and faithfully performed their duties. Were it only the older men who had got it, one would not grumble that they had been laid upon the shelf as "consulting staff," an honor of very doubtful value; but when many young men, who had done their work well, regularly, and constantly, are interestedly sacrificed, their sole fault being that they were not wire pullers, and had not sought any influence on the board to back them up, the injustice is so rank that it is almost surprising that even some of the good and high class ethical men on the new staff did not refuse to continue when some of their late confrères got it so "good and plenty." Of course, hospital boards must cater to the protégés of munificent donors—*verb. sap.*

The three heads of the department of surgery are Dr. George A. Bingham, Dr. Alexander Primrose, and Dr. H. A. Bruce. Dr. Bingham has under him Dr. Charles Shuttleworth, Dr. Wallace Scott, and Dr. A. B. Wright. Dr. Primrose has Dr. F. N. G. Starr, Dr. Stanley Ryerson, and Dr. S. H. Westman; Dr. Bruce, Dr. W. J. O. Malloch, Dr. Warner Jones, Dr. John McCollum, and Dr. A. A. Beatty. Mr. I. H. Cameron, as professor of surgery in Toronto University, is chief of the surgery class, and attached to him is Dr. Clarence L. Starr. There are three services in medicine, with Dr. Alexander McPhedran, Dr. W. P. Caven, and Dr. Graham Chambers as heads. Assisting Dr. McPhedran are Dr. A. R. Gordon and Dr. William Goldie; Dr. Caven, Dr. John Fotheringham, Dr. W. B. Thistle, Dr. E. C. Burson, and Dr. Joseph S. Graham; Dr. Chambers, Dr. R. D. Rudolf, Dr. Goldwin Howland, and Dr. George W. Ross. In charge of the tuberculosis clinic under Dr. McPhedran's clinic is Dr. H. C. Parsons. In charge of the department for the treatment of functional neuroses, under Dr. Caven's service, is Dr. D. C. Meyers. Dr. J. F. W. Ross is chief of the gynecological department, and associated with him are Dr. F. W. Marlow, Dr. W. B. Hendry, Dr. A. C. Hendrick, Dr. Ida Lynd, and Dr. Helen McMurchy. The obstetrical service is in charge of Dr. Kennedy McIlwraith, with Dr. Frederick Fenton and Dr. J. A. Kinnear as assistants. In the eye department are Dr. R. A. Reeve, chief, and Dr. C. Trow, Dr. J. M. MacCallum, Dr. D. N. MacLennan, Dr. Colin Campbell, and Dr. W. H. Lowry. The ear, nose, and throat department is under the charge of Dr. George R. McDonagh, with Dr. D. J. G. Wishart, Dr. Geoffrey Boyd, Dr. Perry Goldsmith, Dr. C. M. Stewart, and Dr. Gilbert Royce. Dr. Samuel Johnston will be the chief anæsthetist and Dr. D. M. Anderson assistant. Dr. Charles R. Dickson will continue to look after the electrical department, with Dr. George Balmer as assistant. Dr. J. A. Temple and Dr. F. LeM. Grasett had the cinch on the board, as they were life members of the Burnside Lying-in Department, and so could not be ousted. There have been associated life members of the active staff without service. The committee recommended the following old and new members as honorary members as consulting staff, although some of them are not yet entitled to sit in the "deliberated zone." In medicine: Dr. John L. Davison, Dr. W. H. B. Aikins, Dr. T. F. McManus, Dr. A. J. Paton, and Dr. John Owen. In surgery: Dr. Luke Teskev, Dr. R. B. Nevitt, and Dr.

N. A. Powell; in obstetrics, Dr. Adam H. Wright; in the eye and ear department, Dr. G. Stirling Rye-son, and Dr. George H. Burnham. Whether this "sop" will be satisfactory in removing any cardiac ulcerations it is hard to say. Those, however, who were so relentlessly and ruthlessly pole-axed may lay this flattering unction to their wounded feelings, which in the process of time, especially the time, may heal them: The committee expressed its appreciation of the excellent character of the service rendered by the staff, past and present, and in addition its grateful acknowledgment of the self sacrificing efforts in the interests of the sick and of medical education on the part of members now retiring (retiring is good), several of whom have been connected with the hospital for long periods, and have requested to be relieved from further duty—(but not chloroformed). There is balm in Gilead.

### Therapeutical Notes.

**Cocaine in Ointments.**—There exists an impression that when cocaine is prescribed in an ointment the alkaloid and not the hydrochloride should be used, on account of the insolubility of the latter in oils and fats. The hydrochloride, however, is more suitable in the majority of cases, for, if the ointment is to be applied to the eye or to a mucous membrane, the moisture will dissolve the salt and cause much more rapid absorption than if the alkaloid were employed. If wool fat is used as a basis, the water contained therein will dissolve the salt better than the fat will the alkaloid, and absorption will be immediate. According to Cripps (*The Prescriber*, February, 1908), the pure alkaloid is liable to decomposition in presence of fats.

**To Abort Lobar Pneumonia.**—The question of the abortion of an apparent first stage of pneumonia is discussed in the *Journal of the American Medical Association* for February 15. Except in instances in which the sputum has been found to contain pneumococci, and, under measures instituted, the congested lung has cleared up in a day or two, we are not justified in asserting that an attack of pneumonia has been aborted. On the other hand, with assistance and without assistance, we all see instances of congestion of one lobe of a lung occur, stop, and become normal in two or three days. Unfortunately, at this period of an apparent pneumonia there may be no sputum, and if there is, it is not examined for pneumococci, and it may not have been a pneumonia at all, but certainly it was a congestion of one lobe of a lung. Consequently an attempt to abort an apparent first stage of pneumonia should be made. If the patient is strong, sturdy, and especially if he is plethoric, venesection will often give good results, and is positively indicated if there is marked dyspnea, if the heart is laboring, the head full, and the face congested, even if there is no actual cyanosis. Life has been saved by venesection done under such conditions. If the symptoms are not dire enough to demand venesection and for other reasons it is deemed inadvisable, which is generally the case, a full dose of an antipyretic drug, such as antipyrine, sufficient to cause profuse sweating, is good treat-

ment. The antipyrine may be given in fifteen grain doses combined with calomel, unless there is sufficient pain to require an immediate dose of morphine. If the pain is severe, morphine should not be delayed, but given, if necessary, hypodermatically, in a dose sufficient to stop the pain, either 1/8 or 1/6 of a grain. It is better to repeat the dose of morphine when needed rather than give as large a dose as 1/4 of a grain, which will, perhaps, produce more profound sleep than is desired. If morphine is given for the first acute pain, a saline purgative should be given on the following day.

**Treatment of Biliary Calculus.**—A pill of the following composition is said to be useful in the treatment of biliary calculus; the formula being credited by the *Journal de médecine* to Gilbert Davis:

R Phenolphthaleine, ..... gr. 1/4;  
Sodium oleate, ..... gr. i;  
Salicylic acid, ..... gr. iss;  
Menthol, ..... gr. i.

M. ft. pil. No. i.

Sig.: One pill two or three time a day.

**Thymol Camphor in Abscesses.**—The liquid produced by mixing thymol and camphor is recommended by Risacher (*Journal de médecine de Paris* and *The Prescriber*) for reducing fungosities of a tuberculous character. Injected into abscesses it has two special actions: (1) An immediate action, permitting the rapid evacuation of a fungous abscess, or at least it relieves its tension and avoids formation of a fistulous tract; (2) a mediate action, which it exercises upon the contents of the abscess at the end of a few days; aspiration, at this time, brings away a viscid, chocolate colored fluid, of distinct camphoraceous odor. The injection is not followed by a fistula; the tract closes up in a few days and leaves no induration. In the case of a tuberculous lymph gland, a few drops of the solution are to be injected into the interior. After two or three injections, the gland becomes soft and fluctuates, and can then be treated like the preceding. In this way it is possible to remove strumous glands without producing a cicatrix, which the patient so much dreads, and which may become affected with keloid. No unpleasant symptoms follow these injections, unless the liquid should be accidentally thrown into a vein. The proportions recommended are thymol 16, camphor, 30.

**To Promote Diuresis in Uræmia** the following pills may be given:

R Extract of pilocarpus, }  
Extract of squill, } ..... aa gr. i.

M. ft. pil. No. i.

Sig.: One pill every three hours.

R Pulverized squill, }  
Pulverized scammony, } ..... aa gr. i.  
Pulverized digitalis, }

M. ft. pil. No. i.

Sig.: One pill every three hours.

To overcome œdema of the limbs the following powder is recommended:

R Potassium sulphate, ..... 3iss;  
Potassium bitartrate, ..... 3iss;  
Potassium nitrate, ..... 3iss;  
Powdered digitalis, ..... gr. xv.

M. et divide in chart xx. One to three powders a day, as needed.



**Hæmaturia in Hæmophylics.**—The treatment of bleeding from the kidneys is considered in an article in the *Journal of the American Medical Association* for February 15. In hæmophilia various drugs may be tried. Suprarenal extract may do good, and thyroid extract has often been of advantage, although in other instances it tends to increase the hæmorrhage. The exact element in the blood that is wrong or the exact internal secretion that is at fault in hæmophilia has not been discovered and may not be constant, hence the varied results from the administration of the various organic extracts. Gelatin has been fed with advantage in such instances, and calcium chloride has often been of benefit. Calcium chloride may be given as follows:

R Calcium chloride, ..... 5ss;  
Syrup of calcium lactophosphate, ..... ʒiv.  
M. et sig.: A teaspoonful, with plenty of water, every three hours.

**To Increase the Flow of Milk.**—To increase the flow of milk when it is desired to defer weaning the infant or changing the nurse it is often recommended to the nurse to take malt beverages such as light beer or ale and to use additional salt in the food. Certain aromatic and carminative drugs are also reputed to be of service, cumin, anise and fennel seed being used. In the *Journal de médecine de Paris*, for January 25, 1908, it is noted that Professor Del Arca, of Buenos Aires, recommends an infusion of the root or a decoction of the seeds of what is evidently an Argentine plant, tasi, the botanical name of which is given as *morrenia brachystephana*.<sup>1</sup> The preparations are made according to the following formulas:

*Infusion of the root:*

R Tasi root, ..... 30 parts;  
Boiling water, ..... 200 parts.  
Make an infusion and strain. To be taken in doses of one tablespoonful during twenty-four hours.

*Decoction of the seeds:*

R Tasi seeds, ..... 40 parts;  
Water, ..... 200 parts.  
Make a decoction by boiling.  
To be given during the day in tablespoonful doses.

In France the following preparations of nettle and galega (goats' rue) are employed as galactagogues:

R Galega leaves, ..... 50 parts;  
Make an infusion with  
Water, ..... 1,000 parts;  
And add  
Syrup, ..... 100 parts.

The whole of this is to be given during the twenty-four hours.

An aqueous extract of galega finds favor, made as follows:

R Extract of galega, ..... ʒss;  
Simple syrup, ..... Oil.  
M. Sig.: Tablespoonful every three hours.

A tincture of galega, made from the extract, is also employed:

R Extract of galega, ..... ʒss;  
Diluted alcohol, ..... Oil.  
M. Sig.: Fifty to 100 drops three or four times a day.

Galega may also be prescribed in pill form as follows:

R Galega, ..... ʒss;  
M. Sig.: One pill three or four times a day.

R Extract of galega, ..... ʒss;  
Excipient, ..... q. s.  
M. ft. pil. No. 1.  
Sig.: One pill three or four times a day.

Monin recommends the following compound pill:

R Extract of galega, ..... ʒss;  
Extract of nettle, ..... ʒss;  
Extract of orange, ..... ʒss;  
Calcium hypophosphite, ..... ʒss;  
Essence of cumin, ..... q. s.  
M. ft. pil. No. 1.  
Sig.: One to two pills twice or thrice daily with meals.

A tincture and a syrup of nettle are used in the same dosage, though the nettle preparations are more concentrated:

R Extract of nettle, ..... ʒss;  
Diluted alcohol, ..... Oil.  
M. Sig.: One to two teaspoonfuls every three hours.

*Syrup of nettle:*

R Extract of nettle, ..... ʒss;  
Simple syrup, ..... Oil.  
M. Sig.: Tablespoonful every three hours.

Potassium chlorate in doses of fifteen grains three times a day has been recommended by Harkin, of Belfast, but this drug must be used with caution.

**The Treatment of Chilblains** is thoroughly discussed by F. Gardier in *The Practitioner*, for February, 1908. He names ichthyl and formaldehyde as two drugs of preeminent value in the early stages. Ichthyl reduces congestion. While he has used it in full strength painted on, an ointment of wool fat containing ten to twenty per cent. of ichthyl serves most purposes. Spread thickly on linen, and worn at nights on the affected parts, ichthyl ointment often dispels a commencing attack after a few applications. If the odorous character of ichthyl is objected to, thigenol may be used in its stead. Formaldehyde requires more care in its application in consequence of its pungent odor and smarting effects on abraded surfaces. In ointment form it may be used in ten to fifty per cent. strength. Formaldehyde may be also applied pure. It is said to be more effective and lasting in its results, but much harsher in its action, therefore ichthyl is better suited for delicate skins. Exposure of the surface to x rays and high frequency currents have been used successfully in severely recurring cases. X rays are said to have an atrophic effect, this being more pronounced on unhealthy tissue, hence they reduce inflammation and remove pain. High frequency currents can be applied by the effleuve, or by the vacuum electrode. In the ulcerating stage the following paste forms a convenient application:

R Ammoniated mercury, ..... ʒss;  
Ichthyl, ..... ʒss;  
Starch, ..... ʒss;  
Zinc oxide, ..... ʒss;  
Petrolatum, ..... ʒss.

M. Sig.: Apply unsparingly on linen and change frequently.

**Inhalation for Whooping Cough.**—Edson (Practitioner) uses the following:

R Camphor, ..... ʒss;  
Essential oil of eucalyptus, ..... ʒss;  
Spt. chloroform, ..... ʒss;  
M. Sig.: Use inhalation fifteen to twenty times a day.

M. Sig.: Use inhalation fifteen to twenty times a day.

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SUPRARENAL PREPARATIONS IN  
DERMATOLOGICAL DIAGNOSIS.

Dr. Winkler, of Germany, has made interesting researches and experiments regarding the influence of adrenalin, hydrochloride of suprarenine, and synthetic suprarenine upon the skin, in which he gained the impression that the synthetic preparation did not act so well as the two natural ones.

He reports his results in the *Monatshefte für praktische Dermatologie* for February 1st, and refers to Alois Velich, who described his experiments in the *Wiener medizinische Blätter*, 1897, p. 735, and to Julius Baum, who wrote about the same subject in the *Archiv für Dermatologie und Syphilis*, 1905, p. 59.

Painting of uninjured skin with suprarenal preparations is not followed by any effect. But Winkler's method produces results; that is, if a thin layer of cotton wool impregnated with a suprarenal preparation is placed upon the uninjured skin and kept there under light pressure for about ten minutes, the area thus treated will remain white for about thirty minutes to four hours, according to the vaso-motor excitability of the skin, when it gradually resumes its normal color. Painting with the preparation makes only injured skin anæmic, such a lesion being produced by lightly rubbing with fine emery paper or ether. Furthermore, if a line is marked with a blunt glass rod upon a skin of ready vaso-motor excitability, this line will immediately become elevated and red, marked on both sides with a white

line; this red elevation, when covered with suprarenal wadding, will disappear and form with the white lines a broad white band. If the glass rod is applied to an area whitened by a suprarenal preparation in such a manner that uninfluenced skin is also touched on both sides, then the area will be surrounded by red and white lines, while the area itself becomes only slightly elevated.

These experiments have been used for diagnoses in dermatology. Thus, when an area of lupus vulgaris has been treated in the manner described, the red nodules will stand out prominently from the anæmic skin, while the brown red syphilides turn gray yellow, and in sclerosis a yellow coloring appears. Lupus erythematosus is not affected, while lupus tumidus shows a result. Erythema multiforme and erythema nodosum are strongly influenced, the bluish color disappearing. In a skin upon which suprarenal wadding has been placed and which is then treated with radium, the radium erythema does not appear, while, when it is present, the skin not having been treated with the suprarenal preparation, it will disappear on the application. Urticaria blotches pale and the itching stops. The redness of acute articular rheumatism disappears entirely, but that of syphilitic origin turns gray. In psoriasis the red scales turn white, and if there is desquamation, can easily be picked off.

Of interest is also the influence of suprarenal preparations upon eczema, where the rose red nodules in seborrhœic eczema turn yellow, thus distinguishing eczema from lichen urticatus, where the entire area is paled. In herpes zoster the vesicles do not change color, while the surrounding area pales slightly. Evidently the suprarenal preparations may find a place in dermatological diagnosis.

## A MUSEUM OF SAFETY DEVICES.

The establishment of the American Museum of Safety Devices and Industrial Hygiene seems to promise the adoption of many efficient means of preventing fatal and crippling accidents and the occurrence of disease due to causes now incident to certain occupations. It appears to us more likely than the enactment of an employers' liability law to promote the saving of life and health; at all events it may powerfully supplement such a law and restrict the necessity of resorting to its provisions.

At present the museum occupies the fifth floor of a large building at No. 231 West Thirty-ninth Street, near Broadway. There is no charge for admission to the display, which is open to the public daily from 10 a. m. to 6 p. m., except that on Saturdays it closes at 1 p. m. It is announced that special

arrangements can always be made for visitors on holidays and during conventions and "other events," also that competent persons will be in attendance to explain the devices and processes exhibited. An "industrial chamber of horrors" is to be made a feature of the museum, showing the unsuspected perils to which we are almost all frequently exposed, such as defective pieces of mechanism in passenger elevators, for example.

Certain prizes are announced. The *Scientific American* offers annually a gold medal for the best device for the protection of life and limb, limited for this year to devices pertaining to transportation. Dr. L. L. Seaman offers a prize of \$100 for the best essay on the economic waste due to occupational diseases, and a person whose name is not given offers a prize of the same amount for the best essay on the economic waste due to accidents. It is reasonable to suppose that other prizes will be open to general competition, and we may well hope that beneficent results will follow.

The museum is under the patronage of men whose names are a guarantee that its operation will be free from objectionable features. Bishop Potter presided at a meeting held in the Cooper Union on February 11th, in furtherance of the work of the museum. At that meeting addresses were made by the Hon. Carroll D. Wright, Rabbi Stephen S. Wise, Mr. Alfred J. Boulton, the Rev. Percy S. Grant, Dr. Josiah Strong, and Dr. William H. Tolman (the director of the museum). We understand that this undertaking is dependent for its financial support solely on the fees received from exhibitors and on contributions, and we hope that the latter will prove numerous and substantial. The treasurer is Mr. William B. Howland. A contribution to the funds of the museum would seem to be a direct benefaction to the people; not the people of New York alone, but also of the whole country.

#### ANATOMY AND PHYSIOLOGY AMONG THE CHINESE.

As we hear only severe criticism of the knowledge of medicine among the Chinese, we wonder how it is possible that a nation which is so highly cultivated and possesses such an old civilization could have been satisfied for many centuries with ignorant physicians. Dr. Grünhagen, of Schwerin, Germany, is therefore to be congratulated on having published in *Janus* for January a very interesting and instructive article dealing with this subject.

We hear from our learned author that since the seventeenth century the Chinese physicians have not been permitted to perform autopsies, partly from

religious respect for the dead, partly from the belief that every man should enter the other world with an uninjured, whole body, that he may lead a peaceful life in the hereafter and may not disturb his descendants. The anatomical knowledge of the Chinese dates, therefore, back to the time before this period, when post mortem examinations were still performed, and this knowledge has come to the Chinese of the present day as a tradition preserved from generation to generation, partly by word of mouth, partly in books. New investigations and corrections have not been added.

Superstitions have played an important rôle in our own medical science, but progress has mostly overcome this inheritance of the Dark Ages. Such, however, is not the case with the Chinese; superstitions have with them become a science, and they have built of them a structure with real Chinese consistency.

The Chinese physicians believe that the most important part of the body is the organ through which the soul enters it, the testicle in man, the uterus in woman, or, according to others, the kidneys, for male and female alike. The body consists of muscles, fat, arteries, skin, and bones. The functions and importance of the brain were not known formerly, while modern physicians classify the organ as the first of the intestines. The organs are divided into three classes: 1. The liver, the heart, the spleen, the lungs, and the genitals. 2. The gallbladder, the large and small intestines, the stomach, the urinary bladder, the kidneys, the testicles, and the three body cavities; these two classes constitute the intestines. 3. The twelve nerves, six to the arms and six to the legs. Each of these twelve nerves gives off three *yang* and three *yin*, which supply the organs of the body. The nerves consist of fine tubes, which, leading to all parts of the body, form the paths of travel for the soul.

The soul travelling from its point of entry to the centre of the body, which is situated at the junction of the nose and the upper lip, is sometimes thought to be in a gaseous, sometimes in a fluid form. From the centre of the body it supplies all parts with power and energy. The soul flows without interruption through the body, never returning to its place of entry. Where it flows more slowly or where it finds impediments, there will appear diseases. Anger makes the soul ascend quickly, happiness slowly, while fear makes it descend slowly, terror quickly; cold contracts the soul, heat expands it, and fatigue exhausts it.

There are points from the centre of the body two principal trunk arteries which supply the body and each with branches. One of the trunk arteries ascending vertically upwards to the cranium, and as



far as the end of the spinal column; the other vertically downward to the belly. The pulse can be felt in six places. Such is the traditional science of anatomy and physiology in old China.

### LOCO POISONING.

An interest not altogether devoid of mystery is connected with the loco poisoning of cattle on the plains east of the Rocky Mountains. The trouble is popularly attributed to the eating of certain plants by the cattle, plants known as loco weeds. The Bureau of Plant Industry of the United States Department of Agriculture has been investigating the subject, and Mr. C. Dwight Marsh, of the bureau, is satisfied that two plants, *Aragallus Lambertii* and *Astragalus mollissimus*, are capable of causing the disease known as loco poisoning. According to Mr. Albert C. Crawford, also of the bureau, the symptoms of loco disease may be produced in rabbits by feeding them with extracts of these plants. He attributes the poisonous action to the inorganic constituents, especially barium, at least as regards the plants collected at Hugo, Colorado.

Mr. Crawford remarks that there is a close analogy between the symptoms and lesions of barium poisoning and those that follow the administration of extracts of these plants. Small doses of barium salts, he says, may be administered to rabbits without apparent effect at first, but suddenly there are observed acute symptoms analogous to those reported as displayed by "locoed" cattle. Sulphates, especially magnesium sulphate, may be supposed to exert an antidotal effect, but it is doubtful how far they would be of service after the occurrence of anatomical changes. It seems that loco plants grown on certain soils contain no barium and are pharmacologically inactive. In testing loco plants for poisonous qualities, not only aqueous and alcoholic extracts should be used, but also extracts obtained by digesting the plants with the gastrointestinal ferments.

### THE PRESENT STATUS OF THE NEURONE DOCTRINE.

The neurone doctrine, as originally outlined by Waldeyer, like many other doctrines which have been promulgated by men of science, has led an uneven life. Alternately attacked and supported, it has seemed to come through the fierce light of opposition to gain a better foothold than before.

It is now only about seven years since Apathy's work on neurofibrils seemed to attack the principle at the very root of its being, and the onslaughts of

Bethe and Nissl from the morphological side added weight to the opposition, although it is now well recognized that these investigators did not make any serious inroads upon the doctrine. Hensen, in 1903, and Schultze, in 1905, however, to use Verworn's phrase in a recent address (*Medizinische Klinik*, January 24th) given by him on the neurone doctrine, "made serious breaks in the wall" when they gave evidence tending to show that the peripheral nerves might originate from a net or chain of cells rather than from the neuroblast, as originally laid down by His.

Swayed by the evidence of Schultze, Verworn's allegiance to the neurone doctrine suffered, as announced by him in the *Zeitschrift für allgemeine Physiologie*, vi, 1906, for the nucleus of the neurone doctrine lies in the conception that the body of the ganglion cell, with its nervous processes and dendrites, forms a cellular unit. The nerve prolongations, with their fibrillar differentiations as well as the dendrites, must be considered as a growth from the ganglion cell body and as constituting in their extension—i. e., the axis cylinder with its fibrillæ—the most important portion of the peripheral nervous system.

Should the cell chain origin be established, a radical viewpoint is reached that must modify our present conceptions of the neurone doctrine, but, as in times past, Ramón y Cajal comes to the rescue and shows, in a paper on the genesis of nerve fibres in the embryo (*Trabajos del Laboratorio de Investigaciones biológicas de la Universidad de Madrid*, Tomo iv, Madrid, 1906), that the old conception of His, which has been one of the most important foundations underlying the doctrine, is true, and that Schultze is incorrect in his deductions. Held, who at times has opposed the doctrine, supports Cajal in his studies, in a work on the histogenesis of the nerve fibres (*Anat. Anzeiger*, xxix), in which he traces the development of the neurofibrils from the protoplasm of the neuroblast, where they lie in a loose, turning mass, and develop into the nerve process as it grows out of the ganglion cell. Finally, from another source, an American investigator, Ross G. Harrison, in a series of studies on the transplanting of limbs and their bearing on the problems of the development of nerves (*Journal of Experimental Zoology*, 1907, 4), demonstrates with great definiteness that the cell chain theory of the origin of nerve fibres is not tenable. The question, then, again settles back to the original proposition that the nerve fibres are still to be considered as developments of the ganglion cell, and, in spite of the attacks of Apathy, Bethe, and Nissl, the essential feature of the neurone doctrine remains undisturbed.

## THE BUREAU OF ANIMAL INDUSTRY.

A modest pamphlet of sixty-nine pages constitutes the report of the bureau's work during the year 1907. Of course it is only a summary, the more elaborate reports on special subjects having been issued separately from time to time. We have frequently had occasion to mention the bureau's publications on matters of particular interest to the medical profession, and we have always found them commendable. In our opinion, the Bureau of Animal Industry of the United States Department of Agriculture is one of the most important agencies in advancing our knowledge of comparative medicine and therefore that of medicine in general.

## News Items.

**Changes of Address.**—Dr. Claude L. Wheeler, to 418 East Sixteenth street, Brooklyn (residence only).

**Manhattan State Hospital.**—Dr. William Seaman Bainbridge, of New York, has been appointed consulting surgeon to this hospital.

**The Pennsylvania State Board of Medical Examiners.**—Governor Stuart has appointed Dr. Winters D. Hamaker, of Crawford County, and Dr. M. P. Dickeson, of Delaware County, members of the State Board of Medical Examiners.

**Personal.**—Dr. T. Hewson Bradford, of Philadelphia, has retired from general practice and will devote his attention to medical insurance.

Dr. L. C. Ahlborn, of Waverly, West Virginia, is registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

**The Harvey Society Course of Lectures.**—The seventh lecture in this course will be delivered by Professor Otto Folin, of Harvard Medical School, at the New York Academy of Medicine on Saturday evening, February 22d, at 8:30 p. m. The subject is Problems of Chemistry in Hospital Practice.

**Buffalo Academy of Medicine.**—A meeting of the Section in Pathology was held on Tuesday evening, February 18th. Dr. James A. Gibson read a paper entitled Some Observations on the Sphenoidal Sinus, and presented specimens, and Dr. A. L. Benedict gave a demonstration of a new method of determining urinary acidity.

**For the Suppression of Tuberculosis and Typhoid Fever in New York State.**—Dr. Eugene H. Porter, Health Commissioner of New York State, has asked the Legislature for an additional appropriation of \$75,000 to carry on the work of the campaign against tuberculosis, and \$30,000 to inspect local water supplies with a view to stamping out typhoid fever.

**The Section in Otolaryngology and Laryngology of the College of Physicians of Philadelphia** held a meeting on Wednesday evening, February 19th. Dr. George Morley read a paper entitled A New Method of Treating the Ethmoid and Sphenoidal Cavities and Orbit Operation, and Dr. J. L. Goodale, of Boston, delivered an address on the relation of Local Treatment to Acute Inflammation of the Throat from the Standpoint of Pathology. The Honorable Mr. Folger presided.

**Hartford, Conn., Medical Society.**—The Surgical Section will meet on Monday evening, February 24th, at 9 o'clock. Dr. A. J. White will read a paper entitled Peritonitis, with Infection from a Ruptured Appendix, and Dr. M. A. Bailey will report a case of Cellulitis Treated by Scarification. Dr. Oliver C. Smith will give a report of the case of a patient who had been treated at the Drs. Mayo, and the Chicago hospitals will be discussed by Dr. J. C. Smith and Dr. R. L. Smith.

**The Northern Medical Association of Philadelphia,** at its semi-monthly meeting, held on Friday, February 14th, had a symposium on gastric ulcer. Dr. A. O. J. Kelly spoke on the pathology, ætiology and symptomatology; Dr. Albert Bernheim spoke on the medical treatment, and Dr. William L. Rodman spoke on the surgical treatment.

**West End Medical Society, New York.**—The first regular meeting of this society for the year 1908 will be held at the residence of Dr. Theron W. Kilmer, 165 West Eighty-fifth street, on Saturday evening, February 22d, at 8:15 o'clock. Dr. Henry L. Shively will read a paper entitled The Association of Tuberculosis of the Lungs with Diabetes Mellitus.

**Rochester, N. Y., Academy of Medicine.**—The regular meeting of the Section in General Medicine, which includes neurology, psychiatry, materia medica, and therapeutics, was held on the evening of Wednesday, February 19th. Dr. William S. Ely read a paper on Human Asymmetry; Dr. Robert G. Cook read a paper on Acute Anterior Poliomyelitis; and Mr. John W. Radu gave a demonstration on the Action of the Valves of the Heart.

**Examination for Internes at the City Hospital.**—An examination will be held on March 27th and 28th to secure internes for the house staff of the City Hospital. The hospital has a capacity of about eight hundred beds, comprising all branches of medicine, and the term of service is eighteen months. All applications should be addressed to the chairman of the Examination Committee, Dr. Smith Ely Jelliffe, 64 West Fifty-sixth street, New York.

**Medical Society of the County of Kings, N. Y.**—A meeting of the Section in Pediatrics was held on Friday evening, February 21st. Dr. R. M. Beach presented a case of Enlarged Thymus cured by the x ray, and Dr. A. J. Summer presented a case and specimen of foetal rickets. Dr. Maurice Packard, of New York, read a paper on the Treatment of Pneumonia in Children, and Dr. John F. Crawford read a paper entitled A Review of English Pædiatric Literature.

**Syracuse, N. Y., Academy of Medicine.**—A regular meeting of this academy was held on Tuesday evening, February 18th. The programme included the following papers: Ectopic Gestation, by Dr. W. H. Maynard; Some Unusual Experiences in Scarlet Fever, by Dr. Robert H. Phelps, of Norwich; and The Early Recognition of Tuberculous Bone and Joint Disease in Children, by Dr. E. J. Wynkoop. Dr. C. E. Coon illustrated Dr. Wynkoop's paper with Röntgen ray lantern slides.

**Saratoga Springs, N. Y., Medical Society.**—A symposium on pleurisy was held by this society at its February 21st meeting. Dr. A. J. Leonard read a paper on the Ætiology and Pathology of Pleurisy, which was discussed by Dr. G. S. Towne; Dr. E. A. Palmer read a paper which dealt with the symptoms and diagnosis, and Dr. J. T. Humphrey read a paper on the treatment. Dr. F. J. Resseguie discussed Dr. Palmer's paper and Dr. D. C. Moriarty discussed Dr. Humphrey's paper.

**The Delaware County, Pa., Medical Society** held its regular monthly meeting in Chester, Pa., on Thursday, February 13th. Dr. John M. Swan, instructor in tropical medicine in the Philadelphia Polyclinic and College for Graduates in Medicine, addressed the society on the Diagnosis of Malaria. A demonstration of the plasmodium malariae was arranged. The president of the society, Dr. Frank J. Evans, of Chester, entertained the society at supper.

**Assistant Surgeons Wanted for the Medical Corps of the Army.**—It is announced that there are twenty-three vacancies in the Medical Corps of the Army, and to secure assistant surgeons to fill these vacancies examinations will be held in Massachusetts and New York at various points throughout the country where boards can be convened. Applicants must be citizens of the United States, must be between twenty-two and thirty years of age, graduate from a medical school in the United States, and shall have had at least one year's hospital training or its equivalent.

**The Medical Society of the Borough of the Bronx** held a meeting on February 12th. The evening was devoted to a symposium on Influenza, the following papers being read: The Diagnosis and Treatment of Influenza, by Dr. Thomas J. Dunn; Influenza in Children, by Dr. A. F. Brugman; the Nose and Throat Complications of Influenza, by Dr. Charles Graef; the Ear Complications of Influenza, by Dr. John B. Rae; and Influenza in Its Relation to the Nervous System, by Dr. William M. Leszynsky. The general discussion which followed the reading of the papers was opened by Dr. G. H. E. Starke.

**New York Academy of Medicine.**—At a stated meeting to be held on Thursday, March 5th, at 8:30 p. m., under the auspices of the Section in Medicine, there will be a discussion of the subject of Nutrition in Typhoid Fever. A paper on Metabolism and Diet in Typhoid Fever will be read by Dr. Warren Coleman and Dr. P. A. Shaffer, and Dr. Morris Manges will read a paper entitled The Limitations of Liberal Feeding in Typhoid Fever. Among those who will take part in the discussion are Dr. Graham Lusk, Dr. C. G. L. Wolf, Dr. W. Gilman Thompson, Dr. Egbert La Fevre, Dr. T. C. Janeway, and Dr. James Ewing.

**The Eastern Medical Society of the City of New York** held a meeting on Friday, February 14th, the evening being devoted to a symposium on Diseases of the Bones and Joints. Dr. Leo Buerger read a paper on Bone Sarcomata; Dr. Martin W. Ware gave a stereoscopic demonstration of radiograms of Syphilitic Bone Disease; Dr. P. W. Nathan read a paper on Mechanical Treatment of Bone and Joint Tuberculosis; Dr. Willy Myer read a paper on Bier's Hyperæmic Treatment in Tuberculous Affections of the Joints; and Dr. Joseph Weiner read a paper on General Considerations of Bone and Joint Tuberculosis.

**Scientific Society Meetings in Philadelphia for the Week Ending February 29, 1908.**—*Monday, February 24th*, Mineralogical and Geological Section, Academy of Natural Sciences; Society of Normal and Pathological Physiology, University of Pennsylvania. *Tuesday, February 25th*, Philadelphia Neurological Society. *Wednesday, February 26th*, Philadelphia County Medical Society. *Thursday, February 27th*, Pathological Society; Entomological Section, Academy of Natural Sciences; Section Meeting, Franklin Institute. *Friday, February 28th*, South Branch, Philadelphia County Medical Society; Northern Medical Association.

**Charitable Bequests.**—By the will of George W. Warner, the Orphans' Home and Asylum for the Aged and Infirm of the Evangelical Lutheran Church of Germantown, the Northern Home for Friendless Children, the Home for Aged and Infirm Colored Persons, and the Pennsylvania Home for Blind Women, become contingent legatees to the extent of \$2,500 each. The Pennsylvania Hospital, the Episcopal Hospital, and the Pennsylvania Institution for the Instruction of the Blind are also contingent legatees.

By the will of Catherine Cullin, St. Joseph's Home for Homeless Boys and St. Francis's Industrial School, Philadelphia, receive \$100 each. The Catholic Home for Destitute Children receives \$50.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending February 8th, there were during the week 747 deaths from all causes, as compared with 783 for the corresponding week in 1907. The annual death rate was 17.08 in 1,000 of population. The principal causes of death were: Apoplexy, 14; Bright's disease, 40; bronchitis, 351; consumption, 171; cancer, 33; convulsions, 8; diphtheria, 10; heart diseases, 57; influenza, 43; intestinal diseases, acute, 42; measles, 3; nervous diseases, 25; pneumonia, 149; scarlet fever, 10; suicide, 7; typhoid fever, 7; violence, other than suicide, 30; whooping cough, 5; all other causes, 149. More than one-third of the total numbers of deaths were caused by consumption, pneumonia, and bronchitis.

**Vital Statistics of New Jersey.**—The monthly statement of vital statistics issued by the Board of Health of the State of New Jersey for the month of January shows that there were 411 deaths from pneumonia during that month, which is an increase of 195 over the preceding month and 79 over the corresponding month for last year. Pulmonary tuberculosis was the cause of 284 deaths, which is 30 less than the average monthly death rate from this

disease. These two diseases are responsible for more deaths than any other single disease reported. During the month 1,000 bacteriological examinations have been made, 514 of which were from suspected cases of diphtheria, 296 from tuberculosis, 171 from typhoid fever, and 9 from malaria. Out of 428 specimens of food and drugs examined, 89 were below the standard, 339 above.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending February 18, 1908:*

	February 11.—		February 25.—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonary	339	268	349	225
Diphtheria	42	55	371	46
Measles	1,163	25	1,164	26
Scarlet fever	744	52	756	55
Smallpox	1	..	4	..
Varicella	162	..	155	..
Typhoid fever	21	3	20	5
Whooping cough	11	..	9	5
Cerebral meningitis	13	6	7	8
Totals	27,6	553	2,772	379

#### Society Meetings for the Coming Week:

**MONDAY, February 24th.**—Medical Society of the County of New York.

**TUESDAY, February 25th.**—New York Medical Union; New York Dermatological Society; Metropolitan Medical Society of the City of New York; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology).

**WEDNESDAY, February 26th.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society.

**THURSDAY, February 27th.**—New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Celtic Medical Society; Brooklyn Pathological Society; Hospital Graduates' Club, New York; Brooklyn Society for Neurology.

**FRIDAY, February 28th.**—New York Clinical Society; New York Society of German Physicians; Academy of Pathological Sciences.

#### The Medical Jurisprudence Society of Philadelphia.

The seventy-fourth stated meeting of this society, which was held on Monday evening, February 17th, was devoted to a symposium on the Public's Gain by State Control of Medical Practice. Papers were read as follows: What People Have Gained Through the Present State Medical Examination Law, by Dr. John B. Roberts; What the Public Gains by a Single Examining Board System for Lawyers, by Thomas W. Barlow, Esq.; Newspaper Publicity Necessary to Warn the People as to Insufficient Protection by the Present Multiple Medical Examining Boards Plan, by Mr. Edward Sterling; Some Facts Relating to Medical Education in the United States Discovered and Demonstrated by the Operation of the Act of Assembly Regulating Practice in Pennsylvania, by Dr. Henry Beates; Consolidation of Multiple Medical Examining Boards into a Union or One Board Plan Required to Give Full Protection, by Mr. Adolph Eicholz. A general discussion followed.

**The U. S. Pharmacopœia as a Textbook in Medical Schools.**—Professor Joseph P. Remington, chairman of the Committee of Revision of the U. S. Pharmacopœia, recently called an informal conference of the medical teachers of Philadelphia, at which the following resolution was passed:

*Resolved*, That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the U. S. Pharmacopœia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and further, that this resolution be forwarded to the medical and pharmaceutical journals, and to the teachers of medicine and therapeutics in the United States.

Among those who attended the conference were Dr. James Tyson, Dr. John H. Musser, Dr. John Marshall, Dr. Horatio C. Wood, Jr., Dr. J. W. Holland, Dr. Hobart Amory Hare, Dr. James C. Wilson, Dr. E. Q. Thornton, Dr. John V. Shoemaker, Dr. Seneca Egbert, Dr. M. C. Huch, and Dr. J. Newton Smith.



**The Health of Philadelphia.**—During the week ending January 25, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Malarial fever, 2 cases, 0 deaths; typhoid fever, 87 cases, 21 deaths; typhus, 1 case, 0 deaths; chickenpox, 57 cases, 0 deaths; diphtheria, 54 cases, 7 deaths; cerebrospinal meningitis, 5 cases, 5 deaths; measles, 122 cases, 4 deaths; whooping cough, 12 cases, 0 deaths; pulmonary tuberculosis, 11 cases, 62 deaths; pneumonia, 90 cases, 98 deaths; erysipelas, 16 cases, 3 deaths; German measles, 1 case, 0 deaths; cancer, 28 cases, 25 deaths; mumps, 10 cases, 0 deaths; tetanus, 1 case, 1 death; hydrophobia, 1 case, 1 death; anthrax, 1 case, 1 death. The following deaths were reported from other transmissible diseases: Tuberculosis other than tuberculosis of the lungs, 5 cases; puerperal fever, 2 cases; diarrhoea and enteritis, under two years of age, 14 cases; septicemia, 1 case. The total deaths numbered 573 in an estimated population of 1,532,738, corresponding to an annual death rate of 19.40 in 1,000 of population.

**A New International Journal of Epilepsy**, to be called *Epilepsia*, is about to be launched as an international quarterly which will be devoted to the study and treatment of epilepsy. It is announced that this journal will be under the patronage of Dr. W. Bechterew, Dr. O. Binswanger, Dr. C. Hughlings Jackson, Dr. L. Luciani, Dr. H. Obersteiner, and Dr. F. Raymond. The editorial staff includes Dr. H. Claude, of Paris; Dr. A. Turner, of London; Dr. L. Bruns, of Hanover; Dr. W. P. Spratling, of Sonyea; Dr. J. Donath, of Budapest, who will be the active editor for the first year; and Dr. L. J. J. Muskens, of Amsterdam, who is the secretary. Among the collaborators and assistants are the following: Apelt, Grainger Stewart, Lejonne, Maes, Perusini, Southard, Agostini, Aschaffenburg, Alt, Alzheimer, Bastein, Batten, Brandos, Bruce, Ferrier, Gowers, Haskovec, Van Hamel, Hebold, Heilbronner, Henschen, Horsley, Jørgensen, Jelliffe, Kocher, Kowalewsky, Krause, Kure, Lewandowsky, Maxwell, Meyra, Nonne, Oppenheim, Probst, Cajal, Redlich, Stertz, Jurkel, Voisin, Weber, Salomonson, Wiersma, Winkler, and Ziehen. The official languages will be English, German, and French. Further information concerning this new publication may be obtained from the collaborators or from the *Journal for Nervous and Mental Disease*, New York.

**Coroners' Cases in Brooklyn During the Year 1907.**—According to the report of the Board of Coroners, the total number of cases that came within the jurisdiction of the coroners during the year 1907 was 3,474. Of these 1,810 were sudden deaths, or cases where medical attendance was lacking, 1,288 were deaths from some form of violence, and 376 were still births. The deaths by violence are classified as follows: Suicides: By illuminating gas, 75; pistol shot wound, 64; knife wounds, 14; poison, 34; strangulation, 36; jump from height, 6; drowning, 3; jump in front of "L" train, 2; total, 234. Homicides: By pistol shot wounds, 45; knife wounds, 10; blow from club, fist, etc., 18; poison, 1; illuminating gas, 3; total, 77. Railroads: By trolley, 102; elevated or motor trains, 26; steam railroads, 19; shock, third rail, 2; total, 149. By wagons, trucks, etc., 70; automobiles, 8; falls from windows, stoops, etc., 203; by being crushed, 60; kick of horse, 2; suffocation, gas, accidental, 82.

tion, children in bed, 6; accidental shooting, 3; accidental poison, 24; accidental drowning, 114; electricity (live wire), 6; abnormality, 1; burns, 1; head trauma, 10; bone, 1; eye, 1; muscle, 1; as follows: Exposure, 7; rabies, 7; vaccine poison, 2; explosion, 1, and choked while eating, 1.

**Vital Statistics of New York State.** During the year 1907 there were 20,743 deaths reported. Of these 10,422 were males, 10,321 were females, and 1,000 were children under 15 years of age. There were 10,000 deaths among persons of Indian and/or Chinese descent. The average length of life in the State was 46.8, and for New York City 50.2. The total number of deaths reported in 1907 was 14,442, or 14.4 per 1,000 of the population, as compared with 14.7 in 1906. The number of deaths in 1907 was 26,000 males and 27,426 females. Of the reported deaths in 1907, 14,900 were from infectious diseases, the largest number from any one disease group. There were 1,008 deaths from heart disease, and 1,006 from pneumonia. There were 1,668 deaths from typhoid fever, an increase of 100 over the previous year, 992 deaths from measles, a decrease of 374 from the previous year, 1,000 deaths from scarlet fever,

fever, an increase of 330 over the previous year; 2,600 deaths from diphtheria, an increase of about 100 over the previous year. There were 2,377 deaths from influenza, 483 from erysipelas, 222 from cerebrospinal meningitis, 6,400 from cancer, 14,668 from diseases of the nervous system, and 16,893 from diseases of the circulatory system. The deaths under one year of age were 27,957; from one to five years of age, 12,142; from five to ten years of age, 3,249; from ten to twenty years of age, 5,206; from twenty to forty years of age, 24,830; from forty to sixty years of age, 29,539; from sixty to eighty years of age, 34,516; and over eighty years of age, 9,838.

**The Health of the Canal Zone.**—During the month of December, 1907, the total number of deaths in the Canal Zone was 263, in a population of 110,713, corresponding to an annual death rate of 28.50 in 1,000 of population. There were 6 deaths from typhoid fever, 1 from relapsing fever, 33 from clinical malaria, 2 from malarial cachexia, 3 from hæmoglobinuric fever, 3 from amebic dysentery, 1 from clinical dysentery, 5 from beriberi, 26 from pulmonary tuberculosis, 2 from other forms of tuberculosis, 2 from syphilis, 2 from cancer, 3 from tetanus, 4 from bronchopneumonia, 28 from pneumonia, 20 from diarrhœa and enteritis under two years of age. There were 14 deaths among the white employees, 5 of which were natives of the United States. There were two deaths among the white American workmen, one from typhoid fever, one from aggradarum, and one from capillary bronchitis. It must, of course, be understood that the annual death rate of 28.50 above recorded includes the entire population of the Canal Zone as well as of Panama and Colon. The death rate in American territory was 21.67 in 1,000 of population; that in Panama and Colon, 36 in 1,000 of population.

**Meetings of Sections of the New York Academy of Medicine.**—At a meeting of the Section in Ophthalmology, held on Monday evening, February 17th, the following papers were read: When and How Shall We Use Cycloplegics in Refractive Work? by Dr. Alexander Duane. Report of a Case of Traumatic Rupture of Descemet's Membrane, by Dr. E. B. Coburn; Unguentum Hydragryi Oxidi Flavæ. Improved, by Dr. T. R. Chambers.

18th. Dr. H. W. Berg read a paper on General Phlebotomy and Dr. D. M. Kaplan read a paper entitled The Life History of the Malarial Parasite. Dr. G. R. Satterlee reported a case of Pernicious Malaria with Autopsy; Dr. T. C. Janeway reported a case of Rapidly Fatal Diabetes; Dr. L. A. Conner reported a case of Rapidly Fatal Diabetes with Unusual Cerebral Symptoms; and Dr. C. N. B. Camac reported a case of Diabetic Coma under Alkaline Treatment.

The Section in Orthopaedic Surgery met on Friday evening, February 21st. The general topic for discussion was Fractures Complicating Joints, the following papers being read: Epiphyseal Fracture of the Hip, by Dr. Royal Whitman; Surgery of Fracture Dislocations of the Shoulder, by Dr. Carleton P. Flint; and Fractures Complicating the Elbow Joint, by Dr. C. S. Cole. Dr. William C. Lusk presented a case of Supracondylar Fracture of the Humerus; Dr. Reginald H. Sayre presented a case of Fracture of the Anatomical Neck of the Humerus; Dr. Fred H. Albee presented two cases of Epiphyseal Fracture of the Upper End of the Humerus, showing the method of reduction; and Dr. John Carling presented two cases of Fracture of the Carpus.

The Southern Laryngology and Rhinology will meet on Wednesday, February 26th, at 8:15 p. m. The following program has been arranged: Dr. Robert C. Myles will present a case of Osteochondroma of the Septum, with Extensive Absorption of the Cristiform Plate, and Dr. J. W. Gleitsmann will present a case of Excision of Tuberculous Infiltration of the Epiglottis. There will be a symposium on Atrophic Rhinitis, including Ozena. Papers on the subject will be read as follows: A Consideration of the Head Throat, by Dr. J. M. H. Smith, of New York; Dr. Clement F. Theisen, of Albany, N. Y.: The Pathology of Atrophic Rhinitis, with Ozena, by Dr. D. Braden Kyle, of Philadelphia; and The Treatment of Atrophic Rhinitis, including Ozena, by Dr. George L. Kyrle, of New Bedford, Mass., and Dr. Robert C. Myles. The subject will be discussed by Dr. Francke H. Bosworth, Dr. Clarence C. Ross, Dr. D. Brayton, Dr. James F. New, and Dr. J. M. H. Smith.

## Pith of Current Literature.

## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

February 13, 1908.

1. The Control of the Lymphatics in Injections of the Extremities, By HERBERT L. BURRELL.
2. On the Value of Malachite Green Media in Distinguishing Typhoid and Colon Bacilli, with the Description of a New Method for Isolating Typhoid Bacilli from Fæces, By F. W. PEABODY and J. H. PRATT.
3. Observations on Six Cases of Acute Perforating Ulcer of the Duodenum, By E. G. CODMAN.
4. The "Optometrist" and His "Colleges," By JOHN C. BOSSIDY.

2. **Malachite Green Media in Distinguishing Typhoid and Colon Bacilli.**—Peabody and Pratt remark that the cultural methods for the distinction of the typhoid bacillus from the other bacteria accompanying it in fæces, earth, and water, may be divided into two general classes. In those of the first attempts have been made to produce a characteristic typhoid growth—whether of form or of color. In the second, the object is to favor the growth of the typhoid bacillus, and to inhibit the growth of all other organisms, and more especially of the colon bacillus. The ideal medium for isolating the typhoid bacillus from the stools would be one upon which no other microorganism could develop. In 1903, before the Aertzlicher Verein, of Greifswald, Loeffler first demonstrated the use of malachite green culture media. He showed that the addition of a definite amount of this dye to ordinary agar favored the growth of typhoid bacilli, but inhibited the growth of colon and many other intestinal bacteria. Our authors have made experiments with malachite green media. The general results of these experiments has led them to hold the malachite green media in high esteem. They are not ideal, for their action is not absolutely specific; while they inhibit the growth of the colon bacillus, the microorganism most likely to be confounded with the typhoid bacillus, there are other bacteria which flourish in them. Furthermore, as Jorns and Klinger clearly showed, malachite green checks somewhat the development of the typhoid bacillus. It is, nevertheless, true that the discovery of the action of malachite green is a step forward in the search for a perfect differential culture medium. They have found it comparatively easy to make a medium on which the typhoid bacillus will grow and on which the colon bacillus will not grow. While it is true that various preparations of malachite green differ in their action, it is a simple process to determine the strength of solution to be used, and the proper reaction of the medium for the given preparation. The malachite green bouillon method is not only more economical in time and money than that of Lentz and Tietz, but in the author's laboratory has yielded better results.

3. **Observations on Six Cases of Acute Perforating Ulcer of the Duodenum.**—Codman gives the following points which would make him suspicious of duodenal ulcer instead of appendicitis: 1. Onset of pain more sudden and violent and more initial shock. 2. A contracted concave boardlike abdomen. This seems to be very characteristic,

though some cases of appendicitis have it, too. 3. Tympany over the normal area of liver dullness. This is by no means the rule, but when present is almost diagnostic. Gas may not always be noticed when the peritoneum is opened. 4. The vague symptoms of duodenal ulcer elicited by careful questioning. 5. Most of the patients are males between twenty and forty years. 6. Location of tenderness and pain is very deceptive. Of interest are also the following remarks of the author: If perforated ulcer is suspected, it is well to be sure that small, curved, round needles are on hand, for one is much embarrassed with straight needles in suturing the perforation. Make high appendix incision and examine condition of appendix first. Take it out if necessary, to be sure of the mucosa. If the appendix is not perforated or gangrenous, carry incision up rectus high enough to see whether there is fibrin about the pylorus. If there is, carry incision up to actual margin of ribs. One needs plenty of room to do suture quickly. One obtains the best view of the duodenum by pulling the gallbladder out with one hand and hepatic flexure down with the other. Most ulcers are easy of access. Suture the ulcer before washing out the abdomen. Unless the ulcer is large and indurated or extends beyond the pylorus to the stomach, or there is stenosis of the pylorus, or the history shows severe pain and distress in the past, gastroenterostomy should not be performed. Finally, the author asks the following questions, which he would like to have answered: Why is duodenal ulcer a male disease? What evidence is there to show that these small ulcers are intractable in healing? Why may the persistent symptoms not be due to the cause (duodenal stasis) or the result (periduodenal adhesions)? Can perforation into the pancreas cause a leakage of pancreatic juice into the intestine at the wrong time? Why may not the alkaline duodenal secretions be responsible for some of the pain attributed to acid gastric secretions?

## THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

February 15, 1908.

1. The Problems of Sanitation, By EDWIN O. JORDAN.
2. Pregnancy as an Etiological Factor in Dental Disease, By JAMES E. POWER.
3. Physical Diagnosis: Urgent Need of Revision, By J. H. TYNDALE.
4. Simultaneous Sphygmomanometric Pressures as Modified by Postures, By A. H. SANFORD.
5. A Case of Hair Ball in the Stomach, By J. B. HARVEY.
6. Policephalitis Superior; Its Causation, Clinical Course, and Termination, with a Report of Six Cases, By WARD A. HOLDEN and JOSEPH COLLINS.
7. A Report of One Hundred Consecutive Perineal Prostatectomies Without a Death. With Remarks on the General Decrease in the Mortality of Prostatic Operations in Recent Years, By HUGH H. YOUNG.
8. Experiments on Subconscious Ideas, By E. W. SCRIPTURE.
9. Enuresis Following Prostatectomy. Report and Analysis of Eleven Cases, with Recommendations as to Treatment, By GRANVILLE MACGOWAN.
2. **Pregnancy as an Etiological Factor in Dental Disease.**—Power reminds us of the importance to keep the oral cavity in good condition during pregnancy. He remarks that since the physician is responsible directly, and the dentist indirectly, for the salvation of the teeth during the time the pregnant woman is in their charge, their

first duty is to impress on the mind of the patient how dependent is the entire system on the cleanliness of the oral cavity. The dentist should make a thorough examination, and should restore all the diseased teeth to a normal condition, so far as this is possible. The condition of the patient will regulate to a large degree the kind of material to be used in restoring the teeth. It is the author's custom to consider very carefully the physical state of the patient, whether she is irritable or not, how many months she has been pregnant, etc. He gives appointments to such patients about noon, as he found their condition is best at that time. The reservation of time is always short, never longer than one hour, and many times less, and he relies on his personal judgment, rather than that of the patient, as to her capacity for enduring the strain which is, to some degree at least, associated with dental operations, especially at this time. He extracts all broken down roots, after first subjecting parts to a local anæsthetic. The next important step is to clean the mouth thoroughly, and then arrange for the patient to make a monthly visit to the office, or for the dentist to make one to her home. This accomplishes two important objects: First, it causes the patient to take good care of the mouth, because she knows it is going to be inspected, and, second, one can observe any unlooked for conditions, and correct them immediately, as well as assist the patient in keeping the mouth clean. In his observation, the degree of morning sickness and the degree of dental caries are very closely related. During the day he advises the rinsing of the mouth with a solution of sodium bicarbonate or milk of magnesia every four hours, each mouthful of the solution to be held one full minute by the watch. In some severe cases he prescribes the use of tablets whose formula is sodium bicarbonate, with directions to allow it to dissolve after having placed it between the cheeks and the first and second molar teeth, in the region of Steno's duct. There is thus a remote possibility of any trouble of a dental nature occurring during the most critical period of pregnancy. The treatment of toothache or of an abscessed tooth is one of the conditions which the dentist must consider. In case of toothache he advocates the extraction of diseased teeth, treatment of which might be attended with pain sufficient to affect the life of the embryo and possibly also that of the mother in this condition. Under anæsthesia, if possible local, and with modern technique, it can be safely done. It is advisable to avoid it at times corresponding to the menstrual period on account of the greater risk than of abortion. Great care should be exercised in determining the source of dental pain, as often the source of pain appears more than manifest itself and treatment or extraction of an apparently aching tooth may complicate rather than simplify the case.

**4. Simultaneous Sphygmomanometric Pressures as Modified by Postures.**—Sanford concludes from his experiments that by carefully noting the changes in the pulse as compression is being applied, not only the point of obliteration is noticeable, measuring the systolic pressure in the vessel, but also the point of diminution of the amplitude of the pulse in the diastolic pressure, can

be observed, and, furthermore, in many instances, a marked oscillation occurs in the mercury column at and above the point of diastolic pressure. Posture affects both systolic and diastolic pressure. There is an increase of pressure in the arm in changing from the erect to the sitting, supine, and the head down positions, and at the same time a corresponding marked decrease in the pressure in the lower extremity. These changes of blood pressure are attended with a marked decrease in pulse rate. The pulse pressure, or difference between diastolic and systolic pressures, increases in the arm and decreases in the thigh as the body changes from the erect to the sitting, supine, and Trendelenburg postures. In the sphygmomanometer we have a convenient method of applying a known amount of compression to a limb, and thus may make of it a therapeutic instrument in methods of passive hyperæmia treatment.

**6. Poli-encephalitis Superior.**—Holden and Collins state that in regard to the ætiological and pathological contributions to our knowledge of the disease, the most important are, first, that the same causes that are responsible for inflammation of the gray matter in other parts of the central nervous system are responsible for this disease. Acute infections, such as influenza, pneumonia, and diphtheria, have all been accused of being the cause of the disease and a very strong case made out against them. It is not only infections, however, in whose wake it follows, for cases have been reported which seemed to show that lead, oxide of carbon, sulphuric acid, etc., were responsible factors. Study of the central nervous system of many of these cases in which a post mortem examination was held has shown that in a number of them the structural changes are slight and entirely out of proportion to the severity of the symptoms that existed. Indeed, in some instances no lesion adequate to account for the symptoms or the fatal termination of the disease was found. These cases are looked on as analogues of æsthetic bulbar paralysis (bulbar paralysis without anatomic foundation), in which it is supposed that several levels of the different segments of the central nervous system are so overwhelmed by some toxic agent that they become functionless to a certain degree, and in some instances wholly so. It is supposed that the injurious agency, whatever it may be, is not of sufficient severity to cause discernible morbid changes in the cells.

**9. Enuresis Following Prostatectomy.**—MacGowan, from his experience, is of the opinion that after removal of extremely large growths bladder control sometimes comes slowly, and a condition of enuresis, either partial or total, will exist for from six months to a year, and, perhaps, always. This condition, though lamentable, improves with time, and is apt to be best at night. There is no surgical remedy, if the operation has been complete. But he recommends, wherever the leakage has lasted for six months that various neural, anæsthetic, and mechanical measures be used, and if any remaining intraurethral or intravesical nodules be found that they be removed. There are some cases, however, not uncommon, which cannot be removed. Such cases should not be disturbed until the comfortable use of the bladder becomes impossible.



Through these a permanent groove or furrow must be made, preferably by the cautery apparatus of Chetwood. They will always leak. Where enuresis follows the imperfect removal of a small, hard prostate, the only remedy is the partial section of the fibrous ring and the prostate on its floor, and removal of the prostate, together with the nonresilient scar tissue. In such cases patients will then slowly regain control and be well people. If following a prostatectomy, usually perineal, and where the prostate has been only of moderate size, there is enuresis, and a careful rectal examination fails to show the presence of an intracapsular growth of palpable size, overlooked at the time of the operation, a careful examination of the posterior urethra and bladder, with suitable optical instruments, has sometimes revealed the presence of small tumors of glandular tissue hanging or pressing into the vesical outlet, preventing its closure, and the removal of such tumors by a second operation has resulted in a cure of the condition.

#### MEDICAL RECORD.

February 15, 1908.

1. What Shall We Do with Far Advanced Cancer of the Large Bowel? By R. C. COFFEY.
2. Sanitation of the Canal Zone, By COLONEL WILLIAM C. GORGAS.
3. A Method of Milk Production. By CHARLES E. NORTH.
4. The Importance of Correct Diagnosis in Diseases of the Eye Is the Chief Reason Why Opticians Should Not Prescribe Glasses, By A. EDWARD DAVIS.
5. Phthisis in Outdoor and Indoor Life and in Isolated and Cosmopolitan Races, By NORBURN B. JENKINS.

#### 1. For Advanced Cancer of the Large Bowel.

—Coffey quotes eleven cases of far advanced cancer of the large bowel operated on by Willy Meyer, sixteen by Jonas, and eleven by himself. He concludes that far advanced obstructive cancer, not pathologically extensive, should always be excised. For extensive growths producing obstruction, excision may be used in certain cases with hope of relief, if not cure, but a larger percentage are best treated by some form of enterostomy or colocolostomy or colostomy. Extensive growths with marked cachexia and producing no obstruction should be treated by meeting the medications with curetting, late colostomy, etc. In answer to those who say, "Let these far advanced cases die and get out of their misery," the author understands our duty to be: (1) Use desperate and radical means to remove cancers in all cases where there is a reasonable hope of cure, either temporary or permanent. (2) In irremovable cases, perform such operations as will prolong life or add to the comfort of the patient.

3. A Method of Milk Production.—North says that the use of sterile covered pails and sterile milk cans by the ordinary farmer will immensely reduce the bacteria in his milk, even though no other sanitary precautions are taken. The dairy house, where washing and sterilizing of utensils and cooling and bottling of milk are done, may be at a distance of several miles from the cow stable without materially increasing the bacterial count, provided the milk is delivered at the dairy house within one hour after milking. Five cents per quart to the farmer will pay him for his trouble of milking in a

sanitary way and for making two deliveries a day. In many instances it would compensate him for keeping his herd free from tuberculosis. Increase the functions of the creamery, so that it becomes a washing and sterilizing plant for all the milking pails and milk cans of all the farmers contributing milk to it. Substitute cover milk cans or "pailcans" for the wide open milking pails now in use. Let the creamery do all the cooling and bottling of milk. Take the cooling out of the hands of the farmer. Let the milk dealer pay the farmer five cents per quart for such milk, and the public pay the milk dealer ten cents per quart for milk delivered in the city. High prices for certified milk is due to the expense at the dairy house. Concentration of operations at the creamery for a large number of farmers would be business economy, and would likewise eliminate many sources of contamination.

5. Phthisis in Outdoor and Indoor Life and in Isolated and Cosmopolitan Races.—Jenkins remarks that indoor races, in centuries of environment favorable to tuberculosis, in order to survive have probably acquired especial aggressiveness against or resistance to the disease. This immunity has been acquired, since individuals and finally races, favored through variation and by heredity with resistance would escape or overcome the disease and in turn leave more strongly immunized offspring as racial survivors. On the other hand, individuals without resistance to the disease would tend to perish without offspring, thus eliminating the susceptible. In centuries of indoor contact with tuberculosis, phagocytes, enzymes, and opsonins may have acquired power or become trained to resist and overcome the disease. Again, the body may have selected superior tissue or certain as yet undiscovered bactericides with which to resist or arrest the disease. Such means of defense would be transmitted to the body's offspring, and thus not only the body itself, but also its successors would survive, even in the unfavorable environment of indoor life. Outdoor races in their natural environment probably escape tuberculosis without the especial resistance which indoor peoples require in order to survive contact with tuberculosis in indoor life. The agents which destroy, expel, transfer, or absorb the *Bacillus tuberculosis* may be partially or entirely absent, may be latent or rudimentary, may be in inherent or acquired weakness from centuries of nonuse or may be unable to combat unaccustomed infection and are inactive when tuberculous invasion occurs. Outdoor races, when in unchanged environment and at the same time exposed to the *Bacillus tuberculosis*, may resist the disease more successfully than when exposed to both the disease and the more or less unaccustomed environment of civilization. Biologically speaking, in tuberculosis of immune races, pulmonary structure and function, as well as the agents which dispose of the *Bacillus tuberculosis* and complicating or parasitic bacteria, may be in unfavorable variation, in arrest of evolution, or in reversion; and while such changes may allow invasion, they may result from disuse, tuberculosis, or other disease. In suitable environment variation would probably tend to evolve to the normal type and arrested evolution or even reversion might return to the original type.

## BRITISH MEDICAL JOURNAL.

February 1, 1908.

1. Some of the Medical Aspects of Life Insurance.  
By SIR J. BARR.
2. A Second Report on Clinical Experiences with Spinal Analgesia: With a Second Series of One Hundred Cases.  
By A. E. BARKER.
3. Inherited Syphilis.  
By R. C. LUCAS.
4. The Medical Inspector of Schools as a Psychiatrist.  
By T. S. CLOUSTON.
5. The Critical Solution Point of Urine: A New Physico-chemical Method of Examination.  
By W. R. G. ATKINS.

**1. Life Insurance.**—Barr states that every insurance company should have at least three classes of risks—good, average, and moderate or impaired lives. 1. The candidate for insurance in the first class should live in healthy surroundings; he should be physically fit for his work, and his occupation should not be inimical to health. From the list should be excluded stock brokers and other gamblers, and physicians. He should be almost, if not entirely, a total abstainer from alcohol, and not a glutton; overeating kills almost as many as overdrinking. He should not be over six feet in height nor under five feet four inches. He should be in good health and free from all disease and processes of disease. Beware of the man who says he has never been ill a day in his life. Such diseases as measles, scarlet fever, etc., can be disregarded if they have left no sequelae. So also with coryza and common colds. But repeated attacks of influenza, or a history of such diseases as quinsy, pneumonia, pleurisy, bronchitis, rheumatism, gout, all forms of tuberculous diseases, diseases of the kidney, liver, and spleen, bad teeth and intestinal disorders, developmental defects, and hernia should at once exclude applicants from the first class. The applicant should have been vaccinated against smallpox at least twice. 2. The second class would contain the vast majority of the persons who insure at present. All persons should be excluded who have a strong family history of insanity and other diseases of the nervous system, consumption, cancer, rheumatism, gout, and syphilis. Every person with syphilis should pay a high premium. 3. The third class would include the derelicts, and yet with care it should be a large and profitable one. Carefully selected cases of heart disease are excellent risks, but great care must be taken to draw a distinction between lesions following rheumatic fever and those of a degenerative nature. Certain diseases of the kidneys also run a very chronic course. Frequent attacks of quinsy or rheumatism should be rated high, even though no heart disease has supervened, but glycosuria in a person over forty years of age need not be a complete bar to insurance. Myxodema being very amenable to treatment, may be accepted at a moderate rate, but exophthalmic goitre should pay a high premium. The following conditions should exclude from insurance except at prohibitive rates: Any acute illness with a high mortality until the danger is passed, all forms of active tuberculous mischief, malignant disease, diabetes in the young, Addison's disease, leucocytopenia, splenic anaemia, and lymphadenoma, insanity and all advanced diseases of the nervous system, advanced degenerative lesions of the heart and bloodvessels,

all diseases of the lungs where the vital capacity is reduced below two thirds of the normal, chronic alcoholism, etc.

**2. Spinal Analgesia.**—Barker, working with an injection compound much heavier than the cerebrospinal fluid, has obtained the following results: 1. The highest analgesias were obtained with the patient lying quietly on the side before and after injection. 2. The lowest analgesias were found after puncture in the sitting position, with subsequent change to the lying. 3. It was not found necessary to elevate into the Trendelenburg position with the head low at all, and it is unnecessary, if not positively dangerous. Further, this position becomes unnecessary for the convenience of operating, as the abdominal walls are so relaxed that manipulation within the peritoneum becomes easy. 4. The best results as to high analgesias and absence of after effects were found where the level of the body had not been altered after injection, and consequently the cerebrospinal fluid has been kept in a state of rest. The volume of the injected compound was about one c.c. The anæsthetic used was stovaine in a five per cent. solution of glucose in water. The specific gravity of the solution is 1.0230, as compared with 1.0070 of the cerebrospinal fluid. No adrenal derivative of any kind was used, and it is suggested that some of the ill effects reported may have been due to the adrenal principle employed and not to the anæsthetic drug at all.

## LANCET.

February 1, 1908.

1. Inherited Syphilis.  
By R. C. LUCAS.
2. The Unequal Distribution of Filariasis in the Tropics.  
By G. C. LOW.
3. A Case of Severe Ecthyma from which the Diphtheria Bacillus Has Been Isolated.  
By A. FRODOVICS and J. G. HANE.
4. The Value of Cytodiagnosis in Practical Medicine.  
By J. E. H. SAWYER.
5. Acid Intoxication Following Ethyl Carbonate Anæsthesia.  
By H. H. B. CUNNINGHAM.
6. A Note on the Development of Secondary Nodules in Suture Scars after Operations for the Removal of Cancer.  
By C. W. M. MOULLIN.
7. Two Cases of Ureteropyeloplasty.  
By A. H. BURGESS.
8. Severe Spasmodic Contraction of a Finger Cord by Stretching the Median Nerve.  
By J. ADAMS.

**1. Inherited Syphilis.**—Lucas objects to the terms "congenital" and "hereditary" syphilis, and prefers "inherited," as implying only something derived from the parents, which is detachable and more correctly expresses the passing on of the spirochæta to the offspring. The cause of syphilis, whether inherited or acquired, is the presence in the blood of the spirochæta pallida, which can be demonstrated in the various secondary lesions, in the blood, and in the internal organs. It is a protozoan of spiral form from four to twenty micromillimetres long and one fourth micromillimetre in diameter, with a flagellum at each extremity. It stains a pale pink with Giemsa's fluid, while the coarser, highly refracting spirochæta refringens, with which it is often associated, stains dark purple. Inheritance of the disease from the father alone is entirely out of the question, and it follows that the infection of a mother by her syphilitic husband is essential. The inheritance is invariably through the syphilitic mother. This is supported by Colles's law that a syphilitic

infant cannot infect its mother's breast. When virulent the spirochæta penetrate the chorion or placenta and occasion miscarriages, macerated fetuses, or premature births; but when the virus is attenuated by time or treatment the placenta forms a complete protection to the developing fœtus, and it is the separation of the placenta at birth which allows the infection to take place through the umbilical vein. Hence the regularity of the secondary exanthematous stage from a fortnight to three months after birth. In these cases the separation of the placenta is the first stage and corresponds to the chance of acquired syphilis. Syphilis in a man is generally admitted to be capable of transmission to a succeeding generation for a much shorter time than syphilis in a woman, which supports the view that for transmission it is necessary that the woman be first infected. It is probable that the disease can be transmitted by milk, but not necessarily so. It is obvious, as the greater cannot be included in the less, that a spirochæta cannot be carried in a spermatozoon; but this does not exclude the possibility of the spirochæta being conveyed by the fluid parts of the semen. Indeed, it seems almost necessary for the latter to be so to account for the cases of inherited syphilis conveyed after the healing of the chancre. A question open to discussion is whether syphilis inherited is capable of transmission to the third generation. The author saw one instance in which the child of parents, both of whom suffered from inherited syphilis, was free from the disease. Syphilitic parentage is probably responsible for a greater infant mortality than any other single disease or condition. This mortality is greatest in those families where both parents have suffered from chancre syphilis and obvious secondaries. The trite definition that syphilis is "a fever diluted by time" is applicable to the inherited as well as to the acquired disease. The secondary stage of inherited syphilis is characterized by eruptions varying from slight brown macular syphilides to pompholyx, by snuffles, stomatitis, condyloma, wrinkled skin, and wasting, and enlargement of the spleen and liver. Then follow changes in the bones—epiphysitis, Parrot's nodes, craniotabes, and bent bones. It cannot be too strongly insisted on that the moist eruptions and ulcerations about the mouth and anus, as well as the vesicular skin affections, are charged with the spirochæta and are highly contagious. From the second to the sixth year there is commonly a rest in the symptoms, which is quite characteristic. But now the characteristic physiognomy has been gradually formed—the flattened nose, the square forehead, the stunted figure, and the pallid face. During the second dentition are to be noted the three signs pointed out by Hutchinson—the notched incisor teeth, interstitial corneitis, and syphilitic deafness. A characteristic change occurs in the first molars, as first described by Moon. They are reduced in size and dome shaped through the dwarfing of the central tubercle of each cusp. The eyes may be early affected by a choroidoretinitis, and the ears are also affected. Some of the characteristic lesions to be sought for in the illness. Enlarged spleen and liver associated with rickets are almost invariably of syphilitic origin. When the inherited disease attacks both the eyes and the ears, at menarche and at marriage, the patient is almost certain to die of syphilis.

known as infantilism is produced at a period when the sexual characteristics should be pronounced. A certain proportion, but not a large one, of epileptics, deaf mutes, and idiots show signs of inherited syphilis. Great care should be taken in diagnosis, in future the most certain test of the disease being syphilis will be the presence of spirochæta pallida in the part affected. This organism has an extraordinary persistency, producing local symptoms after lengthened periods. But mercury controls its development. Metchnikoff has shown that some hours after direct inoculation the application of a calomel ointment to the sore is sufficient to kill the organism and prevent the occurrence of secondary symptoms.

**4. Cytodiagnosis.**—Sawyer discusses the cytodiagnosis of pleural serous effusions, cerebrospinal fluids, and ascitic fluids. Speaking generally, the cells found in all effusions and the percentage of each kind of cell to the total number vary in the same way in all these pathological fluids, according to the disease which produces the effusion. In making a cytological examination it is necessary to obtain the fluid as soon as possible after it has been removed from the body, as after a few hours the cells begin to degenerate. Care should be taken not to centrifugalize too long or too forcibly. The cells to be considered from a cytological point of view are (1) the small lymphocytes; (2) the polymorphonuclear cells; and (3) the endothelial cells. Very few cells may be present in serous effusions or cerebrospinal fluids, especially the latter. As the result of his observations the writer reaches the following conclusions: 1. Effusions of tuberculous origin contain a large percentage of small lymphocytes, ranging from 50 to 100 per cent. 2. Effusions of acute inflammation contain a large percentage of polymorphonuclear cells, ranging from 64 to 97 per cent. 3. Mechanical effusions contain chiefly endothelial cells, the highest count being 98.8 per cent. 4. Effusions due to malignant disease can rarely be diagnosed by cytological methods alone, but when such a condition is suspected to be present the predominance of endothelial cells would greatly support that view.

#### LA PRESSE MEDICALE.

January 18, 1908

1. Urgency Treatment of Wounds of Joints.  
By P. HARDOUIN.
  2. Study of the Gastric Secretion without Use of the Stomach Tube,  
By LÉON MUENIER.
  3. Anaphylaxis,  
By R. ROMME.
- 1. Urgency Treatment of Wounds of Joints.**—Hardouin says that the knee and the instep are the two joints which most frequently demand emergency treatment at the hands of the surgeon, and in this article he deals chiefly with surgical intervention in these joints. Early and thorough intervention is urged, and in conclusion he says that a surgeon in the presence of a wound of a joint should remember that if he is to attain success he must intervene quickly and freely, and that in the cases in which one becomes hesitant on account of the necessity of a rather extensive intervention he should hold to the idea that abstinence and hesitation continue to be the worst disasters in this class of cases.
- 2. Study of the Gastric Secretion without Use of the Stomach Tube.**—Muenier utilizes the



following method for the determination of the length of time required for dissolution in the gastric juice. A capsule of thin rubber tissue, with its aperture closed by means of catgut and containing a drop of ether, is swallowed by the patient during gastric digestion. The catgut is thus submitted to the action of the gastric juice, and after a certain length of time it gives way and allows the ether to escape and come into contact with the contents of the stomach, with the result that the patient indicates the precise moment of dissolution of the catgut by a very characteristic eructation of ether. He describes two series of experiments, and believes that this method possesses certain advantages over the usual method of washing out the stomach.

January 25, 1908.

1. Protection of the Child. Puericulture in Lille, By V. BUE.
2. The Inclusion of Parafin at Seventy-eight in the Nasal Prothesis, By LEROUX.
3. Latent Nephritis in the Child, By R. ROMME.

**2. The Inclusion of Parafin at Seventy-eight in the Nasal Prothesis.**—Leroux alleges that there are great advantages of his operation over the usual method of injection of parafin into the subcutaneous tissues. The essential point of his operation is the subcutaneous preparation of a pocket into which the parafin is introduced and spread so as to produce the effect desired. He asserts that the æsthetic results are better than those obtained from injection, while the technique is simplified and all danger is removed.

January 26, 1908.

1. The Bacilli Known as "Paratyphic" and the Diseases Known as "Paratyphoid," By J. COURMONT and CH. LESIEUR.
2. Paratyphus and Alimentary Infections, By G. FISCHER.
3. Alcoholism and Insanity, By LEGRAIN.
4. The Cause of Death in High Occlusion of the Intestine, By M. GIBBE.

**1. The Bacilli Known as "Paratyphic" and the Diseases Known as "Paratyphoid."**—Courmont and Lesieur discuss the occurrence of these bacilli and conditions in France, and conclude that the infections called paratyphoid, which have been well authenticated, seem to be very rare in France; that to affirm this diagnosis hæmoculture is indispensable; seroreaction will not suffice, and that the term paratyphic bacilli and paratyphoid diseases should be dispensed with.

**2. Paratyphus and Alimentary Infections.**—Fischer says that in the majority of cases paratyphus is an acute, severe gastroenteritis, often accompanied by symptoms of serious intoxication.

**4. The Cause of Death in High Occlusion of the Intestine.**—Gibbe discusses the idea brought forward by Murray that death in high intestinal obstruction may be due to the absorption of bile.

LA TEMAIN'S MEDICAL

January 25, 1908.

Hemelotte Journal, By M. A. CARLIER.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January 25, 1908.

1. Concerning Haemolysis in the Urine, By G. FISCHER.
2. Concerning Tuberculosis among Children, By H. GIBBE.

3. Neurology of the Tongue, By FLESCH.
4. Eighty Cases of Lumbar Anæsthesia without Failure, By FLESCH.
5. Treatment by Means of Bier's Hyperæmia, By GEBELE.
6. The Signification of Pentoses in the Fæces and of Their Quantitative Estimation, By JOLLES.
7. Concerning the Action of the Subcutaneous Injection of Procyanosis, By BERNBACH.
8. The Transference of Swine Erysipelas to Man, By MAYER.
9. Psychology and Psychopathology in Police Affairs, By UEBEL.
10. Purposes and Methods of Instruction in Gynecology, By DURLACHER.
11. Reply to the Above, By VON FRANQUÉ.
12. History and Indications for Oxygen Treatment, By GALLI.
13. Report for the First Year of the Institution for the Care of Children in Weissenburg (Concluded), By DÖRFLER.
14. Obituary of Moritz Schmidt, By SENATOR.

**2. Cutaneous Tuberculosis in Children.**—Hamburger says that the papulosquamous tuberculides are met with quite frequently in childhood, and that they are of great clinical interest from a diagnostic point of view at this age.

**3. Neurology of the Tongue.**—Flesch has studied by means of experiments the conditions present with 1, isolated paralysis of one genioglossus; 2, of one styloglossus; 3, paralysis of both genioglossi; 4, paralysis of the left genioglossus and lingualis; 5, paralysis of the left genioglossus and styloglossus; 6, isolated paralysis of the left hyoglossus; and, 7, paralysis of the internal muscles. Observations were made concerning the position and form of the tongue when at rest, the direction of the raphe, lateral and vertical motility, touching the molar teeth with the tip of the tongue, putting out the tongue, lateral motility of the tongue when put out, retraction of the tongue, empty swallowing, fibrillary twitchings, articulation, and sensibility. He divides the forms of paralysis met with into three groups, glossoplegia totalis, in which all of the muscles, both internal and external, are involved; glossoplegia externa; and glossoplegia interna. The following combinations were observed from foci in the cortex: 1, Glossoplegia bilateralis totalis; 2, facial paresis or motor aphasia combined with a monolateral external paresis of the tongue; 3, complete motor aphasia without paresis of the tongue. Hemiatrophy with tremor, without the reaction of degeneration, has been observed as the result of a lesion in the semi-oval centre near the internal capsule. He finds with regard to the peripheral paralyses of the hyoglossus that these should be divided into three groups: 1. If the lesion is situated between the base of the brain and the anterior condyloid foramen there will be a monolateral atrophic paralysis, glossoplegia totalis unilateralis atrophica, with reaction of degeneration, pain as a result of the lesion and motor involvement of the lower branches of the hypoglossus; 2, if the nerve is affected extracranially, as for example in the pharynx where the hypoglossus branch is given off there will be a monolateral atrophic weak glossoplegia, with involvement of the lower branches of the hypoglossus; 3, if the nerve is affected intracranially, as for example in the same side of the brain stem, there will be a monolateral atrophic weak glossoplegia, with reaction of degeneration, pain as a result of the lesion and motor involvement of the lower branches of the hypoglossus; 4, if the lesion is situated between the base of the brain and the anterior condyloid foramen there will be a monolateral atrophic paralysis, glossoplegia totalis unilateralis atrophica, with reaction of degeneration, pain as a result of the lesion and motor involvement of the lower branches of the hypoglossus; 5, if the lesion is situated between the base of the brain and the anterior condyloid foramen there will be a monolateral atrophic paralysis, glossoplegia totalis unilateralis atrophica, with reaction of degeneration, pain as a result of the lesion and motor involvement of the lower branches of the hypoglossus; 6, if the lesion is situated between the base of the brain and the anterior condyloid foramen there will be a monolateral atrophic paralysis, glossoplegia totalis unilateralis atrophica, with reaction of degeneration, pain as a result of the lesion and motor involvement of the lower branches of the hypoglossus; 7, if the lesion is situated between the base of the brain and the anterior condyloid foramen there will be a monolateral atrophic paralysis, glossoplegia totalis unilateralis atrophica, with reaction of degeneration, pain as a result of the lesion and motor involvement of the lower branches of the hypoglossus.

tation of movement in all. The author gives a brief account of a number of cases of nervous affections of the tongue which have come under his observation.

4. **Lumbar Anæsthesia.**—Holzbach describes the method of administration of the mixture of stovaine used for the lumbar anæsthesia in eighty cases of major operations on women. While the patient is sitting in her bed a puncture is made in the median line between the second and third lumbar vertebrae, the trocar removed from the needle, two or three c.c. of the cerebrospinal fluid allowed to escape, and the mixture of stovaine then injected very slowly through the tube, the injection lasting from three to four minutes. The needle is then removed with a jerk, which causes the patient to sit upright sharply and thus prevent any escape of the fluid through the puncture. Brusque changes of position are to be avoided, as they cause changes in the level of the fluid and may cause the extension of the poison to regions where the vital centres will be endangered.

5. **Treatment by Means of Bier's Hyperæmia.**—Gebele reviews the experiences in the surgical clinic at Munich with this form of treatment of tuberculosis of the bones and joints.

7. **Subcutaneous Injection of Pyocyanasis.**—Bermbach says that a well marked local and general reaction follows the injection of pyocyanasis. The local symptoms are redness, swelling, and pain, the general fever, with increase of temperature and acceleration of the pulse, headache, dizziness, nausea, and vomiting. The cause of the reaction is the toxin contained. Treatment should be begun with very small doses, which are to be gradually increased.

January 28, 1908.

1. Concerning Parabiosis in Artificially United Warm Blooded Animals, By SAUERBRUCH and HEYDE.
2. Meat Poisoning and Widal's Reaction, By LIEFMANN.
3. Concerning Modern Serum Diagnosis, with Especial Reference to Precipitine and Oposonin, By FORNET.
4. Ætiology of Chicken Cholera, By PROWAZEK.
5. Experiences with von Pirquet's Cutaneous Reaction to Tuberculin, By GÖBEL.
6. Injury of the Duodenum through Contusion, By STEINTHAL.
7. Symptomatology of Exudative Pleuritis, By VON SCHROETTER.
8. The Limitation of Laparotomy by Vaginal Methods of Operation, By LEHMANN.
9. Concerning the Results as Yet Produced in the Consulting Places of Munich with Propositions for the Further Extension of These Arrangements, By OPPENHEIMER.
10. Concerning Ophthalmoreaction, By WIENS and GÜNTHER.
11. Treatment by Means of Bier's Hyperæmia (Concluded), By GEBELE.
12. Obituary of Professor Wilhelm Nieberding, By KUPFELSSNER.

1. **Parabiosis.**—Sauerbruch and Heyde give the name parabiosis to the new condition produced in animals which are experimented upon when they are organically connected together in an artificial manner, and present their observations in regard to the anatomy and the physiology of this condition.

2. **Meat Poisoning and Widal's Reaction.**—Liefmann observed fifty soldiers taken sick in barracks within a few days of each other with symptoms of ptomaine poisoning, ascribable to their food, and with the *Bacillus enteridis* Gärtner present.

Widal's reaction was positive in all, though no typhoid bacilli could be found.

5. **The Cutaneous Reaction to Tuberculin.**—Göbel thinks that in children between the ages of one and twelve the positive reaction to von Pirquet's cutaneous test is almost demonstrative of the presence of tuberculosis, but with adults a conclusion from the positive reaction must be drawn with care. A negative result in adults after repeated inoculations makes it extremely probable that that person is free from tuberculosis.

6. **Injury of the Duodenum by Contusion.**—Steintal reports a case of this nature. A man, eighteen years old, was run over by a wagon and brought to the hospital. Laparotomy was performed and lacerations found in the duodenum and elsewhere in the intestine which necessitated suturing and a gastroenterostomy. The patient recovered.

7. **Symptomatology of Exudative Pleuritis.**—Von Schroetter describes a number of cases which illustrate the changes observable by bronchoscopy in this disease.

8. **Limitation of Laparotomy by Vaginal Methods of Operation.**—Lehmann points out how since 1894 there has been a growing tendency for the vaginal methods of operation to take the place of laparotomy in all kinds of gynecological operations, and closes with an advocacy of the vaginal Cæsarean section.

11. **Bier's Hyperæmia.**—Gebele finds this treatment to be not a universal cure, but to be of good service in acute, fresh cases of inflammation, better than in cases of tuberculosis.

#### ARCHIVES OF PÆDIATRICS.

January, 1908

1. Three Cases of Typhoid Fever in the First Year of Life, By J. P. C. GRIFFITH.
2. Case of Hæmorrhax, By W. P. NORTHCOTE.
3. Myxœdema, with Report of a Case, By A. M. DAVIS.
4. Subcutaneous Emphysema following Exploratory Puncture of the Chest, By J. C. GITTINGS.
5. Tetanus Neonatorum, Complicated by Pneumonia, By R. O. CLOCK.
6. An Examination of Excised Tonsils, By A. F. HESS.
7. Epidemic Anterior Poliomyelitis in Philadelphia, By R. S. McCOMBS.
8. The Indications for and against Removing Adenoids, and Methods, By S. W. THURBER.
9. Ocular Symptoms and Diseases Accompanying Adenoids, By C. H. MAY.
10. Adenectomy during Acute Middle Ear Disease, By P. D. KERRISON.

3. **Myxœdema, with Report of a Case.**—Davis refers the term to Ord, who proposed it for "an essential condition in the cretinoid affection occasionally observed in middle aged women." It is synonymous with the *cachexia pachydermique* of Charcot, and the *cachexia strumipriva* of Kocher. Whether it follows removal of the thyroid, as alleged by some writers, there is certainly a marked atrophy of the thyroid in myxœdema, and the disease at least appears to be dependent upon loss of function of the thyroid gland. It occurs most frequently in married women between forty and forty-five. It may follow the exanthemata, rheumatism, erysipelas, malaria, and tuberculosis. One variety results from the destruction of gland tissue by disease, while the congenital or infantile form is also

known as cretinism. Another variety is that which follows the removal of the thyroid gland. If properly treated it is susceptible of great improvement. If untreated it lasts from six to twenty years. It is apt to be confounded with exophthalmic goitre and chronic nephritis. Suitable climate, baths, and good hygienic treatment in general are indicated; also arsenic, strychnine, ergot, pilocarpin, and thyroid extract.

**4. Subcutaneous Emphysema following Exploratory Puncture of the Chest.**—Gittings states that this sequel of pleural puncture has rarely been reported. Three cases are narrated. The lung is also punctured, a localized pneumothorax resulting, and this develops subcutaneous emphysema along the line of puncture. Another possible explanation is that it is due to infection from an air producing bacillus. There may be no ill effects from the emphysema, while a resulting pneumothorax causes discomfort, if not actual danger. In puncturing the chest one must not forget the possible proximity of firm and unyielding lung tissue to the chest wall, and the author thinks the operation is too often undertaken with disregard of the element of danger, especially in children. When a small collection of fluid overlays a more or less consolidated lung diagnosis by percussion and auscultation is often unsatisfactory, and puncture becomes imperative, but the lung must be avoided unless one is searching for an intrapulmonary collection of fluid.

**10. Adenectomy during Acute Middle Ear Disease.**—Kerrison thinks one should always ask whether the removal of the tonsils and adenoids is a necessity, and whether the pharyngeal growth will retard or check tympanic resolution. He offers the following facts: 1. The two operations should be performed at one sitting, under general anesthesia. 2. Adenectomy involves risk to the healthy ear. The acute inflammation is favorable for the throat operation, and if the drum membrane is incised further damage to the ear may be saved. 3. Free bleeding accompanying the removal of the adenoids favors tympanic resolution. 4. In many cases of acute otitis media recovery is not only tedious and slow, but will be incomplete until the adenoids are removed. The drum membrane remains retracted and congested, and slight provocation will induce recurrence of the middle ear trouble.

#### THE SCOTTISH MEDICAL AND SURGICAL JOURNAL.

February, 1908.

1. A Hundred Concomitant Operations for Appendicitis. Some Deductions Therefrom. By J. W. DOWNES.
2. Some Experiences with X Ray and High Frequency Treatment. By F. GARDNER.
3. Rheumatoid Arthritis. Its Etiology, Clinical Symptoms, and Pathology. By KATHERINE S. CLARK.

**3. Rheumatoid Arthritis.**—Clark has observed a considerable number of cases of rheumatoid arthritis in different stages of the disease. She thinks that the opinion that rheumatoid arthritis owes its origin to some lesion of the nerves cannot be held. The bacterial theory is also improbable, because no specific organism, present in all cases, has been discovered. But she is of the opinion that it is of organismal origin, the organisms having their seat in some organ, where they evolve toxins, which are thrown

into the blood stream. She has found definite changes in the spleen, liver, kidney, pancreas, skin, ovary, stomach, and bladder. In the spleen the most prominent histological change was found in thickening of the walls of the central artery of the Malpighian body, this thickening being of the nature of a hyaline degeneration. The capsule and trabeculae were also more or less thickened with dilatation of the sinuses of the pulp and some thickening of walls. In the liver there was increased connective tissue in the portal tract, with thickening of the walls of ducts and vessels. The principal changes in the kidney were apparently primarily arterial, and the new tissue had undergone hyaline degeneration. In some part the glomerulus was markedly hyaline. Bowman's capsule frequently showed fibrous thickening, and throughout the organs, particularly along the vessels, were localized patches of fibrous connective tissue. In the pancreas the pathological changes were even more marked, increase of connective tissue throughout the organ being very extensive. There was degeneration of the parenchyma, and hyaline thickening of the vessels and ducts, with a proliferation of their lining epithelium. In the skin sections there were present atrophy of epithelium, glands, and hair follicles, increase of fibrous tissue in the cutis vera, with hyaline degeneration in the deeper layers. The ovary showed little abnormality, except in the greatly thickened vessels, the coats of which were markedly hyaline. In one case, the almost total absence of germinal epithelium and follicles was noticeable, also extensive fibrosis, and thickening of the hyaline vessels. The hollow organs, stomach and bladder, were to the naked eye markedly thickened, this change being principally in the muscular coat. Amongst these pathological changes, perhaps the most remarkable are those described in connection with the skin, changes which are evidently widespread. It is difficult to account for these otherwise than on the ground of an apparently specific neuropathic origin, and probably, in addition, they may partly result directly from the arterial changes. These arterial changes, being so widespread throughout the body, can only be explained by the circulation of some chronic irritant in the blood stream, which, in its course, involves joints as well as organs. The author is therefore of the opinion that the joint changes are merely symptomatic and that they are only part of a general chronic toxæmia.

#### Proceedings of Societies.

##### NEW YORK ACADEMY OF MEDICINE.

Meeting of January 13, 1908.

The President, Dr. JOHN A. WYETH, in the Chair.

Following the reading of the annual reports was a "symposium" on tuberculosis in infants and children, under the auspices of the Section in Paediatrics.

**The Pathological Findings.**—Dr. JOHN McCREA, of Montreal, read this paper. He said that when one dealt with the pathology of tuberculosis in children one met with many conflicting statements



and ventured at once on controversial ground. Much interest centred about the primary tuberculosis of young children. Some English pathologists gave a considerable frequency for this, and he thought that every one in this country would concur in the reasonableness of Dr. Bovaird's twice in 125 cases and Dr. Holt and Dr. Northrup's 1.3 per cent. It was probably the case that the average human being could overcome an infection by bovine bacilli more easily than that by human bacilli. The statement that bovine tuberculosis was less virulent than human tuberculosis for human beings rested upon the fact that the cases so observed had generally been of the lymphoid form or from cases of slow progression. To the contrary must be stated the observation that apes were more virulently attacked by bovine than by human tuberculosis. There was a slow type of infection in children which they called "bovine," viz., a slowly progressive tuberculosis, tending to overgrowth and dry caseation, affecting mainly the lymph nodes. Children were liable to infection by air borne bacilli of the human, less frequently of the bovine type, and were liable to infection by ingestion of bovine bacilli from milk and other forms of food of which milk was a component part. European figures, collected in Lubarsch and Ostertag, showed that, of 396 examinations of milk, 9 per cent. contained bacilli; and of 244 butter examinations, bacilli were found in 8.3 per cent. This was probably a greater percentage than existed in the United States or Canada. The exact cultural studies made in Germany, the United States, and England upon the bacilli isolated from cases of tuberculosis showed that, of children under five years of age affected by tuberculosis, four fifths were probably infected by air borne human bacilli. One fifth might show the "bovine" form, and this percentage decreased as the age progressed. We must admit that in all probability the bacilli could pass through tissues and glands without leaving visible traces, and could remain in tissues for a considerable time without exciting even so slight a lesion as to be recognizable only by the microscope. When infection occurred in children, the first site in air borne infections was in some part of the lymphoid tissues of the upper air passages or the lungs, and in intestinal infections the mesenteric nodes. He asked if it was possible to fix positively the primary seat of infection as intestinal. If the mesenteric nodes showed caseous or calcareo-caseous changes more marked than the thoracic, or if there was ulceration of the bowel or tubercles of the mucosa without cavitation, all these in artificially fed children suggested intestinal infection. Advanced thoracic lesions should be allowed to weigh in favor of infection by the respiratory channels. One must also admit that tubercle bacilli from milk might stick to the fauces and gain a foothold on the thoracic lymphatics, but, on the other hand, inspired bacilli might go down with food or with saliva, so in that regard honors were almost even. His personal experience with foundlings, artificially fed on milk that was pasteurized, showed that they were practically free from tuberculosis. In 747 autopsies, in which sixty per cent. of the subjects were three months of age or under, tuberculosis was found but five times (0.66 per cent.). He knew that these children were of low vitality, that pasteurized milk

might well contain bacilli, attenuated but not dead, that the Province of Quebec had a fair amount of bovine tuberculosis, and that three months of life was sufficient time to allow an infection to take good hold. There must surely be less intestinal tuberculosis of infants than had sometimes been urged. He thought the truth was that we had laid too great stress upon milk borne tuberculosis where the bovine disease was prevalent, and had forgotten that children were more liable to the human form than adults, in that, if they did become exposed to a house or other local infection, they spent less time away from their dangerous surroundings than their adult relatives. As to the other forms of tuberculosis, why in certain cases did the disease manifest itself in bone and joint and remain there? This phenomenon was some expression of the sum total of lower bacterial virulence and heightened resistance of the individual tissue. With regard to meningeal tuberculosis, he wished to show that in a large percentage of the cases it was merely a local evidence of a generalized tuberculosis. It occurred either as secondary to a bronchial or other gland infection, without there being disease elsewhere, or as a local manifestation of the disease that existed in many other organs. The latter was the more frequent.

**Recent Diagnostic Methods.**—Dr. WILLIAM H. PARK read this paper, and, before touching upon the technique, spoke on the meaning of the reaction following inoculation of skin and eye, as recently proposed. If one took an animal and injected into it a minute quantity of serum, after ten days that animal would be sensitized, so that if a fairly large quantity of serum was injected the animal would die in convulsions, whereas if the same dose of the serum was given to another animal not so sensitized the results would be absolutely harmless. White of egg would sensitize an animal; it was also found that other proteids, as well as bacterial proteids, would in the same way sensitize animals. Thus, if a guinea pig, rabbits, or even men, were injected with dead tubercle bacilli, they would, after ten days, be sensitized. This sensitizing would last for a considerable period of time, until the newly formed substances were eliminated from the body. The important point was that a minute quantity of suitable proteid would thoroughly sensitize an animal or man to similar proteids, and this sensitization would last for months or years. When one got a reaction from the subcutaneous injection of tuberculin, it was not a reaction because of the presence of tubercle poison in the body, but because of the formation of antibodies due to the body having reacted to the tuberculous infection. Therefore, if a body ceased to produce these protective substances, the poison in the tissues adjacent to the disease and in the circulation would not be neutralized, and no tuberculous reaction would occur. These reactions were not reactions to bacterial poison, but to the body products in response to the poison. In advanced cases, therefore, reactions would frequently not occur. After referring to the old method of injecting Koch's original tuberculin, he called attention to the new methods. Von Pirquet placed tuberculin upon the abraded skin, using a 1 to 4 strength, one drop of which was rubbed into the abraded skin. He found that in tuberculous cases he got a

typical reaction. He usually took an arm, and made a little vaccination mark; that would be the control spot. Then two other "vaccinations," or scarifications, were made, and into them was rubbed a 25 per cent. solution of Koch's tuberculin. In the course of eight, twelve, or twenty-four hours appeared a papular swelling and redness, of the size of a dime or larger. So by contrasting the reaction of the two scarifications with tuberculin with that without the tuberculin, one could judge of the difference between a very slight inflammatory reaction due to the abrasion and that due to tuberculin. Wolff-Eissner believed that he might get the same reaction without the use of this scarification by applying it to the conjunctiva, and he tried using a 1 to 10 dilution, placing one drop of it on the lower eyelid. This gave a marked reaction. Calmette, in order to avoid such a marked reaction or any non-specific irritation, tried a method of purifying the tuberculin by precipitating the toxins in 65 per cent. alcohol. This precipitate was washed and dried, and a 1 per cent. solution of it was made in water. This 1 per cent. solution was then used as in the Wolff-Eissner method. The reaction might develop in from six to thirty-six hours. It was very important in following up these new methods to carefully note the amount of reaction that occurred, and the following scheme had been adopted by many for the sake of uniformity: Two solutions were employed in diagnosis, which contained 0.5 per cent. (No. 1) and 1 per cent. (No. 2) respectively, and which might be used successively in each eye if time permitted. In this way unnecessarily severe reactions might be avoided. The eyelid should be held down until the drop was distributed about the sac without overflowing on the cheek. The same eye should not be used for a second test, as it appeared to become sensitized to some degree by one test. The tested eye should be kept from external irritation by rubbing, wind, dust, and smoke. The first symptoms of a reaction appeared in from three to twelve hours in some cases, but might be delayed twenty-four or even forty-eight hours, and continued for a week. The presence of a reaction was indicated by a scratchy feeling or secretion and redness of the inner canthus, caruncle, on lower lid, which might increase and include the entire conjunctiva with edema of the lids. The following schema was proposed for recording reactions: *Negative*: No difference in color when the lower eyelids were pulled down. *Doubtful*: Slight difference with redness of the caruncle.

± = Distinct palpebral redness with secretion.

• = Ocular and palpebral redness with secretion, well marked.

+++ = Deep injection of entire conjunctiva with edema of the lids and photophobia, and secretion. *Contraindications*: Any existing disease of the eye or lids, conjunctivitis, blepharitis, trachoma, keratitis, and iritis. Eye strain from errors of refraction need not prevent the use of the test so far as had been observed. The objections to the test were slight. No permanent ill effects had remained. Dr. Paul said it was set too early to estimate the exact value of either the skin or the eye reaction. Most observers believed that the skin reaction was little less apt to occur than the eye reaction. In young

children the reaction was believed to indicate generally an active focus of tuberculosis, while in older children the reaction became less definite, as it might mean either a present or recently healed infection. In the adult the reaction was present in such a large percentage of the cases that it was hard to know whether there was an active or a late tuberculosis, or whether the bacilli had simply been absorbed through the mucous membrane, giving no reaction whatever except sensitizing the individual. Negative results were always helpful in excluding absorbed tubercle bacilli, latent or active tuberculosis.

**Laboratory Aids to the Diagnosis of Tuberculosis.**—Dr. T. HOMER COFFIN considered this subject in its relation to the examination of the blood, urine, sputum, feces, bodily fluids, discharges, etc. Microscopical examination of the blood in various forms of tuberculosis of children usually showed a marked diminution in the hemoglobin and the number of red cells. There might be a leucocytosis if the process was associated with suppuration, though there were some cases of tuberculous suppuration which showed none. A blood count might in some cases be of value in distinguishing tuberculous from other forms of meningitis. Chronic cystitis or a tuberculous pyelitis might be a local manifestation of a general tuberculous process. The bloody or bloody purulent sediment of the acid urine in urogenital tuberculosis contained shredlike or rounded, sometimes ragged, flocculi, pin head in size, which upon microscopical examination showed pus cells and fatty detritus. If smears were made and stained, tubercle bacilli were found as dense collections among these cells. In examining urine for tubercle bacilli one should guard against mistakes with the smegma bacillus. The method of Findley was advocated to overcome the difficulty of obtaining sputum in infants and young children. Holt, in sixty-seven cases of pulmonary tuberculosis in children under two years of age, had made the diagnosis by an examination of the sputum in eighty per cent. of the cases when, according to the physical signs, the disease was not far advanced. A large number of uninuclears was present in tuberculous exudates; the process was usually insidious in development and was accompanied by slight inflammation. In tuberculosis of the cerebrospinal canal and the pleural, pericardial, and abdominal cavities the uninuclear cells did not always predominate in the fluid, for cases known to be tuberculous had shown the polymorphonuclears most numerous at an early stage of the process, but later the uninuclears predominated. Therefore the predominating type of cell was more indicative of the stage and severity of the disease than of its etiology. The cerebrospinal fluid in tuberculous meningitis was usually clear, and upon examination of the sediment the uninuclears were present in numbers. In epidemic and sporadic cases of meningitis the fluid was usually cloudy, and the specific bacteria were found among or in the multinuclear cells. Some writers expressed their opinions regarding the value of the examination of the feces in patients with tuberculous lesions. This examination might be of great value in children with pulmonary tuberculosis, for the bacilli are sometimes excreted in the feces. In the examination of the

the bacilli were often found in the stools after careful search. Tuberculous affections of the eye, ear, nose, throat, urethra, or vagina in children might often be distinguished from lesions due to other microorganisms by a microscopical examination of the secretions. Tuberculous glands were diagnosed by examination of sections of hardened tissues from portions of the excised glands.

**Channels of Communication; Their Relative Significance.**—Dr. S. McC. HAMIL, of Philadelphia, read this paper. He said the question of the modes of introduction of the tubercle bacillus into the human body remained at present entirely unsettled, more unsettled in fact than a few years ago, when we accepted it as proved on the basis of post mortem evidence that infection by inhalation was the chief if not the only channel. The avenues by which the tubercle bacillus got into the human body were the maternal circulation, the skin, the ear, the conjunctiva, the urogenital tract, and the respiratory and intestinal tracts. All but the last two of these were accepted as proved, but considered of such infrequent occurrence that they need have no place in the present discussion. In the vast majority of tuberculous subjects infection occurred either through the respiratory or the alimentary tract. The experimental results bearing on inhalation tuberculosis which were the most deserving of consideration in detail were those of Flügge. He produced tuberculosis of the lungs by inhalation in guinea pigs, rabbits, goats, calves, and dogs by means of a very small number of tubercle bacilli which were floated in the air in the shape of droplets. From these experiments he concluded: 1. That inhalation represented a mode of infection as efficacious as subcutaneous injection, with regard to the very small dose required, and that inhalation infection produced a disease more rapid in course than did subcutaneous injection. 2. That it might be accepted as proved by the inoculation of the peripheral parts of the lung into guinea pigs immediately after exposure to an atmosphere containing droplets that at least some of the bacilli inhaled with the air in the shape of droplets were carried to the finest bronchi. 3. That the quantity of bacilli required to produce manifest symptoms of disease, when ingested with the food, was millions of times larger than when infection was by inhalation, and a fatal termination took place at a much later period. He accepted it as proved, therefore, that inhaled tubercle bacilli were capable of producing tuberculosis directly, and not because some of them were swallowed and penetrated into the body from the intestine or throat. The contention of Flügge that the floating of bacilli infected droplets in the air was more dangerous than the bacilli laden dust was not in accordance with the results of other investigators and was directly opposed to clinical experience. The work of Bartel and Spicler seemed to indicate that the intestinal tract was the most common avenue of infection. Infection through the medium of the intestinal tract has obtained a great deal of support in recent years. The following conclusions were offered: 1. That it was impossible to gain any knowledge as to the port of entry either from the location or the degree of development of the tuberculous lesions. 2. That fetal infection was proved, but not common. 3. That infection through the mouth, tonsils, and pharynx was

of frequent occurrence and might be produced by inhalation or ingestion. 4. That primary inhalation infection through the lungs did occur. 5. That infection through the intestinal tract was definitely proved. 6. That the bronchial glands and lungs might be infected through the latter channel as well as through the lungs. 7. That the relative significance of the various modes of infection was very difficult to determine on the basis of our present knowledge, since it had been clearly shown that it mattered not from what point the tubercle bacillus was introduced—it could eventually reach the bronchial glands and lungs without leaving any evidence of its means of entrance. It was probable, however, on account of the greater exposure of those portions of the body, that infection through the upper respiratory and alimentary tracts was the most common, and next to this, for similar reasons, through the lower respiratory and intestinal tracts. As to which of the two latter constituted the more frequent channel, it would seem that the nature of the exposure should prove a determining factor. If infection occurred when the bacillus was carried in with the food or to the lips and mouth in kissing, or by infected hands, nipples, toys, drinking cups, or the various feeding utensils, it must almost certainly be by the alimentary tract. If, on the other hand, the bacilli laden dust or droplets were inspired, they were caught up in large part on the mucous membrane of the upper air passages, whence they might be swallowed, or they were carried on to the lungs. Certainly, in infants and children, exposure to the former group of conditions was much greater than it was in adults, and, since we must admit that the greater portion of inhaled bacilli found lodgment in the upper air passages, from which point they might be swallowed, and since infection by the intestinal tract had been absolutely determined in children as well as experimentally in animals, we could safely conclude that intestinal infection in early life was more common than in later years, and, with the additional support of much experimental work and much investigation, he was prepared to believe that infection by the intestinal tract was more common in infants and children than infection through the lungs.

**The Management and Treatment of Tuberculosis in Infants and Children.**—Dr. JOHN LOVETT MORSE, of Boston, read this paper. (See page 350.)

Dr. DAVID BOVAIRD, Jr., said it was a question of great importance to the public, and upon which a great deal depended in the fight against tuberculosis, to know the mode of infection and the relation between bovine and human tuberculosis. He called attention to the contention of the two prominent schools, each opposing the other.

Dr. HENRY DWIGHT CHAPIN said that those who had to deal with disease of childhood recognized the great difficulties encountered in the diagnosis of tuberculosis in its early stages. All clinicians looked upon laboratory aids with the greatest hopefulness. The surgical treatment of tuberculous peritonitis was filled with hope, but the trouble was in getting an early diagnosis of the condition. He believed that the danger from milk borne tuberculosis was overestimated, and it was a fact that, while tuberculosis in cattle was on the increase, tuberculosis in man was on the decrease. If bovine tuberculosis was of such



importance as a causative factor of tuberculosis in man, this would not be true.

Dr. HARLOW BROOKS said that, so far as the anatomical lesions went in judging of the point of infection, intestinal infection was rare, whereas respiratory tuberculosis was common. These anatomical lesions, however, were not infallible in locating the seat of infection. He had had considerable experience with infections occurring in animals, and at one time there had been an outbreak of tuberculosis in the orangoutang and chimpanzee, and he had stamped it out by attention to the prevention of its dissemination by respiration, the intestinal factor in these cases being negative. It was wiped out simply by preventing the possibility of infection by the respiratory tract.

Dr. WILLIAM P. NORTHRUP condemned the overheating of the apartments and houses, especially in New York; this caused much of the acute and catarrhal conditions in children and adults. One of the best ways to check tuberculosis was by cooling the houses. It was unfortunate that the trachea and oesophagus were situated so close together, for children were so apt to inhale what was regurgitated and swallow what was brought up through the trachea. He was surprised at Dr. McCrae's statement that tuberculoma in the brain was one fourth as frequent as meningeal involvement. His experience was that very little tuberculosis occurred in the brain itself. The Calmette reaction was a great aid, and presented a remarkable phenomenon.

Dr. ROLAND G. FREEMAN believed that, no matter what opinions had been held in the past regarding the channels of inoculation, such opinions must be modified by the results of the latest researches. There were many cases seen at autopsy which were apparently cases of inspiration tuberculosis, but which were, in fact, cases of intestinal origin, with little trace of the site of inoculation in the intestine left. Milk from tuberculous cows often contained no tubercle bacilli, or, if it did, they were so diluted that they might not gain an entrance into the system.

Dr. A. F. HESS said that at present one of the greatest points of variance in different countries and among various capable observers was in regard to the relative practical importance of bovine and human tuberculosis, especially as concerned infants and children. The importance of the question from a prophylactic point of view was not open to doubt. Attempts to solve this matter by means of ascertaining the frequency of tuberculosis in cattle or by entering into the previous history of the child and considering the question of exposure to bovine or human tuberculosis were indecisive. It seemed to him that the only way we could obtain an answer to this question was by the slow and tedious method of distinguishing the types of bacilli. It was well established that by means of morphology and cultural and biological tests the human and bovine types might be distinguished. This had been done here, but to a much greater extent by the British County and the German Imperial Health Departments. It was only by hundreds of such investigations of serial cases that we could come to any conclusions.

Dr. A. JACOBI dissented from what Dr. Meigs had said regarding the giving of opium to children.

It was not a rank poison, and might be of great value when they were subjects of tuberculosis. He believed the tubercle bacillus could get into the system through an intact mucous membrane, and he cited a case in proof of this statement. Pasteurizing milk was so carelessly done that Dr. Jacobi advocated the bringing of the milk to the boiling point; one then would be sure to obtain the proper temperature.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Modern Medicine: Its Theory and Practice.* In Original Contributions by American and Foreign Authors. Edited by WILLIAM OSLER, M. D., Regius Professor of Medicine in Oxford University, England, etc.; Assisted by THOMAS McCRAE, M. D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Volume III. Infectious Diseases (Continued). Diseases of the Respiratory Tract. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1907. Pp. ix-17 to 960.

Rather more than half of this volume is required to finish the consideration of infectious diseases; then the aetiological basis of classification is supplanted by the anatomical, and pneumonia, for example, though undoubtedly originating in infection, is more conveniently and therefore more properly dealt with as a disease of the respiratory tract. One might have expected the same course to be pursued with tuberculous disease, so overwhelmingly important are its pulmonary manifestations, but elsewhere than in the lungs it assumes a seriousness that is not to be underrated. We cannot yet classify diseases satisfactorily on any one plan, and it is doubtful whether a great deal could be gained if we could do so. Much *Gehirnschmerz* has been spilled over the unprofitable subject of classification.

Of the diseases classed as infectious, those treated of in this volume are: Malta fever (by Colonel David Bruce, of the British army), beriberi (by Dr. Maximilian Herzog, of Chicago), anthrax, rabies, and glanders (by Dr. M. P. Ravenel, of Madison, Wis.), tetanus (by Dr. James M. Anders, of Philadelphia), gonococcus infections (by Dr. Rufus I. Cole, of Baltimore), leprosy (by Dr. Isadore Dyer, of New Orleans), tuberculous disease (by Dr. Edward R. Baldwin, of Saranac Lake, N. Y., Dr. W. G. MacCallum, of Baltimore, and Dr. Lawrason Brown, of Saranac Lake, N. Y.), syphilis (by Dr. William Osler, of Oxford, England, and Dr. John W. Churchman, of Baltimore), and infectious diseases of doubtful nature, including febricula, glandular fever, infectious jaundice, miliary fever, Rocky Mountain spotted fever, psittacosis, foot and mouth disease, and milk sickness (by Dr. Thomas R. Boggs, of Baltimore).

Concerning the contention as to the identity of human and bovine tuberculous disease, Dr. Baldwin says conservatively: "Out of much strife the truth seems to be emerging in favor of an intermediate position between the standpoint of those who hold the belief in strictly distinct varieties and those who take an absolute unity for all." Elsewhere he cites the findings of Thorburn Smith, Ravenel, and the United States Bureau of Animal Industry as "a

tending to show that bovine infection is not unimportant for man." Dr. Baldwin adduces weighty reasons for believing that the direct transmission of tuberculous disease from parent to child must be very infrequent and practically always proceed from the mother. He adds: "Atavistic inheritance of the bacilli from the grandparents is wholly conceivable." Dr. Brown thinks that for diagnostic purposes tuberculin should be used only as a last resort, when the physical signs are indefinite and no bacilli can be found in the sputum. He regards Koch's original tuberculin as the best form for use. He speaks very guardedly of the ophthalmic tuberculin test. The pasteurization of milk to prevent inoculation, says Dr. Brown, is "much opposed" by von Behring on the ground that it "alters the immunizing qualities of the milk from immunized cows." If the author has an opinion of his own on this subject, he does not give it, so far as we have observed. It seems to us that the following are words of wisdom: "There is no more important factor in the treatment of cough than its proper discipline, first advocated by Galen. The patient should have fully explained to him that it is not necessary to raise the sputum from the lungs, for cilia are provided for that purpose, and every cough is an act of exertion and may further injure the lungs. The amount of exercise entailed in coughing should be made clear. Cough often begets cough, and a tendency once repressed may mean escape from a violent attack." The opsonin doctrine seems to be regarded as still *sub judice*. In the main, the whole subject of the treatment of tuberculous pulmonary disease is admirably handled.

The subject of syphilis is treated of at considerable length and very judiciously by Dr. Osler and Dr. Churchman. They accept the existence of parasymphylis and regard tabes as its type, though they do not appear convinced that tabes is always of syphilitic origin. The matter of preventing the spread of syphilis by the regulation of prostitution is considered in a masterly manner; indeed, what the authors say about it is among the most valuable contributions to the literature of the subject that we have ever seen.

Part II opens with an admirable chapter by Dr. Thomas R. Brown, of Baltimore, entitled *The Mechanics of Respiration and of the Respiratory Diseases*. The remaining chapters are on diseases of the nasopharynx, pharynx, and tonsils (by Dr. Francis R. Packard, of Philadelphia), hay fever (by Dr. W. P. Dunbar, of Hamburg), diseases of the larynx (by Dr. H. S. Birkett, of Montreal), diseases of the bronchi (by Dr. A. McPhedran, of Toronto), diseases of the lungs (by Dr. Hobart Amory Hare, of Philadelphia), diseases of the pleura (by Dr. Frederick T. Lord, of Boston), pneumothorax (by Dr. Walter B. James, of New York), and diseases of the mediastinum (by Dr. Henry A. Christian, of Boston). These chapters are all good, but we have not space to go into particulars with regard to them. We must, however, express our wonder that polanfin is invariably printed with an initial capital. This leads us to remark that the volume contains many faults of expression, as they seem to us, and several verbal errors, such as "intercerebral" injections (page 87), "epididymes" (page 238), "spirochaete bacteria" (page 321) and "contract of the baine" on a

prescription on page 510). But these are only blemishes; the substance of the volume is of sterling value.

*Light and X Ray Treatment of Skin Diseases.* By MALCOLM MORRIS, F. R. C. S., Ed., Dermatologist to King Edward the Seventh's Hospital for Officers, Surgeon to the Skin Department of the Seamen's Hospital, etc., and S. ERNEST DORE, M. D. (Cantab.), Assistant in the Skin Department of the Middlesex Hospital. With Twelve Plates. Chicago: W. T. Keener & Co., 1907. Pp. 172.

This small book is intended to be a summary of the methods of application and results of Finsen's light treatment, x rays, and other therapeutic agencies which have been introduced into dermatological practice within the last few years. Although it is not indicated by the title, the work embraces radium and the high frequency currents. Only three pages are devoted to radium, and, although the names of several investigators are mentioned, the work of Abbe, who has done more in this line than any other physician in America, has been entirely overlooked. Four pages are given to the important subject of high frequency currents, in which the author makes frequent reference to Allen's book, but fails to credit the work of previous American investigators. The rest of the book is devoted to x radiation and the Finsen treatment, and contains the usual report of cases. The portraits published in connection with the case reports are not of a standard to excite admiration in this country. The book will be instructive and interesting to those who know little or nothing of the subject, but is of little practical value to those who are well acquainted with the subject or who desire to enter this field of practice. It is a well printed English book, and, with the exception of the title page, very good paper is used.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

*Hypnotic Therapeutics in Theory and Practice.* With Numerous Illustrations of Treatment by Suggestion. By John Duncan Quackenbos, A. M., M. D., Author of *Hypnotism in Mental and Moral Culture*, etc. New York and London: Harper & Brothers, 1908. Pp. 336.

*Surgery. Its Principles and Practice.* By Various Authors. Edited by William Williams Keen, M. D., LL. D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume III. With 562 Text Illustrations and 10 Colored Plates. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 1132.

*The Theory and Practice of Hygiene* (Notter and Firth). Revised and Largely Rewritten by R. H. First, Lieutenant Colonel, Royal Army Medical Corps, etc. Third Edition. Philadelphia: P. Blakiston's Son & Co., 1908. Pp. 993. (Price, \$7.)

#### Miscellany.

**An Appeal to the Medical Profession.**—The Medical Society of the State of New York publishes the following appeal, and asks every physician to write at once to his representatives in the Legislature, both senator and assemblyman, urging opposition to these measures:

#### AN APPEAL TO THE MEDICAL PROFESSION.

There are now in the Legislature not less than three bills relating to vivisection and one relating to optometry. The bills, introduced by the Antivivisection Society, from which they receive their name, are formulated to prohibit animal experimentation. The statement is made that all such experiment is unnecessary and that the various

discoveries of science made possible by this method of investigation have not been productive of good to humanity. This assertion is proved incorrect by a plain statement of the facts from gentlemen of education, intelligence, and scientific attainment, professors in our various colleges, and scientists generally whose very names are synonymous with honor and integrity. They clearly show to any unprejudiced mind the inestimable value to humanity of the work which has been done, and is being done, along this line. The statement has been made that at present there is no restriction whatever placed by law on animal experimentation, whereas the fact is that there is now a law on the statute books which restricts the work to properly equipped institutions. If there have been isolated cases of violation of this law which have gone unpunished, the blame should be placed on those authorized to secure the law's enforcement. The assertion that great cruelty is inflicted on animals in these scientific experiments is denied absolutely and entirely by those in charge of experimental work in this State. There is really no reason for any enactment of a new law on this subject, and this should be made very clear to the members of the Legislature.

The optometry bill is the old measure, and should be defeated. This bill defines the practice of optometry as the measurement of the powers of vision and the adaptation of lenses for the aid thereof, all without the use of drugs. This bill gives authority to opticians to do the work, and at the same time prohibits the employment of the means necessary to do it. This bill authorizes opticians to adapt lenses to eyes for defects of vision which may be due to diseases in other parts of the body, and to diseases which may be situated in the eyes themselves. The adaptation of lenses to eyes under such circumstances, while improving vision for the time, may be the cause of deferring proper treatment until blindness or even death may be the result. To determine when defects of vision are due to defects in the eyes, or to diseases, requires the ability to make a distinctive diagnosis, and this knowledge can only be acquired, according to the laws of the State of New York, by four years' study in a medical college. Possibly some restrictions ought to be placed on the work opticians should do, but to give them the power this bill would confer would be to expose the people of this State to perils the members of the Legislature cannot have knowledge of unless we inform them.

The members of the Legislature are honest, sincere men, and their desire is to do what will be in the interest of the State. They listen with great courtesy to the expressed opinions of the medical profession, and it will require conclusive evidence on the part of opticians and others to convince the Legislature that any of these bills are necessary, or even safe, if we in good faith urge disapproval of them.

Will you not therefore at once do what you can in aiding us in defeating these measures, by writing the members of the Legislature that they may be able to act intelligently.

**Medical Onomatopoeia.**—Dr. H. C. Muller, of Utrecht, Holland, who has written many scientific works on classical philology and also on and in living Greek, is contributing a series of articles on Medical Onomatopoeia in *de Nederlandse Courant voor het Koninkrijk der Nederlanden*, with the co-operation of Dr. Rose, the first of the articles of Dr. Muller, *Bijdragen tot Hervorming der Geneeskundige Vaktaal* (contributions to the formation of medical technical language), appearing on November 10, 1907. It deals on psychical terms found in the writings of Hippocrates and Zichon. Dr. Muller gives a number of words like psychosis, the meaning of which has been changed in such a manner that the Greeks must be at loss to recognize what they shall signify. As a matter of course he also criticizes the use of *bastard words* (*Chimera*, *aphrodisia* or hybrid or bastard terms). It is highly interesting and important to study this critic's writings, because of his point of view, a physician is first made aware of cross-words and knows as well

as of living Greek, but who is not a medical man. In his letter to Dr. Rose he acknowledges the difficulty he experiences to study medical nomenclature without cooperating with a physician.—*Postgraduate*, December, 1907.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and typhoid fever reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending February 14, 1908:

Location	Smallpox	Yellow Fever	Cholera	Typhoid Fever
Alabama—Mobile	Jan. 20	1	1	2
California—San Francisco	Jan. 23	1	1	13
Colorado—San Antonio	Jan. 24	1	1	1
Florida—St. Petersburg	Jan. 24	1	1	6
Georgia—Savannah	Jan. 24	1	1	1
Illinois—Chicago	Jan. 24	1	1	2
Indiana—Indianapolis	Jan. 24	1	1	1
Iowa—Des Moines	Jan. 24	1	1	1
Kansas—Topeka	Jan. 24	1	1	1
Michigan—Detroit	Jan. 24	1	1	3
Minnesota—St. Paul	Jan. 24	1	1	4
Mississippi—New Orleans	Jan. 24	1	1	1
Montana—Helena	Jan. 24	1	1	1
Nebraska—Omaha	Jan. 24	1	1	1
Nevada—Carson City	Jan. 24	1	1	1
New York—New York	Jan. 24	1	1	41
North Carolina—Charlotte	Jan. 24	1	1	1
Ohio—Cincinnati	Jan. 24	1	1	18
Oklahoma—Oklahoma City	Jan. 24	1	1	8
Oregon—Portland	Jan. 24	1	1	1
Pennsylvania—Philadelphia	Jan. 24	1	1	1
Rhode Island—Providence	Jan. 24	1	1	1
South Dakota—Sioux Falls	Jan. 24	1	1	2
Tennessee—Nashville	Jan. 24	1	1	1
Texas—San Antonio	Jan. 24	1	1	14
Washington—Spokane	Jan. 24	1	1	2
Washington—Tacoma	Jan. 24	1	1	8
Washington—Seattle	Jan. 24	1	1	1
Washington—Olympia	Jan. 24	1	1	1
Wisconsin—Milwaukee	Jan. 24	1	1	1
Wyoming—Cheyenne	Jan. 24	1	1	1
Canada—Montreal	Jan. 24	1	1	1
Canada—Quebec	Jan. 24	1	1	1
Canada—Ottawa	Jan. 24	1	1	1
Canada—Toronto	Jan. 24	1	1	1
Canada—Vancouver	Jan. 24	1	1	1
Canada—Calgary	Jan. 24	1	1	1
Canada—Edmonton	Jan. 24	1	1	1
Canada—Winnipeg	Jan. 24	1	1	1
Canada—Regina	Jan. 24	1	1	1
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Canada—Brandon	Jan. 24	1	1	1
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Canada—Brandon	Jan. 24	1	1	1
Canada—Moose Jaw	Jan. 24	1	1	1
Canada—Swift Current	Jan. 24	1	1	1
Canada—Lethbridge	Jan. 24	1	1	1



BULLARD, J. T., Acting Assistant Surgeon. Granted leave of absence for thirty days from February 14, 1908.

COLLINS, G. L., Assistant Surgeon. Granted leave of absence for seven days from January 28, 1908, under paragraph 189, Service Regulations.

DUKE, B. F., Acting Assistant Surgeon. Granted leave of absence for twenty days from January 6, 1908, on account of sickness.

EAKINS, O. M., Acting Assistant Surgeon. Granted leave of absence for thirty days from April 10, 1908, and excused from duty for a further period of two months, without pay, from the expiration of said leave.

EARLE, B. H., Passed Assistant Surgeon. Granted extension of leave of absence for eight days from February 11, 1908.

FOSTER, M. H., Passed Assistant Surgeon. Directed to proceed to Ponce, P. R., for special temporary duty; upon completion of which to rejoin his station at San Juan, P. R.

FRANCIS, EDWARD, Passed Assistant Surgeon. Granted extension leave of absence for seven days from February 8, 1908.

GUITERAS, G. M., Surgeon. Directed to proceed to Fort Arthur, Texas, for special temporary duty; upon completion of which to rejoin his station at Mobile, Ala.

KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for one day, February 4, 1908, under paragraph 210, Service Regulations.

LAVINDER, C. H., Passed Assistant Surgeon. Granted an extension leave of absence for ten days from February 14, 1908.

McKAY, M., Pharmacist. Granted leave of absence for thirty days from March 1, 1908.

MILLER, CHARLES, Pharmacist. Temporarily relieved from duty at the Marine Hospital in San Francisco and directed to report to Passed Assistant Surgeon Blue, San Francisco, Cal., for special temporary duty.

MULLAN, E. H., Assistant Surgeon. Granted leave of absence for one day, January 4, 1908, under paragraph 191, Service Regulations; granted leave of absence for seven days from January 29, 1908, on account of sickness.

PARKER, H. B., Passed Assistant Surgeon. Granted leave of absence for five days from January 27, 1908, on account of sickness.

RAMUS, CARL, Passed Assistant Surgeon. Granted leave of absence for three months and twenty-three days from March 1, 1908, with permission to go beyond the sea.

ROBERTS, N., Assistant Surgeon. Granted leave of absence for six days from February 3, 1908, under paragraph 191, Service Regulations.

THOMPSON, W. R. P., Acting Assistant Surgeon. Granted leave of absence for twelve days from January 10, 1908.

WARD, W. K., Passed Assistant Surgeon. Granted leave of absence for one day from January 3, 1908, under paragraph 191, Service Regulations.

WARREN, B. S., Passed Assistant Surgeon. Relieved from duty at Chicago, Ill., and directed to proceed to St. Louis, Mo., and assume command of the Service at that port.

WOLLENBURG, R. A. C., Assistant Surgeon. Granted leave of absence for seven days from January 2, 1908, under paragraph 191, Service Regulations.

#### Board Convened

A board of medical officers was convened to meet at Fort Townsend Washington, February 14, 1908, for the purpose of making a physical examination of an officer of the Revenue Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon W. G. Stimpson, chairman, and Passed Assistant Surgeon J. H. Oakley, recorder.

#### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Navy for the week ending February 15, 1908.*

DAVIS, W. T., Captain and Assistant Surgeon. Leave of absence extended five days.

FLAGG, C. F. R., Captain and Assistant Surgeon. Assignment to duty in the Philippine Islands revoked.

GRAY, W. W., Lieutenant Colonel and Deputy Surgeon General. Relieved from duty as chief surgeon and attending surgeon, Department of the Gulf; ordered to proceed to the Philippine Islands, and upon arrival at Manila to report in person to the commanding general, Philippines Division, for assignment to duty.

SHIMER, I. A., Captain and Assistant Surgeon. Orders so amended as to direct him, on arrival at San Francisco, Cal., to report for duty as surgeon of the Transport *Crook*. Upon arrival at Manila, Captain Shimer to report in person to the commanding general, Philippines Division, for duty as heretofore ordered.

#### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending February 15, 1908:*

BROWN, E. M., Passed Assistant Surgeon. Detached from the Naval Hospital, New Fort Lyon, Colo., and ordered to report at said hospital for treatment.

FAUNTLEROY, A. M., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., ordered home, and granted leave for two months.

### Births, Marriages, and Deaths.

#### Married.

CARR—ASHLEY.—In Wilkesbarre, Pennsylvania, on Wednesday, February 12th, Dr. Charles D. Carr, of Philadelphia, and Miss Sophia E. Ashley.

CULLER—LOSER.—In Philadelphia, on Wednesday, February 12th, Dr. Robert M. Culler, United States Army, and Miss Anna E. Loser.

SAXE—BAER.—In New York, on Thursday, February 20th, Dr. G. A. De Santos Saxe and Miss Laure Baer.

#### Died.

BADGER.—In Flushing, New York, on Thursday, February 13th, Dr. William Badger, aged seventy-four years.

BALDWIN.—In Newark, New Jersey, on Sunday, February 9th, Dr. Aaron K. Baldwin, aged sixty years.

BEST.—In Brucetown, Fredonia County, Virginia, on Wednesday, February 5th, Dr. William J. Best, aged seventy-five years.

BIRKHOFF.—In Chicago, Illinois, on Sunday, February 9th, Dr. David Birkhoff, aged fifty years.

DALTON.—In Tryon, North Carolina, on Tuesday, February 4th, Dr. Martin J. Dalton, of Melrose, Massachusetts, aged forty-eight years.

DANZIGER.—In Cincinnati, Ohio, on Friday, February 14th, Dr. Leo Danziger.

EGGLESTON.—In Worsham, Prince Edward County, Virginia, on Tuesday, February 11th, Dr. Joseph Dupuy Eggleston, aged seventy-six years.

GOLDSBOROUGH.—In Walkersville, Frederick County, Maryland, on Thursday, February 6th, Dr. Charles W. Goldsborough, aged sixty-seven years.

GROSS.—In Philadelphia, on Saturday, February 8th, Dr. William Dana Gross, aged forty-six years.

HEGEMAN.—In Troy, New York, on Wednesday, February 12th, Dr. William H. Hegeman, aged eighty-one years.

HEINEMAN.—In Paris, France, on Tuesday, February 11th, Dr. Henry Newton Heineman, aged fifty-five years.

HULLHORST.—In Lincoln, Nebraska, on Friday, February 7th, Dr. Charles G. A. Hullhorst.

LADLEY.—In St. Louis, Missouri, on Wednesday, February 5th, Dr. Leonidas H. Ladley, aged sixty-four years.

MOSS.—In Morgan Hill, California, on Tuesday, February 4th, Dr. Frank Hayden Moss, aged forty-three years.

PORTER.—In Wardsenville, Hampshire County, West Virginia, on Thursday, February 6th, Dr. Hampton Porter, aged seventy-two years.

PUTNAM.—In Lyons, New York, on Sunday, February 9th, Dr. J. W. Putnam, aged sixty-one years.

RICHARDSON.—In Buffalo, New York, on Wednesday, February 5th, Dr. Charles C. Richardson.

SCHLEY.—In New York, on Saturday, February 8th, Dr. Fayette E. Schley, aged fifty years.

TIEFENTHALER.—In Washington, D. C., on Thursday, February 6th, Dr. Benjamin F. Tiefertalher, aged thirty-nine years.

WILLIAMSON.—In Malone, New York, on Wednesday, February 5th, Dr. Stacy Dwight Williamson.

# New York Medical Journal

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### Original Communications.

#### THE AFTER CARE OF THE INSANE.\*

By FREDERICK PETERSON, M. D.,  
New York,

Ex-President of the New York State Commission in Lunacy; Professor of Psychiatry, Columbia University.

In the ten minutes permitted me for the discussion of this particular type of care of convalescents, I can only briefly cover what has been accomplished in the matter of after care of the insane at home and abroad. At a recent dinner I heard a pessimist say that in almost everything relating to social organization the United States are at least fifty years behind Europe, and in the indignant discussion which followed I am afraid I had rather the best of the argument. However, it was generally agreed that no other country is so quick as ours to remedy its defects when once clearly recognized.

The circumstances surrounding insanity are very different from those associated with other forms of illness. Insanity is a protracted malady, and convalescence and cure are matters of months or even years after admission to hospitals. When the poor and friendless insane are finally discharged they come almost as strangers into the community and are often wrongly regarded, if their history is known, with some degree of suspicion, even apprehension. To have been in a hospital for the insane, even if now fully restored to health, is unfortunately looked upon as a handicap. By long sequestration one loses touch with old associates and feels among his former haunts like Rip Van Winkle after his sleep of twenty years. These conditions favor the recurrence of his malady. Then, too, the number of convalescent and cured insane is much larger than we ordinarily realize, and, as most of the hospitals for the insane are in the country far from civic centres, few of us know that their total population is about 27,000 in the State of New York alone. And when we consider that their mental disorder has often been the result of conditions of struggle and stress in the maelstrom of our social life, and that they must return to a similar or perhaps harsher environment, less well equipped for the battle because of the tragic infirmity they have suffered, we can readily see that an aid society for the recovered insane must make an especial appeal to our sympathies and take high rank among after care institutions.

I believe that it was nearly two hundred and twenty years ago that the first after care institution of any

kind was established, and this was in France for the benefit of convalescents from general hospitals. But it was almost two centuries later before it occurred to any one that an organization for the care of the convalescent and recovered insane would be a project worthy of our interest and consideration. It was a German who originated the first society for the help and protection of the recovered insane in 1829, followed twelve years later by the establishment of a similar society in France, and thirty years later by a Guild of Friends of the Infirm in Mind in England. Very soon after this there were in existence numerous active societies for the care of the convalescent insane in Germany, France, Austria, England, Switzerland, and Italy.

The first suggestion for creating societies of this kind in the United States seems to have come from Dr. P. M. Wise, formerly president of the State Commission in Lunacy of New York, in 1893, in a paper read before the American Medicopsychological Association, and in 1894 Dr. Henry R. Stedman, of Boston, read a paper entitled Management of Convalescence and the After Care of the Insane before the American Neurological Association. On the motion of Dr. C. L. Dana at this meeting a committee consisting of Dr. Stedman, Dr. Dana, and Dr. Dercum was appointed to investigate and report upon some feasible plan for the aid and supervision of the convalescent insane poor during the first month or two after their discharge from asylums. The report of the committee was published in the transactions of the association in 1897. There was an interval of several years before the after care idea had any further development in this country. In the meantime, Japan, always quick to adopt anything practically helpful from our western civilization, established an aid society for the insane in 1902.

Miss Louisa Lee Schuyler, of the New York State Charities Aid Association, who has done so much for the insane and epileptic, may be described as the founder of the first after care organization in this country, and it is owing to her efforts, combined with those of the superintendents of the State Hospitals for the insane, that an organization for after care of the insane in the State of New York was established in February, 1906, through the Committee on the Insane of the State Charities Aid Association. A subsequent amendment to the original act provides for an after care committee to be appointed by the State Charities Aid Association in each hospital district in the State. Already five of the State hospital districts have such after care committees, and the reports of what has already been done are very gratifying. The cause has been furthered very largely by the excellent papers of Dr. Kahlili

\*Read before the Section in Public Health of the New York Academy of Medicine, January 24, 1908.

Dewey in 1905 and of Dr. Adolf Meyer, Dr. William Mabon, and Dr. Robert M. Elliott in 1906 and 1907.

The rather unusual needs of the insane, as compared with the needs of other convalescents, has led of late to some extension of the functions of an after care society, so that the qualification "after care" does not fully represent our present conception of such an organization. This evolution of a new and larger ideal of work to be accomplished is due in great part to the suggestive papers of Dr. Adolf Meyer. Indeed, the old English designation, Guild of Friends of the Infirm in Mind, would better describe the present trend of combined efforts in this direction. It is hoped that the hospital physicians themselves will become members of the various after care committees, not only for the purpose of following up and aiding their recovered patients by wise counsel, but in order to better study the milieu in which the mental disorder arose, to better aid in the fight against the preventable causes of insanity. Take but one preventable cause, alcohol. How few realize that 5,400 of the present inmates of asylums in New York State alone owe their insanity to alcohol!

A guild of this kind composed of hospital physicians, local practitioners, lawyers, clergymen, business men, and their wives, as they become familiar with all matters pertaining to the insane through their relation to the immediate objects of after care, will diffuse ideas of prophylaxis through the community and educate the people in this important department of public health. Not only will preventable causes thus be more generally recognized and more strongly combatted, but the public will become more alive to the need of early treatment and take advantage of the opportunities now afforded for medical advice in mental disorders at outdoor departments of city clinics and country asylums. Fore care as well as after care of the insane is therefore one of the new features in connection with the type of institution under discussion here to-night.

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#### CONSERVATIVE PROSTATECTOMY.\*

BY FOLLEN CABOT, M. D.,

NEW YORK.

Attending Genitourinary Surgeon, City Hospital; Professor, Genitourinary Diseases, Postgraduate Medical School and Hospital; Consulting Urologist to White Plains Hospital.

During the past few years much progress has been made in the treatment of prostatic hypertrophy. The advancement has been mainly along surgical lines. The mortality of 18 to 25 per cent. of ten years ago has been gradually reduced, till now it averages about 7 per cent. The results of the operation as to the urinary function, etc., have also shown much improvement. In my own series of seventy-two complete prostatectomies performed in the past five years I have lost five patients. Two of these were diabetics and the others were worn out from long suffering. In looking back over these deaths I believe, with my present experience and change in methods, I could have saved at least three of these men.

I have divided prostatitis into three groups.

1. In the first group I have placed the cases which are beginning to show evidence of prostatic obstruction. There is usually no appreciable residual urine, but the force of the stream is somewhat diminished, mild straining, increase in time of emptying bladder and some increase in frequency of urination. The patient probably rises twice during the night to empty his bladder. This fact may be the cause of his seeking his physician. Upon rectal examination we find as a rule some increase in size of the prostate. This change, however, may not be appreciable even to the trained finger. The increase in prostatic growth may be entirely vesical. By the careful employment of clean, flexible catheters and sounds the urethra may be searched for stricture. I have, however, never seen a stricture in a case of prostatic hypertrophy. The use of instruments may do harm unless handled with every care. The general condition of the patients in this first division is not materially affected.

2. In the second group I have placed those patients who have two or more ounces of residual urine, who are straining considerably, and getting up four to five times at night to empty the bladder. There is much falling off in the force of the stream and it may even not go beyond the shoes, but almost dribble away in some cases. As a result of the broken sleep and also usually cystitis and pain, the general health soon becomes involved. Slight exposure to cold, dampness, indiscretion in diet and use of alcohol will all aggravate the symptoms, and may even cause retention which necessitates use of the catheter for its relief. If the obstruction has been present for some time there is usually cystitis, and often in addition pyelitis.

Rectal examination nearly always reveals increase in size of the prostate. The enlargement, however, may be almost entirely vesical. The urinary distance as measured by the catheter is nearly always increased. In some of my patients a cystoscopic examination has been of value in determining the condition of the bladder, presence of stone, diverticula, and prostatic bulging. On the whole, though, I have been somewhat disappointed in this method

\*Read before the Medical Association of the Greater City of New York, January 20, 1908.



of diagnosis and do not use it except in my perineal cases.

3. In the third group I have placed those prostatics who can no longer be treated by palliative measures. They are usually very much shattered in health and will not withstand much surgical shock. The catheter no longer gives relief, but often is the cause of hæmorrhage, chills, and pain. The patient is in constant distress, night and day. The cystitis is of a severe grade, and occasionally there is stone in addition to the enlarged prostate. In many cases there will be a steady overflow and dribbling of urine. Bladder instrumentation is usually out of the question, and yet some relief must be given. There is nearly always a pyelitis and often a pyelonephritis.

By rectum we usually find a large prostatic overgrowth. Manipulation by the finger produces much pain as the prostate is pressed. This, no doubt, is due to the additional engorgement of the organ as a result of straining and inflammation. Hæmorrhoids, often very large, are common, and even prolapse of the rectum, as a result of efforts to empty the bladder.

A man's age really has little to do with his power to resist operative shock. The circulatory apparatus, kidneys, and general condition must, however, be carefully studied in every instance.

In the first group of prostatics, those in good health, with mild symptoms, no operation is advisable unless there is evidence of advance in the obstruction. This is shown by more frequent urination and straining on passing water. These patients, therefore, should be carefully watched for any evidence of advance in the process. Their lives should be carefully regulated. Medicine is usually of no use except in instances of infection, when urotropin is of value. The bladder may also be washed out two to three times a week. If, however, the disease shows a well marked tendency to advance, an early operation should be performed. It is much more conservative to advise it before the machinery has become impaired. It is easier for the patient and surgeon. We are now seeing these patients earlier in their disease, and, as a result, mortality is lower. This fact, combined with improved technique and better understanding of preliminary and after treatment, has placed surgery of the prostate in a very satisfactory state. Formerly no cases were operated on till the condition was well advanced into the second and even third group. The mortality therefore was necessarily high, and the operation often done as a last resort.

When a patient suffering with mild obstruction, as shown in the first group, presents himself for an opinion, and my observation convinces me that an operation will eventually be necessary, I present the probabilities to the patient and his physician. In all the cases I have operated in this group I have had uniformly satisfactory results. I am also seeing more of these cases now.

In the second group we usually have evidence of cystitis and often a secondary pyelitis. The catheter has to be used occasionally or perhaps constantly to keep the patient at all comfortable. The night is usually the worst time and although he may wear a urethral catheter he is never comfortable.

The broken rest use of catheter and all it entails

really convert the patient into an invalid. No poor man can afford it, and for any man except under peculiar conditions it is most undesirable. There are exceptional cases where proper use of the catheter and general care result in comfort and long life to the patient, but such cases are not common. There is always danger of infection and other complications which suddenly bring the patient into the third group. In this third group something of a surgical nature is necessary in order to preserve life. It often happens, too, that there can be no further delay. The question therefore arises in all cases in this group and some in those in the second one, too, what shall we advise? A complete prostatectomy is almost sure to be followed by death. My friend, Dr. Lilienthal, answered this question in 1896 by suggesting and carrying into practice a two stage operation. I have done this several times and believe it to be of the greatest value. In all cases of the least doubt of the patient's resistive power I do a two stage operation.

The patient in a state of shock or low resistive power is quickly prepared for operation. A suprapubic cystotomy is done under local or general anaesthesia. This should not take more than five to eight minutes. By this means we obtain all the advantages of a complete operation without its disadvantages. The patient is put to bed wearing a good sized drainage tube. He is made to sit up at the end of twenty-four to forty-eight hours and drained in this way till his condition is so good that a prostatectomy can be quickly performed through the same cut. This drainage may continue five days to four weeks. The patient may sometimes wear the tube indefinitely.

The cystitis gradually disappears, the condition improves, the engorgement of the prostate passes away, and the patient, through rest and forced feeding, regains his lost strength. He then is given a small amount of chloroform and the prostate is enucleated in a few minutes. The only cut made at the second operation is the one about the prostate.

If the patient cannot withstand these two small operations it would have been useless to perform a complete operation at one sitting. I believe this method will be used more all the time, and will further reduce the mortality.

The suprapubic route is the best one for this two stage operation, owing to the comfortable position of the tube.

There has been much discussion as to the best operative route. In my opinion the perineal is better in certain simple cases of a small prostate low down, while in the majority of instances the suprapubic route is the most satisfactory. We are better able to control hæmorrhage, dress the wound, and also, I believe, obtain better urinary results. The convalescence is, however, somewhat longer, and there is a little more shock than noted in perineal route. However, with the two stage method, a divided operation does away with the latter objection. I believe also it will make the various cauterizing operations unnecessary.

The question of the result in the sexual power has also been much discussed, and, I believe, exaggerated. I have never had but one man complain of loss of sexual power in my list of seventy-two

cases. It is usually much reduced before operation and causes no particular concern after it. In fact, I believe, with the operative results otherwise very satisfactory, we need pay no attention to the sexual side.\* In one case of perineal prostatectomy the man said he felt stronger in sexual power.

In closing I will give the history of a case operated on by the two stage method:

CASE.—This patient, referred to me by Dr. Hopke, of Brooklyn, was operated upon in December, 1906. He was seventy-five years old and had been suffering from symptoms of prostatic obstruction for twenty-five years. General condition was bad; irregular heart; well marked arteriosclerosis. Digestive system was in fairly good condition, some albumin and few casts in urine showing evidence of renal irritation as result of back pressure. There was very severe cystitis, alkaline urine with well marked ammoniacal decomposition. Urinating six or seven times at night and each hour or less in day till catheter life was begun shortly before I saw him. Residual urine, 14 oz. Urinary distance somewhat increased and prostate, by rectal touch, high up and difficult to reach. It was apparently not very large and felt smooth and firm. Recently patient complained of chills and had reacted badly to bladder irrigation, but had never passed much blood.

Owing to the patient's enfeebled condition and severe cystitis it seemed best to operate by two stages, and so I performed a suprapubicotomy under light chloroform anesthesia, it being thought best not to give nitrous oxide. The bladder was opened under air dilatation and tube of 44 French calibre introduced. The prostate and bladder were also carefully palpated, all of which took eight minutes. The third lobe or isthmus was hypertrophied and caused the difficulty. The rubber drainage tube was kept in place with a Bang's shield and the patient put to bed.

The old gentleman quickly recovered from the anesthesia. Strychnine sulphate gr. 1/30 each three hours was administered, also small quantities of soft, uncharged water were soon taken at frequent intervals. The latter was given to stimulate the kidneys. While the pulse never went over 100 and the temperature remained at about 99.5° F., there was considerable prostration the following day. However, in forty-eight hours the patient rallied well, and on the third day sat in a chair for an hour or two. Bladder was washed frequently with boric acid and saline solution. Cystitis gradually improved with addition of urinary antiseptics and acids to correct alkaline reaction. In about two weeks the patient was walking about and going downstairs to his meals. At the end of three weeks the urine was clear and free from albumin. He was in much better condition than he had been for several years. I then, without telling him that the operation had not been finished, operated again through same cut under chloroform, and in nine minutes removed the prostate. During the enucleation a catheter was introduced through the penis, hot saline solution was continually run into bladder and at the end of the operation several ounces of solution of adrenalin 1/3000 was introduced. There was a very small amount of hæmorrhage. The congestion about the prostate had disappeared during the period of rest and so there was less blood in and about the gland. The enucleation was carried out so that the whole prostate was removed in one piece. The prostatic capsule was packed with a strip of gauze which had been soaked in adrenalin 1 in 3000. The urethral catheter was left in place behind the packing to use for adrenalin in case of hæmorrhage and later, after the gauze was removed at end of forty-eight hours, for inlet to irrigation. The large tube in the suprapubic wound was for outlet to fluids.

The patient seemed to have less prostration following this final operation than he did from the preliminary one. I attribute this fact to his improved condition as a result of good drainage of bladder, rest, and nursing for three weeks. In three days he was up and at the end of seven days both tubes were removed. During the healing of wound a small catheter was daily passed into the bladder through wound and the cavity irrigated. In fourteen days the wound had completely closed and the patient was soon passing urine in a very satisfactory manner. The control was good from the first, as it usually is when the operation is performed suprapubically. After this time no further irrigation was em-

ployed and no urethral sounds passed at any time. It does not as a rule seem to be necessary unless there is some complicating condition in the urethra which needs it. Stricture, however, in my experience, is rare in prostatics. In June the patient reported himself in fine condition, was back at work, had no urinary symptoms, emptied his bladder completely and felt better than he had for twenty-five years.

129 EAST THIRTY-FIRST STREET.

## THE GASTROINTESTINAL SYMPTOMS OF MIDDLE EAR SUPPURATION.\*

By LOUIS FISCHER, M. D.,  
New York,

Attending Physician to the Children's Department of the Sydenham Hospital, and to the Willard Parker and Riverside Hospitals, etc.

When a child presents gastrointestinal symptoms one would naturally infer that the stomach or the intestines are the seat of the trouble. We must remember, however, that very many diseases are ushered in by vomiting, others by vomiting and diarrhœa, so that a careful distinction of the ætiological factor is demanded.

Vomiting and fever occurring in the preeruptive stage of scarlet fever has many times been diagnosed as a spoiled stomach. The careful inspection of the throat would have solved this mystery. Such serious mistakes may mean an exposure in school or home of healthy children to one of the worst infectious disorders of infancy and childhood. Vomiting is an early symptom in tuberculous meningitis, therefore a symptom that assumes greater dignity because it may mean an initial manifestation of any one of several disorders. In like manner an infection of the middle ear, be it due to the streptococcus or to the pneumococcus, frequently causes gastric or gastroenteric disturbances. The gastric symptoms, *per se*, be they vomiting, anorexia, or meteorismus, are simply toxic manifestations of the otic infection, and they are really the result rather than the cause of the trouble.

Secretions from the rhinopharynx in a young child are never expectorated, but invariably swallowed. Such discharges may increase the severity of the gastric symptoms. Kossel found that in a case of otitis infection due to *Bacillus pyocyaneus*, the same bacteria were found in the stomach as were found in the middle ear.

Pathogenic bacteria lie dormant in the mouth and in the rhinopharynx. They gain entrance to these parts first by the air, second through faulty hygiene. One of the most frequent means of introduction of pathogenic bacteria is the common nipple used to soothe the baby while crying.

Preysing<sup>†</sup> studied a series of 121 infected ears. He found a pneumococcus infection in 112 cases, or 92.5 per cent. This alone forced Preysing to believe that otitis media in nurslings is a specific entity due to a pneumococcus infection.

Zaufals found that we are dealing with a primary otitis due, according to him, to the pneumococcus infection, whereas the secondary infections

\*Read, by invitation, at a symposium on middle ear suppuration, before the Eastern Medical Society, January 10, 1908.

<sup>†</sup>Preysing: *Otitis Media in Säuglinge*, 1904.



are caused by the streptococcus. He then divides the primary conditions into those following exposure to cold and benign catarrh. In secondary cases, those following scarlet fever, measles, diphtheria, and typhoid. Influenza is looked upon as one of the most frequent causes of otitis by Gomperz.

Rasch<sup>2</sup> found the pneumococcus in thirty-three cases of mucus exudate out of a series of forty-three examined by him. Leutert<sup>3</sup> found in a study of the bacteriology of otitis in small children that when a tendency to empyema was found, then the streptococcus was the causative factor, so that it would seem that the streptococcus was demonstrated more often in those cases leading to an empyema, whereas the pneumococcus was found in the milder type of middle ear inflammation.

Weiss not only studied the superficial bacteria, but also studied sections of tissue to see how deep the bacteria penetrated. He found the *Diplococcus pneumoniae* in 42 per cent., the *Streptococcus pyogenes* in 39 per cent., the *Staphylococcus albus* in 27 per cent., the *Staphylococcus aureus* in 12 per cent. His cases were as young as twenty-five, thirteen, eleven, and two days old. Gomperz<sup>4</sup> believes that otitis is more frequent following influenza than it is in any other infectious disease.

**Method of Infection.**—Pathogenic bacteria can enter with air and nasal secretions through the nose into the Eustachian tube. In like manner an infection can take place from the pharynx or by infectious secretions from the bronchi. During the act of vomiting it is easy for pathogenic bacteria to gain entrance through the Eustachian tube in the rhinopharynx. The act of sneezing, yawning, coughing, swallowing, and muscular action associated with regurgitation of food, especially while the child is in the dorsal position, are all conditions which should be remembered in seeking the source of an infection. The ease with which nurslings vomit seems to call for especial stress. Fluids will frequently be expelled through the mouth and nose. If, therefore, the nose is obstructed by accumulated secretions, and there is a damming back of decomposed food in the rhinopharynx, bacteria if present can be forced easily into the Eustachian tube.

Netter<sup>5</sup> examined thirty-one cases post mortem and found that out of these, twenty-eight cases of otitis were caused by the pneumococcus. Kossel,<sup>6</sup> in studying nurslings with special reference to middle ear inflammation, found that out of 108 cases in the institute for infectious diseases in Berlin, eighty-five had inflammation of the middle ear; thirty-eight of these were carefully studied bacteriologically; half of these contained a bacillus resembling Pfeiffer's pseudoinfluenza bacillus. In ten cases he found Fränkel's pneumococcus, in four

staphylococcus, in two cases streptococcus and Friedlander's pneumonia bacillus. Once he found tubercle bacillus, also once *Bacillus pyocyaneus*. The same pathogenic bacteria found in broncho-pneumonia were also found in the middle ear. In thrombosis of the cerebral sinus he found the Friedlander's pneumonia bacillus. In the pyocyaneus infection, the same bacteria were found in the stomach, and thus gave rise to vomiting and diarrhoea.

Diarrhoea may be due to Nature's method of eliminating poisons stored in the body. If a child suddenly shows gastric disturbances and if the food suddenly disagrees, then the temperature should be taken. In addition to the careful examination of the stomach and intestines, the nose and throat should be examined. No diagnosis should be considered complete until the throat, and especially the ears, have been examined. The symptoms of an otic infection may so resemble an acute milk infection that only careful examination of the ears can determine the correctness of such diagnosis.

The gastrointestinal symptoms due to the toxæmia resulting from a pneumococcus infection or a streptococcus infection of the middle ear appear in the following manner:

**Breast Fed Infant.**—There is usually a history of some member in the family having had the grippe. The infant up to this time had been enjoying excellent health. It is suddenly taken sick. The human milk causes dyspeptic symptoms, such as vomiting, diarrhoea, greenish or curded stools, and anorexia. The infant turns away from the breast, and the mother in her anxiety to feed the baby commits the dietetic error of too frequent feeding. Accompanied by these symptoms there is a marked febrile disturbance. The temperature may be 101° F. and rise to 104° F., or even 105° F. The pulse rate is accelerated and may reach 130 or 140. The pulse never intermits as it does in tubercular meningitis. The respiration is also increased, and is usually between 30 and 40 per minute. There is no cough present, and there are no distinct evidences of pulmonary involvement. The surface of the skin feels hot, and the head is flushed. At times an erythematous or an urticarial eruption will be found on various parts of the body, chiefly confined to the face, thorax, and abdomen. This punctate eruption lasts from three to four days. The infant has a marked apathetic condition and moans at times as though in pain. The stomach and abdomen appear distended, and percussion shows marked meteorismus. The flatulence is also evident by frequent eructations as well as by the expulsion of flatus. The tongue is coated with a whitish fur. The pharynx and tonsils appear red and congested, but there are no visible patches. There is a marked odor of acetone perceptible from the breath. The cervical glands are not involved.

**Bottle Fed Infant.**—The clinical manifestations in an infant, brought up artificially, are usually more intensified. The same clinical picture of illness, vomiting, fever, and gastroenteric disturbances will also be found. In addition thereto the temperature may reach 105° F. at the very beginning, and the symptoms may be ushered in by convulsions. There

<sup>2</sup> Rasch, Ueber die Mittelohrentzündung und Gehörtauglichkeit von Kindern, insbesondere bei chronischen kindlichen Entzündungen. *Zeitschrift für Kinderheilkunde*, 1890, 1891.

<sup>3</sup> Leutert, Bakteriologische klinische Studien über eitrige Mittelohrentzündung. *Archiv für klinische Chirurgie*, 1892, No. 46, p. 1.

<sup>4</sup> Gomperz, Mittelohrentzündungen im Säuglingsalter. *Zeitschrift für Kinderheilkunde*, 1891, 1892, 1893.

<sup>5</sup> Netter, Ueber Mittelohrentzündung bei Säuglingen. *Archiv für klinische Chirurgie*, 1892, 1893.

<sup>6</sup> Kossel, Ueber Mittelohrentzündung bei Säuglingen. *Archiv für klinische Chirurgie*, 1892, 1893.



may be grinding of teeth. The stools, which until now have been of a uniform consistency, show evidences of enterocolitis. They are either green or muddy and contain mucous and undigested particles of food, and are foul smelling. They are accompanied by large quantities of gas. From the irritation of these acid stools there may be an excoriation around the anus and the buttocks are usually red and inflamed. The urine shows a high gravity and acetone in addition to quantities of indican, the latter indicating a disturbance of metabolism due to putrefactive absorption. The gastric symptoms will continue in spite of careful dieting. So, also, undigested particles of food will be found in the stool, showing the effect of the toxine on the glands of the stomach and intestines. When intestinal digestion is impaired, in spite of eliminative treatment and careful dieting, it proves that the seat of the trouble is located elsewhere. An examination of the blood in a doubtful case of prolonged fever may at times reveal obscure suppuration. If the polynuclear percentage is very high then it speaks for the presence of pus. The fever curve is one that shows wide variations similar to what we find in tuberculous meningitis.

As a rule the symptoms are more pronounced in the marasmic or atrophic child. It is hardly in the province of this paper to go into the details of secondary infections resulting from the acute exanthemata further than to say that an associated ear complication must always appeal to the physician, and hence as a routine method of watching the urine is demanded, so also must the ear be carefully supervised by the attending physician or by an aurist if necessary.

In a normal infant during the act of crying or screaming the drum membrane appears pink or rose colored. It is advisable, therefore, to examine the ear gently and quickly while the infant is asleep to prevent its waking and crying.

65 EAST NINETIETH STREET.

#### INDICATIONS FOR SURGICAL INTERVENTION IN SUPPURATING MIDDLE EAR DISEASES OF INFANCY AND CHILDHOOD.\*

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The first and important surgical intervention, the performance of which it is our duty to consider in middle ear disease of infancy and childhood, is the incision of the drum membrane, or, as it has been originally designated, the operation of paracentesis. While we still abide by the old appellation, it is well to remember that the simple puncture with the so called paracentesis needle has been laid aside by most otologists, a thorough incision having proved to be the more surgical procedure and the one giving the best results.

##### *Indications for Paracentesis.*

In formulating indications for paracentesis of the membrana tympani, it is necessary to consider the character of the inflammation from every point of

view, from the pathological, bacteriological, and surgical.

The pathologist recognizes two main forms of acute middle ear inflammation, an otitis media catarrhalis simplex acuta and an otitis media acuta mucopurulenta sive purulenta. In the former the exudate is usually serous or mucous in character; in the latter the discharge is always mucopurulent or purulent. The simple catarrhal otitis represents a lighter form of inflammation; the latter a graver one. From the bacteriological standpoint this distinction does not entirely hold, as we now recognize a streptococcal form of invasion, for instance, which may give a serous exudate accompanied by complications fully as severe as the mucopurulent or purulent types of inflammation. A practical subdivision, from the surgical point of view, and usually accepted, recognizes a nonperforative and a perforative form of inflammation.

We speak of a middle ear inflammation as being perforative if a *restitutio ad integrum* is impossible without artificial or spontaneous vent having been given to the exudate contained in the tympanic cavity. The acute catarrhal inflammation is usually a nonperforative form; the exudate, generally mucous or serous in character, becomes absorbed; in the perforative form, the exudate is usually mucopurulent or purulent. If we bear in mind these facts the formulations of our indications for paracentesis are almost obvious and we can logically conclude that:

I.—*Paracentesis is indicated in every form of perforative inflammation.*—It should be our aim and it is our duty in this form of inflammation to incise the drum membrane if possible before spontaneous rupture can occur, in order to alleviate all symptoms and establish the most efficient drainage. It follows likewise that in those cases in which rupture has occurred, it is our duty to aid Nature by making an incision if there are any symptoms pointing to retention, pressure, etc.

Bearing in mind our classification it follows naturally as an absolute and obvious deduction that:

II.—*Paracentesis is not indicated in the nonperforative form of inflammation.*—The formulation of these two indications would suffice were it not for the fact that in practice we meet with a group of cases in which we unfortunately are perplexed to determine the character of the otitis, and if we question ourselves, therefore, as to the fact whether we have any absolute guide which enables us to distinguish between these forms, we must frankly confess that even the most experienced will find it impossible in every case from its inception to determine absolutely upon the character of the inflammation.

We are, therefore, compelled to add as a third indication that:

III.—*Paracentesis should be performed in every doubtful case in which distinction is impossible or difficult, and whenever immediate depletion and diminution of tension in the tympanic cavity appear advisable.* Our aim, however, should be to evolve a symptomatology which will enable us to distinguish between the various forms of inflammation,

\*Read before the Eastern Medical Society, January 10, 1908.

and reduce our third indication—a *testimonium paupertatis*—to as few cases as possible.

The fact of the difficulty in distinguishing has made the subject of indication for paracentesis a very active and mooted one in the last years, and has tended to cause a great deal of discord among otologists; we might speak to-day of two camps, those otologists who perform paracentesis too often, and those who perform paracentesis too seldom. By carefully evolving the symptomatology in every case, take cognizance of the otoscopic picture, the subjective and objective symptoms, and remembering to individualize, a happy medium between these two violent extremes ought not to be difficult to find. As a guide to the practitioner, we can state that for most otologists a trias of symptoms has been considered as an indication for paracentesis, namely, a bulging drum membrane accompanied by pain and the presence of an elevated temperature. While for most cases this trias occurring simultaneously may be considered a safe guide for the diagnosis of a perforative otitis, I have found one modification of great service in enabling me to distinguish—of course I am simply outlining in general and not any particular case. For instance, earache not readily controlled by application of heat and recurring quickly after removal of poultice or water bag, accompanied by a rise in temperature and a bulging, usually speaks for the existence of a perforative form of inflammation. On the other hand, given a child suffering from intense earache, on examination you may find a high temperature, a typically bulging drum membrane, apparently the complete trias; if you apply moist heat or a water bag the child quiets down speedily, and in a few days you find a complete restitution to the normal, a type of *catarrhal* inflammation apparently simulating a perforative form. If we therefore take into consideration this fact, that in many cases a diagnosis can only be made by a little prolonged observation and in some cases by the application of a heat test, if I may so term this symptom, we formulate naturally as our fourth indication:

IV.—*Not to perform paracentesis too early; unless some aggravating symptoms demand such interference.* Wait until the symptoms have somewhat developed. That, of course, does not mean waiting indefinitely, but waiting from hour to hour and possibly from day to day.

There is another disadvantage to paracentesis made a little too early, before the inflammation has somewhat progressed, diminution of depleting effect of operation and tendency to closure of incision before formation of discharge. In formulating the indication not to do paracentesis too early, it must be understood that the term early refers to the course of the inflammation, rather than to the actual lapse of time. In one case a paracentesis at the end of twelve hours may be late; in another a paracentesis performed on the second or third day may be considered in that individual case a fairly early paracentesis. Usually the time when a paracentesis should be performed may range from the beginning of the onset up to the second, third, or even fourth day; and a careful consideration of the *total available* will enable us to select the suitable time for the incision of the drum membrane.

I do not wish to leave this subject, which, unfortunately, the allotted time does not permit me to exhaust properly, without warning the practitioner that occasionally there are cases without any symptoms—no trias, a slight history of earache, where only a pyæmic rise of temperature points to the presence of an exudate—which, above all others, require immediate paracentesis to prevent unfortunate and even fatal complications, such as a resulting otogenic pyæmia, a complicating circumscript abscess, etc., the apparently light form of otitis having been overlooked on account of the absence of the subjective earache to which the practitioner so frequently attaches too much importance.

In the perforative forms, however, the practitioner will rarely find normal or almost normal appearance of the drum membrane. In the ordinary perforative forms, except in those rare cases in which other dangerous symptoms predominate, a paracentesis should not be made before such changes as considerable swelling or partial swelling of the *membrana tympani* is noticeable, unless a distinct exudate accompanied by febrile symptoms is present and the exudate visible through the *tympanum*. Exceptions to this are in otitis occurring in the course of the so called infectious diseases, measles, scarlet fever, etc.; early paracentesis should be the rule in order to diminish the effect of the necrobiotic changes that take place in the tympanic cavity and drum membrane, thereby mitigating the ravages otherwise caused. Paracentesis should be made at the earliest indicated occasion; even a slight boggiess of Schrapnell, without bulging of the drum membrane, should be considered enough indication for paracentesis. The resulting depletion and reduction of pressure may assist us in preventing sloughing and destruction of the drum membrane, so often the sad sequelæ of morbillic and scarlatinous inflammations.

Let me emphasize the importance of the practice of absolute asepsis in our incision. Thorough cleansing of the canal, removal of cerumen and scales, and the regular practice of the application of an occlusion bandage for several hours after paracentesis may prevent secondary infection in those cases where discharge or exudate has not yet made its appearance, and a change of what might have been a nonperforative form of inflammation into a perforative form, with source of complications to the patient.

#### *Indications for Perforating the Mastoid.*

Congestion of the mastoid bone so frequently accompanies otitis media, and the otitis media itself is so often only a secondary or concomitant manifestation of a mastoid infection, that we cannot be surprised to find affections of the mastoid requiring operative interference an occasional sequel to the most carefully and scientifically treated otitis. In fact, congestions of the mastoid cells and the bone itself have been regular post mortem findings in children suffering from otitis, where even no symptoms pointing to these conditions were recognizable during life. It will be well, therefore, to utilize these anatomical facts, and right here emphasize that a *rigorousness of the method*, as exerted by introduction of pressure to the touch, or even a greater degree of inflammation, a periaural swelling, a

evinced by edema over the mastoid occurring in the beginning of an otitis, is no *mastoiditis* and does not require an immediate opening of the mastoid. On the contrary, these congestive conditions often disappear, and heal out spontaneously. Mastoid congestion may be readily compared to the inflammation of the accessory nasal sinuses found during attacks of influenza and acute rhinitis, which also terminate favorably if left to themselves.

The pathological conditions affecting the mastoid that may interest us from the point of surgical interference are briefly stated as follows: Mastoid osteitis and periosteitis, empyema of mastoid antrum and cells, epidural and cerebral abscesses, various forms of meningitis, circumscript abscesses, sinus phlebitis and thrombosis. For the sake of completeness let me recall the formation of deep and cutaneous abscesses of the neck and head, lymphangitis and lymphadenitis, general pyæmia, septicæmia, etc. The bacteriological sources of infection which interest us mainly are the streptococci, pneumococci, and staphylococci. It is important to elicit the character of the bacterial infection, as the form of bacterial invasion may influence us in the selection of the time for operative interference, whether to operate a little earlier than even the general symptoms might otherwise demand.

A notable symptom pointing to the presence of pathological changes in the mastoid has been already referred to, namely, sensitiveness of the mastoid on pressure. While sensitiveness of the mastoid on pressure, in the beginning of an otitis must not be valued as a diagnostic sign for operative interference, and though even a persistency of the sensitiveness for a time may be overlooked, provided it had been present from the beginning of the otitis and shown a tendency to retrograde, persistency of the tenderness or a sensitiveness first manifesting itself in the course of the otitis, after drainage has been freely established—say, at the second or third week—is a cardinal symptom in the consideration of operative interference. A recurring sensitiveness, after the sensitiveness had already disappeared, is also an important indication. If besides the presence of tenderness we find a gradual reddening over the mastoid, standing off of the auricle, cessation of the discharge, followed by swelling over the mastoid, or the presence of an increasing otorrhœa which becomes gradually more and more purulent, presenting the character of bone pus, if we find gradually increasing and exacerbating temperatures our picture of a mastoid inflammation, requiring operation, is complete.

Certain points of selection on the mastoid are also to be looked for, and will aid us in establishing our indication, tenderness on pressure immediately over the fovea antri, on the apex, or on the lateral portion of the mastoid in the region of the sinus or emissary vein.

The otoscopic picture, the quantity and the character of the discharge, the appearance of the upper wall of the osseous portion of the external canal, are all important guides. At times the character and quantity of the discharge, with a bare rise of temperature, may be the only symptoms to point to a mastoiditis, without the presence of any noticeable changes about the mastoid. Temperatures must be carefully watched, for in some cases, when the

symptoms are more or less obscure, a sudden rise in temperature, or gradual rise, will enable us to diagnose the presence of mastoid involvement requiring an operation.

I have already exceeded the time allotted to me, and therefore cannot enter into the complete symptomatology of more serious and secondary complications: Let me only refer to the presence of vertigo, headache, neuralgia, convulsions, chills, septic temperatures, the quality and character of the pulse, the aid that may be obtained from the bacteriological and blood examination, the condition of the fundus, all symptoms which, if carefully noted, will enable us to operate on our cases in due time and also guide us to the extent to which our operations should be carried, whether a simple and thorough mastoid operation will suffice, or whether a more extensive operative interference will be indicated, such as exposure of an existing circumscript or a cerebral abscess, removal of infected thrombi in sinus thrombosis, the ligation of the jugular, and so on.

### Conclusions.

In conclusion I desire to enumerate briefly the following indications which have guided me in my operations, and which were formulated by me in 1896 in an article on the Indications for Perforating the Mastoid.<sup>1</sup>

I.—The mastoid should be opened in all cases of diagnosed osteitis, if under the usual antiphlogistic treatment the inflammation shows no tendency to resolution.

II.—In pronounced cases of otitis media, complicated by antral empyema, in which the discharge is purulent, and shows no tendency to evacuate through the middle ear.

III.—In all cases of prolonged otitis with profuse otorrhœa which show no tendency to resolve within a reasonable period, the time chosen for operation depending upon the manifest symptoms, whether, for instance, retention is present or the mastoid bone itself is involved.

IV.—In every case of acute otitis, in which there are dangerous symptoms of resorption, and in which the drainage cannot be established by paracentesis or by the natural perforation. In those cases, even without manifest symptoms of mastoid affection, the mastoid should be opened in order to produce more favorable drainage and enable a thorough cleansing of the ear.

V.—In all cases of mucopurulent otitis, in which the otitis is evidently maintained by the mastoid osteitis, the time for operation depending upon the condition of the patient and the presence or absence of symptoms pointing to retention or other complication of a serious nature.

VI.—In cases of protracted otitis, in which there are symptoms of serious secondary complications involving danger of extension of the inflammation inward toward the brain or to the sinus or downward, toward the neck.

VII.—In case of uncomplicated acute otitis, in which stenosis of the external canal prevents drainage and thorough cleansing of the middle ear.

31 EAST SIXTIETH STREET.

<sup>1</sup>New York Medical Journal, August 8, 1896.



# THE PRESENT STATUS OF THE ETIOLOGY OF SYPHILIS.

## *The Spirochæta Pallida; Its Biology and Ætiological Relation to the Disease.\**

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Previous to the discovery of the *Spirochæta pallida*, the lesions of syphilis were seemingly successfully produced in the lower animals by inoculation with human virus by quite a number of observers, among whom may be mentioned Metchnikoff and Roux, Martineau, Adrian, Hugel, Holzhauer, and Neisser (quoted by Flexner, *Journal of Experimental Medicine*, ix, No. 4, July, 1907).

That the disease could be transmitted was proved especially in monkeys, but far better in anthropoid apes. From the lesions produced there seemed to be no specific organism isolated. Numerous organisms and so called parasites were recognized, and especially amongst these apparently specific parasites was the *Cytorrhynchus luis* of Siegel (*Münchener medizinische Wochenschrift*, lii, pp. 1323, 1384, 1574, 1905), a so called protozoon which he described as occurring in the blood and tissues of syphilitics and in rabbits inoculated with the blood and other syphilitic products. This was followed by the work of Schaudinn and Hoffmann upon syphilis, with the result that they observed an organism constantly in the lesions of syphilis which they termed the *Spirochæta pallida*.

The constancy with which the *Spirochæta pallida* is found in primary and secondary lesions of syphilis seems to strengthen the assertion of Schaudinn and Hoffmann that it is the probable cause of the disease. The only remaining step seemingly necessary to complete this assertion is the cultivation of the organism upon some culture medium. It has been found in the lesions; it has produced lesions when inoculated into numerous animals (apes, monkeys, sheep, dogs, rabbits), and has been recovered from these lesions, and agglutination reactions have also been recorded by some few observers.

### *Morphology of Spirochæta Pallida.*

Schaudinn and Hoffmann (*Arbeiten aus dem kaiserlichen Gesundheitsamte*, xvii, No. 2, p. 527, 1905), and Berneise (*Deutsche Wochenschrift*, 1905, p. 22) first describe two forms of spirochæta occurring in syphilitic lesions, not only in superficial but also in deep lesions, and in the connected lymph glands.

The *Spirochæta pallida* is delicate, 4 to 10 mikra in length, average length 7 mikra, its breadth about 0.25 mikron. The spirals number 6 to 14, are abrupt, narrow, regular, and deep. It has pointed ends, progresses by rotating upon its long axis, and when at rest shows undulatory movements in its whole length, suggestive of the play of a vibratile membrane. It stains with difficulty, and with Giemsa's stain takes on a light purple hue. Schaudinn later called the organism the *Treponema pallidum*.

The *Spirochæta refringens*, the second form of spirochæta observed by Schaudinn and Hoffmann, differs from the other spirochæta in that it is more

ly wider and the spirals are further apart, it stains more intensely with the dye. The latter organism is found in other conditions than syphilis.

Vuillemin (*Comptes rendus de l'Académie des sciences*, cxl, No. 23, p. 1567, 1905) proposed the term *spironema* for spirochætae with sharp ends. The *Spirochæta pallida* would thus become the *Spironema pallidum*.

Some observers thought that the organisms *Spirochæta refringens* and *Spirochæta pallida* were simply stages of one organism, but this was before the demonstration of the parasite (*Spirochæta pallida*) in the blood. Among these may be mentioned Jesionek (*Münchener medizinische Wochenschrift*, 1905, No. 49, p. 2394), Kiolomenglon and von Cube (*Ibidem*, 1905, No. 27).

According to Pfender (*American Medicine*, March 10, 1907, p. 350), the generic name spirochæta Cohn, 1872, simply represents an amended spelling of spirochæta Ehrenberg, 1834. As the name spironema is preoccupied in zoology, the present correct name under the International Code should be *Treponema pallidum*. Stiles and Pfender (*American Medicine*, December 2, 1905) also proposed the term microspironema.

Minchin (*Lancet*, September 7, 1907, p. 707) mentions that the question of considering the spirochæta amongst the hæmoflagellates and not amongst bacteria is still being debated, but the weight of evidence was now toward the belief that they were really protozoa.

Mott (*Lancet*, September 7, 1907, p. 712) in exhibiting specimens of gummata of the brain, mentioned the fact that syphilis "is coming to be regarded as due to one form of protozoon, the *Spirochæta pallida*."

Schaudinn (*Deutsche medizinische Wochenschrift*, 1905, p. 1665), and Hexheimer and Löser (*Münchener medizinische Wochenschrift*, 1905, p. 2212), with Loeffler's flagella stain, have demonstrated flagella upon the *Spirochæta pallida*. The latter observers also succeeded with ordinary dyes.

Thesing (*Sitzungsberichte der Gesellschaft Naturforschender Freunde*, Nos. 8-9, 1905) disputes the propriety of classifying the spirochæta among the protozoa, and denies that the significance of *Spirochæta pallida* as the cause of syphilis has been proved.

Norris, Pappenheimer, and Flournoy (*Journal of Infantile Diseases*, May, 1906) assert that the absence of any definite indication of long division and absence of such chromatic particles as justify belief in the existence of micronucleus and macronucleus; the unquestionable occurrence of transverse fission; the positive evidence of production of active immunity, and, as shown by Novy, the formation of antibodies in sufficient amount to lend passive immunity, these facts indicate that the spirochæta must not be considered as protozoa. *California Journal of Experimental Medicine*, vol. vi, No. 8, p. 451) also believes in the transverse division of the parasite.

Schaudinn places *Spirochæta pallida* with the protozoa rather than with spirillar bacteria, allying it to the trypanosome group.

At Schaudinn's death the *Spirochæta pallida* was still considered as a bacterium, and the following

\*Read before the Pathological Society of Philadelphia at its meeting of December 14, 1907.

employed by Schaudinn, and cannot understand Schaudinn's grounds for placing spirochæta amongst animal parasites.

Schaudinn (*loc. cit.*) alleges that the parasite may possess, besides flagella, a vibratile membrane, though this is not yet clearly demonstrable. As these characters separate *Spirochæta pallida* not only from spirochæta and spirilla, but from all other related forms he adopted at one time the name *spironema* (of Vuillemin).

Hexheimer and Löser (*Münchener medizinische Wochenschrift*, 1905, No. 46, p. 2212) describe the presence of granules in the *Spirochæta pallida*, possibly of the nature of blepharoblasts, also small free bodies with nucleus, protoplasm, and membrane, possibly representing a developmental stage. They think the appearances formerly described as a vibratile membrane were artefacts, and confirm the presence of flagella.

Dalou (*Journal des maladies cutanées et de syphilis*, xvii, 481, 1905), with a quartz lens and magnification of from 2,500 to 4,000 diameters, states that an undulating membrane can be demonstrated.

Wechselmann and Loewenthal (*Medizinische Klinik*, Berlin, i, No. 26) report the appearance of a nucleus in quite a number of specimens examined with an ultramicroscope.

Doflein (Fourteenth International Congress of Hygiene and Demogogy, *British Medical Journal*, October 19, 1907, p. 1075) regards the spirochæta as taking a position midway between the bacteria and protozoa, and prefers to speak of them as proflagellates. They multiplied partly by transverse and partly by longitudinal division; the former method was best marked in the smaller forms; in some, what he regarded as multiple division could be seen, and no sexual processes had been noted.

Levaditi (*Ibid.*) asserts that many of the spirochæta had no distinguishable morphological characters.

Manson and Sambon (*Medical Record*, October 5, 1907, p. 586), in a table upon the hæmoprotozoa, classify three genera under spirochaudinidae (the individuals characterized by elongating and breaking up into numerous sporozoites), the leucocytozoon, spirochaudinina, and the treponema.

Krzyształowicz and Siedlecki (*Bulletin de l'Académie de science de Cracovie*, No. 9, pp. 713-728, November, 1905) assert that the body of the *Spirochæta pallida* is contractile and can become thereby much shorter and thicker, with its curves less sharp and at the same time more refringent; but the pointed extremities remain a distinctive feature. At some point, generally not far from the middle of the body, it is seen that for a short distance the body is straight, or nearly so, and very slightly thickened, and in this region a clear spot can be observed which is regarded as the nucleus. The ordinary method of reproduction is by fission in a longitudinal direction. The fission may for a time stop short of completeness, with the result that the two sister individuals may remain connected by their ends. In addition to the ordinary individuals they also describe forms which they consider as sexual individuals. These are thick, spindle shaped forms, with a head, which the authors consider try-

panosome like and propose to name *Trypanosoma luis*, although the minuteness of the organism makes it impossible to identify the undulating membrane; secondly, minute spirillum like forms with several nuclei. The former are regarded as macrogametes derived each by growth of single treponema individuals; the latter as microgametes formed by a process akin to sporulation from an individual with multiple nuclei. Conjugation between the two forms was noticed in a single case in "materials taken from a very large primary ulceration which was beginning to cicatrize spontaneously."

Kreibich (*Wiener klinische Wochenschrift*, No. 21, 1907), in staining flagella of bacteria with silver solutions, noticed attached flagella which were often spiral and twisted together like braid, and being pointed at both ends reminded him very much in appearance of the *Spirochæta pallida*. He then questions whether on account of this similarity the *Spirochæta pallida* may not be a protozoan flagellum instead of a difficultly stained individual bacterium, especially because in the spirochæta distinction between nucleus and membrane has not been established. Kreibich answers his own question by saying that the *Spirochæta pallida* is unlikely to be identical with a flagellum, because no protozoan body from which the latter might have come has yet been discovered.

#### *Occurrence of the Spirochæta Pallida in the Lesions of Syphilis.*

Mulzer (*Berliner klinische Wochenschrift*, September 4, 1905) states that the *Spirochæta pallida* is almost always found in the products of infectious syphilis, and has never been observed in the healthy or in nonsyphilitic persons.

Levaditi and Petresco (*La Presse médicale*, September 30, 1907) blistered three syphilitic women and found the parasite in each case.

Levaditi and Salmon (*La Semaine médicale*, November 29, 1905, No. 48) found the organism generally distributed through all the organs, as lungs, adrenals, liver, skin, etc. (indicating an acute spirillosis), in a stillborn child. The disposition of the *Spirochæta pallida* in groups around the vessels in the liver seems to favor the penetration of the microorganism by the vascular route.

Scholtz (*Deutsche medizinische Wochenschrift*, September 14, 1905) found the *Spirochæta pallida* in four cases of syphilis comprising condyloma acuminata.

Burnet and Vincent (*La Semaine médicale*, November 29, 1905, No. 48), in recent syphilitic chancre (four or five days), found the organism abundant in the papillary layer of the adjacent skin, but rarely in the central part. They were also successful in demonstrating the parasite in the hypertrophied conjunctival layer and in the lymph spaces.

Levaditi and Manouelian (*Ibid.*) state that, in a study of a number of chancres and syphilitic papules, in all they were able to find the *Spirochæta pallida* in the tissues and bloodvessels and endothelial cells, undoubtedly playing a part in the production of periarthritis and the characteristic lesion or chancre.

Veillon and Girard (*Ibid.*, No. 52, December 27, 1905) assert that the roseola is not a toxic lesion,

but is caused by a true embolism of the parasite, which, transported by the blood, becomes fixed in the terminal capillaries, where it provokes an intense congestion.

Tchlenoff (*Roussky Vrach*, June 18, 1905) studied fourteen cases of syphilis, in which he was able to demonstrate the *Spirochæta pallida* in all instances of the secretion of chancres and inguinal glands. In all cases of hard chancres he found spirochætæ in the specimens and also in the moist papules, as well as a papule upon the tongue.

Soberheim (*Münchener medizinische Wochenschrift*, lii, No. 39) observed the *Spirochæta pallida* in fifty out of fifty-eight cases of certain syphilis, the positive cases being those with primary or secondary lesions, while the eight negative cases were tertiary. In thirty-four control cases of various affections the findings were invariably negative.

Schlumpert (*Deutsche medizinische Wochenschrift*, 1906, No. 36, p. 1452) found the *Spirochæta pallida* in the conjunctiva, sclerotic, cornea, iris, choroid, and in the muscles of the eye and lachrymal sac. It was most frequently seen within the vessels and free in the blood.

Schütz (*Münchener medizinische Wochenschrift*, liii, No. 12), in making comparative studies of Schaudinn's *Spirochæta pallida* and Siegel's *Cytorrhycles luis*, mentions the fact that both are always found together and close to or inside the red corpuscles. He thinks it is possible that they represent merely different phases in the life cycle of a single microorganism.

Schor (*Roussky Vrach*, September 10, 1905) examined twenty-five adults and seven children for the spirochætæ of syphilis. In twenty-five women with condyloma the organism was demonstrable in fifteen; in two chancres only one showed the parasite, and in three roseolous eruptions none showed a positive result. In thirteen out of fourteen cases of papular syphilide it was found; five cases of dry papules were negative. No organisms were found in the placenta of five women with condyloma, and in four infants no organisms were found in any of the organs.

Ravant and Ponselli (*Gazette des hôpitaux*, July 13, 1906) found the parasite in the blood of a child aged two months suffering from severe congenital syphilis. The blood was taken two hours before death.

Gierke (*loc. cit.*) reports positive findings in eleven cases of congenital syphilis. He obtained positive findings in tissues that had been preserved for years, especially those kept in formol. His findings also prove that the treponema long resists the effects of maceration.

Nattan-Lanier and Bergeron (*La Presse médicale*, January 10, 1906) report three cases of syphilis in which the *Spirochæta pallida* was found in the blood.

Baudi d'Agrè (*Atti degli ospedali e delle cliniche*, xvi, No. 51, 1906) calls attention to the importance of the accumulations of spirochætæ in the cells. According to him it is not a phagocytic process, as the organisms seem to be intact, while the cell seems to have suffered. He believes that the condition indicates actual vital parasitism of the cell.

MacLennan (*British Medical Journal*, May 12, 1906) was able to demonstrate *Spirochæta pallida* in only eight out of forty cases of syphilis in the female, but found the *Cytorrhycles luis* in every case.

Sydney Stephenson (*Ophthalmoscope*, March, 1906) states that he found the *Spirochæta pallida* in the corneal lesions in two cases of keratomalacia in syphilitic infants.

Mohn (*Zeitschrift für Geburtshilfe und Gynäkologie*, lix, No. 2) found the pale spirochætæ in more than 5 per cent. of umbilical cords examined, and in almost 70 per cent. of the placentæ. The absence of nerves in the placenta shows that the organisms found cannot be explained away as "silver stained nerve fibrils," as some have asserted in respect to other tissues. The fact that the placenta and membranes are free from external infection also excludes error from this source. They were never found in the decidua or intervillous spaces, but they swarmed in the foetal villi and in the umbilical cord when the foetus exhibited signs of syphilis—not otherwise. He further maintains that the parasites find their way into the ovum from the mother or in the spermatic fluid, or pass from the mother to the foetus later. They proliferate in the foetus, acquiring new virulence, and pass thence into the placental circulation.

Jacquet and Sevin (*Annales de dermatologie et de syphiligraphie*, June, 1905) found the *Spirochæta pallida* in secondary lesions, but failed in twenty-three tertiary lesions.

Kraus and Prantschoff (*Wiener klinische Wochenschrift*, 1905, No. 37, p. 941) found the *Spirochæta pallida* in thirty-two out of thirty-seven hard chancres; and in eighteen out of twenty-five papules. In the lesion of four macaque monkeys *Spirochæta pallida* were found.

Mulzer (*loc. cit.*) was successful in observing the parasite in twenty out of twenty-two cases; in one instance he found a mass of organisms of from twenty to forty individuals. He was unable to find roseolar blood and syphilis hæmorrhagica neonatorum.

Scholtz (*Deutsche medizinische Wochenschrift*, September, 1905, No. 37) doubts whether the *Spirochæta pallida* is of ætiological significance. In primary and secondary lesions he had nineteen positive and eleven negative results and two positive and one negative result in congenital syphilis.

Kille and Voekerdt (*Münchener medizinische Wochenschrift*, 1905, No. 34) found *Spirochæta pallida* in twenty-two different lesions in fourteen syphilitics. They obtained negative results in roseolar blood and syphilis hæmorrhagica neonatorum.

Sobernheim and Tomaszewski (*Ibid.*, 1905, No. 39, p. 1857) were successful in fifty primary and secondary syphilitics in demonstrating the *Spirochæta pallida*, but were unsuccessful in eight cases showing tertiary lesions.

In tertiary lesions Schaudinn (*Deutsche medizinische Wochenschrift*, October 10, 1905) observed the organism as a granular resting form. He also cites seventy cases of syphilis in which the organism was constantly found.

Siebert (*Ibid.*, 1905, No. 41) obtained positive results



sults in fifty-two out of sixty-six cases of primary, secondary, and congenital syphilis; negative in lesions not syphilitic, and in seven tertiary lesions.

Roscher (*Berliner klinische Wochenschrift*, 1905, Nos. 44, 45, 46), of 206 syphilitic lesions, obtained 184 positive and twenty-two negative results.

Zaboltny (*Roussky Vrach*, March 17, 1907) obtained fluid (by means of an aspirator from indurated chancres) which was rich in *Spirochæta pallida*. The addition of physiological salt solution retains the organism in viability for several days. The presence of serum of those suffering from syphilis, when brought in contact with these organisms, causes agglutination, which phenomenon is complete within three or four hours. This fact, the author thinks, speaks more for the specificity of the *Spirochæta pallida*.

Pasini (*Giornale italiano delle malattie veneree e della pelle*, 1906, No. 5, p. 4), in a child two and a half years old suffering from hereditary syphilis, presented two resumptions of the disease. The first was characterized by exanthematous papules, and the second time by an eruption of papules and a mucous patch on the palate. The child was treated by sublimated baths, by inunctions, and by injections. It died in two and a half years of tuberculosis of the lungs and did not present any acute lesions of syphilis after recovery of the second recurrence. On the left leg there was an atrophic lesion resulting from the first infection, and this was examined histologically by Bartanelli and Levaditi. Pasini found in this lesion numerous *Spirochæta pallida*, some intracellular, but for the most part extracellular, some perfectly preserved, others in a degenerating condition. He concludes that, in the treatment of this child, though apparent health had been restored, the *Spirochæta pallida* preserved itself during the long period of latency in the same tissues.

The same observer in a later article (*Ibid.*, 1906, No. 5, p. 5) asserts that the penetration of the epithelial cells by the *Spirochæta pallida* is not an agonizing phenomenon, but is followed by the phenomena of degeneration, and that the organism could well survive in the urine, saliva, and in the perspiration of children with hereditary syphilis, and in the sperm of an adult.

Wersilowa (*Centralblatt für Bakteriologie*, xlii, pp. 513 to 518, October, 1906) alleges that the transmission of syphilis to the child could be effected by the ovum and spermatozoa, sometimes by the placenta. He cites the history of three congenital syphilis: The first one was macerated, the second lived only several hours, and the third died one hour after birth. The mother was apparently healthy. The first two presented plantar pemphigus and numerous papules and the third did not present any cutaneous manifestations. Examination of spreads from the umbilical cord, heart, lungs, pemphigus, and papules revealed *Spirochæta pallida*, while sections showed numerous organisms in the placenta, umbilical cord, liver, heart, lungs, spleen, pemphigus, and papules. The author has made similar studies in twenty-five other cases of hereditary syphilis, but did not confirm the preceding declarations. Of all these examinations he concludes that the parasite of syphilis could be transmitted to the mother by the placenta or umbilical cord, and that he could

verify the spirochæta in the placenta and cord and the organs of the children without the mother presenting the least symptom of the malady.

Mühlens and Max Hartmann (*Ibid.*, xliii, January 17, 1907) state that the *Cytorrhynchus luis* of Siegel is not a protozoon and that similar bodies exist in the normal blood, and that these forms are to be considered as the products of disintegration of cells, especially the red blood cells.

Mühlens (*Ibid.*, xliii, March 23, 1907; April 6, 1907) confirms the relation of *Spirochæta pallida* as the ætiological factor of syphilis. In twenty-two cases of primary lesions and in buboes he found it in a number of cases. In eighteen syphilitic foetuses he found the organism constantly, even though the foetus was macerated. He also emphasizes the fact that the spirals obtained by Levaditi's method are true spirochætæ. He concludes by citing the case of a syphilitic infant that died four hours after birth and was examined one hour after death. Examination of spreads of different organs, liver, adrenal, and lung, showed great numbers of motile spirochætæ, fifty to a microscopic field, in the smear from the adrenal.

Ribadeau-Dumas et Poisot (*Comptes rendus de la Société de biologie*, lxii, February 16, 1907), in an infant presenting diffuse hepatitis with hæmorrhages and diffuse miliary gummata, showed uniform presence of *Spirochæta pallida*. In the other parenchymatous organs the parasites were found to be in such numbers as to constitute emboli.

Bab (*Zeitschrift für Geburtshilfe und Gynäkologie*, lix) in fourteen instances of congenital syphilis claims that the biological and bacteriological investigations gave exactly the same result. Not only those organs that were free from spirochætæ gave extracts free from autogens, and organs containing the parasites gave extracts containing autogens, but also a great number of spirochætæ corresponded to a great number of antigens. The contrary was also true, that a small number of spirochætæ contained a small number of antigens.

The important problem presents itself, that the placenta acts like a sponge and stores up the dissolved syphilitic toxines, and the granulation tissue elements act as phagocytes, which also absorb the dissolved toxines and by this process endeavor to make them inert. But it is possible that after a time the barrier becomes incompetent toward the mother or toward the child and becomes permeable to the toxines. The placenta seems to correspond to the foetal liver and spleen, which are sometimes swollen but contain no spirochætæ.

He examined sixty-four cases of syphilis and found the spirochæta most commonly situated in the vessel wall and in connective tissue. He was able to detect them in the spleen in 62.9 per cent. and in the thymus gland 55.6 per cent. In the foetal ovary the interstitial tissue is especially affected and one illustration accompanying his article shows a spirochæta in the ovum itself. This penetration into this structure proves distinctly that it cannot be nerve or other tissue fibres. In thirty-nine cases examined, he found the placenta free from spirochætæ in thirty-seven. In general the presence of the parasite seems to end at the navel, while in 50 per cent. the arterial walls and in 55.6 per cent. the venous walls of the

umbilical cord of his positive cases contained the organism. He also seems to think that one cannot avoid being impressed with the fact that the spirochætal masses are disseminated through the body into different organs in the same manner as an embolus is carried by the blood. He then mentions the case of a congenitally syphilitic infant from a woman who had intercourse with a syphilitic at the fourth month after conception, though herself healthy. The thymus gland, kidneys, uterus, meninges, and eyes contained spirochætae.

Buschke and W. Fischer (*Deutsche medizinische Wochenschrift*, 1906, xxxii, p. 752), Levaditi and Manouelien (*Comptes rendus de la Société de biologie*, 1906), Reischauer (*Deutsche medizinische Wochenschrift*, xxxiv, August 24, 1905), Oppenheim and Sachs (*Ibid.*, 1905, Nos. 29 and 31; and *Münchener medizinische Wochenschrift*, 1905, pp. 1507 and 1517), were also successful in obtaining positive results in the majority of cases studied. The last observers found *Spirochæta pallida* in thirty-nine hard chancres and papules, and failed in twenty-one. They were unsuccessful in the examination of nine buboes, twenty-one examinations of the blood, fifteen roseolar spots, two mucous plaques, seven gummata, and four cases of congenital syphilis. In forty-two nonsyphilitic conditions they found no *Spirochæta pallida*.

Bertarelli and Volpino (*Centralblatt für Bakteriologie*, November 24, 1905) found *Spirochæta pallida* in twenty-six cases out of forty-two primary and secondary cases. By the use of Levaditi's method they demonstrated great numbers of the organisms in sections of the liver in a congenitally syphilitic child, and control observations showed that they had not to deal with elastic fibres, connective tissue fibrils or nerve endings.

Rosenberger, in fifty-six cases of primary and secondary syphilis, as well as the viscera of congenitally syphilitic infants, found the *Spirochæta pallida* constantly. They were, as a rule, few in number in spreads, though in one chancre as many as forty or fifty organisms could be seen. They rapidly decreased in number when mercury was administered to the patient.

Chele and McKimie (*Journal of the American Medical Association*, February 16, 1907) report upon twenty-four cases of acquired syphilis in which positive findings were reported in fourteen and negative in ten. In the patients giving a negative result seven had received antisyphilitic treatment, the other three had not. They examined thirty-four pieces of tissue in all, including seven chancres, nineteen cutaneous secondary lesions, apparently healthy skin from syphilitics, four tuberculous syphilides, and one gumma of the brain.

Richards and Hunt (*Lancet*, September 30, 1907) found the *Spirochæta pallida* in three cases in the blood taken from the roseolar rash on each of ten successive days.

Dudgeon (*Ibid.*, March 10, 1906) observed the *Spirochæta pallida* in six cases of primary syphilis, two cases of secondary syphilis, one case of tertiary syphilis, and three cases of congenital syphilis.

Sherman (*Ibid.*, March 17, 1906) presented his personal research with an excellent bibliography on the subject. He records five hard chancres with positive

results; in two the results were doubtful, and three negative. Two nonulcerated papules gave positive results, two dry papulosquamous syphilides gave negative results, and two roseolar rashes were also negative. Of four condylomas examined, three were negative and one doubtful. Negative results were also obtained in four glands and one rupioid syphilide. He concludes that the *Spirochæta pallida* is found only in hard chancres and in closed papules; in other words, in typical syphilitic lesions.

Flexner (*loc. cit.*) gives the results of several cases of acquired syphilis and also of congenital syphilis in which he obtained positive and constant results in all cases. In the case of films made from lesions he was able to demonstrate the parasite several months afterward. Fragments of lung tissue kept in the refrigerator (2° to 4.5° C.) for one month showed very little if any change in the form and staining of *Spirochæta pallida*, while after three months no pallida could be stained. The slow autolysis without putrefaction shows the resistance displayed by the organism against the autolytic ferments.

Grouven and Fabry (*Deutsche medizinische Wochenschrift*, xxxi, No. 37) observed the *Spirochæta pallida* in fifteen out of twenty-one cases.

Kraus and Prantscoff (*Wiener klinische Wochenschrift*, xviii, No. 22) found the parasite in fifty out of sixty-two examinations of syphilides.

Schultz (*Journal of Medical Research*, xv, p. 363, 1906), reporting upon the distribution of the *Spirochæta pallida* in two cases of congenital syphilis, says that it is to a marked degree an intracellular parasite and that multiplication of the organism occurs chiefly in the perivascular lymphatics and within the tissues themselves; not within the larger bloodvessels.

Wiens (*Archiv für Schiffs- und Tropenhygiene*, x, No. 15, pp. 459-63, 1906) reports six cases of syphilis in Chinese in which he was able to demonstrate the *Spirochæta pallida*. In four cases he obtained it from chancres, in one from serum of a roseolous eruption, and in one case from juice from an inguinal gland.

Bab (*Deutsche medizinische Wochenschrift*, November 29, 1906, pp. 1945 to 1948) records finding the parasite in the different structures of the eye, except the crystalline lens, in a syphilitic fœtus. He thinks that the distribution of the organism in the different parts of the eye is in accord with the frequency of choroiditis, iritis, and parenchymatous keratitis in hereditary syphilis. The same observer in a later article (*Münchener medizinische Wochenschrift*, November 12, 1907, No. 46) was able to demonstrate the *Spirochæta pallida* in the liver, spleen, testicles, and costochondral articulations in a congenitally syphilitic child born of an apparently healthy mother.

Blaschko (*Berliner klinische Wochenschrift*, No. 12, 1907), in descriptive diagrams, showed by the method of Levaditi, found the *Spirochæta pallida* in all cases but observed the organisms most abundant at the periphery of the lesion.

Almeida and Doyal found the same organism in cases of hereditary syphilis caused by the presence of the *Spirochæta pallida* in the blood and all tissues, accompanied by extensive nodules in the

liver the congestion attains an extreme degree, recalling the characters of the "asystolic liver."

Reuter (*Zeitschrift für Hygiene und Infektionskrankheiten*, 1906, No. 49) found typical examples of *Spirochæta pallida* in the tunica intima of the aorta in a case of aortitis (Döhle and Heller's variety of aortitis) and also mentions finding the organism in a gumma of the lung, and in interstitial pancreatitis of a congenital syphilitic.

Nöggerath and Stahelin (*Münchener medizinische Wochenschrift*, August 1, 1905) allege to have observed the *Spirochæta pallida* in the blood obtained from the lobe of the ear in three cases of undoubted secondary syphilis.

Risso and Cipollino (*Riforma medica*, August 26, 1905) in ten cases of syphilis were successful in demonstrating the *Spirochæta pallida* in five out of seven cases in the gland, juice; also in several mucous patches and one condyloma. They failed, however, to find the organism in two chancres, ulcerated gummata, and in a closed gumma of the forehead.

#### Technique.

In spreads from chancres, papules, and other syphilitic lesions Schaudinn and Hoffmann originally recommended Giemsa's azure blue eosin stain, but very good results have been obtained with Wright's, Jenner's, Romanowsky's, Leishman's, and Goldhorn's stains. Many observers recommend various aniline dyes, a filtered saturated aqueous solution of gentian violet (Fox), and other modifications of the various blood stains.

Among those who recommend the anilin dyes may be mentioned Davidsohn (*Berliner klinische Wochenschrift*, xlii, No. 31); Rille and Vockerodt (*Münchener medizinische Wochenschrift*, lii, No. 34, pp. 1620-23); Ploeger (*Ibid.*, lii, No. 29); Hexheimer (*Ibid.*, 1905, No. 39); Oppenheim and Sachs (*Deutsche medizinische Wochenschrift*, xxxi, July 20); Bandi and Simonelli (*Gazzetta degli ospedali e delle cliniche*, 1905, Nos. 85 and 105); Moncorvo (*La Presse médicale*, 1905, 104-840); Dudgeon (*Lancet*, August 19, 1905, p. 522), and Weitlauer (*Münchener medizinische Wochenschrift*, 1905, No. 47, p. 2293).

In sections of tissue from syphilitics, it seems that the best results are obtained by impregnating with silver nitrate in strengths of from 1 to 3 per cent. The first investigators to use this method were Bertarelli and Volpino (*Centralblatt für Bakteriologie O.*, November 24, 1905). Since these observers used the method numerous others have obtained very good results, among whom may be mentioned Buschke and Fischer (*Berliner klinische Wochenschrift*, 1906, Nos. 1, 6), Gierke (*Münchener medizinische Wochenschrift*, liii, No. 9, 1906), and Levaditi (*Annales de l'Institut Pasteur*, No. 1, p. 43, January, 1906). The latter's technique, together with one which he and Manouelian (*Comptes rendus de la Société de biologie*, lx, No. 3, 1906) originated, are by far the best for the demonstration of the *Spirochæta pallida* in the tissues. The first technique is as follows:

The tissue is cut in small masses and fixed for twenty-four hours in a 10 per cent. solution of formaldehyde; then placed in alcohol for the same time. They are then washed in water for a short period,

after which they are put in a bath of 1.5 to 3 per cent. freshly made solution of silver nitrate for three days, changing the solution daily, maintaining the body temperature and excluding the light. The tissue is then placed in a reducing bath which consists of a 2 per cent. solution of pyrogalllic acid, with the addition of 5 per cent. formaldehyde. After twenty-four hours they are dehydrated, cleared in xylol, and embedded in paraffin.

The method recommended by Levaditi and Manouelian differs from the plain Levaditi method in that, just before impregnation with the silver they add 10 per cent. pyridine to this solution, and for the reducing bath a mixture of pyrogalllic acid, acetone, and pyridine. In the silver solution the tissues are kept four to six hours at 50° C., or at room temperature two to three hours in glass stoppered bottles.

Flexner (*loc. cit.*) prefers and obtains the best results in films by the use of the direct silver staining, recommending the technique of Stern (*Berliner klinische Wochenschrift*, lxiv, p. 400, 1907), which is as follows:

The exudation is placed in the incubator at 37° C. for one hour, then in a 10 per cent. solution of silver nitrate for one hour in diffuse daylight. A colorless glass vessel should be used. The preparation gradually takes on a brown color and when it has acquired a metallic sheen it is removed from the silver nitrate solution and washed in water. In such a preparation the form of the blood corpuscles is retained; they give a strong, dark contour and show fine granules. There is but little precipitate and it causes no annoyance in looking for the organism. The *Spirochæta pallida* appear deep black to bright brown against an almost colorless background. A reduction of the preparation is neither necessary nor advisable. Placing it in the sunlight gives the material a brown color, which becomes gray black from a quarter to half an hour later, and finally entirely black. The *Spirochæta pallida* appear almost colorless against a dark background.

Schmorl (*Deutsche medizinische Wochenschrift*, xxxiii, p. 876, 1907) fixes in 4 per cent. formaldehyde, cuts frozen sections, and places in formaldehyde or distilled water and stains with Giemsa's stain (one drop of stain to one c.c. of distilled water). Great precaution must be observed as to cleanliness of vessels used. After one hour place in a fresh staining solution and let it remain from twelve to twenty-four hours. When sufficiently stained, the section should be a deep red to violet blue. It is now placed in distilled water or in a concentrated solution of potassium alum until it becomes a bright blue. It requires but a short time in the potassium alum solution to distinguish the section. It should then be washed in water for a short period; too long washing is not good for the preparation. It is then mounted in glycerin jelly, cedar oil, or neutral Canada balsam.

Ravant and Ponselli (*loc. cit.*) take 30 c. c. of water and 30 drops of blood added drop by drop. The hæmoglobin becomes diffused through the water, and after three hours a fibrinous clot forms. The clot is withdrawn, washed several times to free it from water, cut into sections, and stained by Levaditi's method.



Levy-Bing (*Bulletin médical*, xix, No. 49) stains with an alcoholic (methyl) solution of azul blue and counterstains with eosin. The *Spirochæta pallida* is stained an orange rose color.

Reitman (*Deutsche medizinische Wochenschrift*, xxxi, p. 997) first fixes the spread in absolute alcohol, washes in water, places in a bath of phosphomolybdic acid, again washes in water, stains with carbol fuchsin, washes in water, then 70 per cent. alcohol, and alternates with water until no more color comes away. The spirochæta is stained a deep red.

Follet (*Comptes rendus de la Société de biologie*, lxii, p. 667, April 20, 1907) recommends collecting the saliva some time before a meal and staining with a mixture of glycerin, acid fuchsin, and carbolic acid, for the demonstration of spiral organisms. Another method, using a mixture of glycerin, methylen blue, and carbolic acid, he says has permitted him to observe from 00 to 300 spirals, "certainly not all the *Spirochæta pallida*." A third formula consisting of chloroform, methylen blue, acid fuchsin, and carbolic acid, is more rapid and gives less precipitate and presents the classic coloration of the *Spirochæta pallida*.

Proca and Vasilescu (*Ibid.*, lviii, p. 1044, 1905) recommend to fix the preparations in absolute alcohol for thirty minutes; then place in a bath composed of carbolic acid 50 c.c., tannin 40 grammes, water 100 c.c., fuchsin (2 to 5 per cent. alcoholic solution) 100 c.c. for ten minutes. Wash in water, and stain for ten minutes with carbol gentian violet.

Volpino (*Rendiconto delle sessioni dell' Accademia medica di Torino*, July 14, 1905) allows sections to remain in a solution composed of silver nitrate 0.5 grammes in 100 c.c. of distilled water for twenty-four to forty-eight hours. They are then washed in water, then transferred to a solution of tannin 3 grammes, gallic acid 5 grammes, sodium acetate 10 grammes, distilled water 350 c.c. Allow them to remain for fifteen minutes, until they are brownish in color; wash in water, dehydrate, clear, and mount in balsam.

Bab (*Zeitschrift für Geburtshilfe und Gynäkologie*, lx, No. 2, 1907) thinks that the organism possesses an affinity for mercury equal to that for silver, and recommends trying mercury phenylate.

Nöggerath and staehlin (*loc. cit.*) take one c.c. of blood from a vein, mix with 10 c.c. of 1 per cent. acetic acid in water, centrifugize, and examine the deposit in the ordinary way.

McNeal (*Journal of the American Medical Association*, February 16, 1907) recommends a mixture of methylene violet, methylene blue, yellowish eosin, and pure methyl alcohol. The stain is allowed to remain upon the smear for forty-five to sixty seconds, then immersed in about 10 c.c. of a 1 in 20,000 solution of sodium carbonate and the mixture stirred by tilting the dish. After one or two minutes' immersion the cover glass is removed, washed in distilled water, cleaned, and dried upon blotting paper and mounted in water and examined with a 1000x objective.

Schereschewsky (*Deutsche medizinische Wochenschrift*, March 21, 1907, p. 492) fixes one minute in osmic acid vapor, passes the cover slip three times in flame, then places in a mixture of 1 part Gram's

solution to 8 to 10 parts water. The preparation is heated in a Petri dish upon a water bath for ten to fourteen minutes, and when the cover slip presents a scum of a reddish color the procedure is at an end. It is said that by this method the preparations are so clear that the organisms can be observed with a dry objective.

Benda (*Berliner klinische Wochenschrift*, April 15, 1907, pp. 428-432; April 22, 1907, pp. 480-484) by studying the *Spirochæta pallida* by the silver process of Levaditi, asserts that the parasites are the same organisms that are found in spreads from organs, and not fragments of tissue elements.

Zabel (*Medizinische Klinik*, May 19, 1907, pp. 580-582), in staining sections of organs, fixes in formaldehyde and stains with silver nitrate. The organisms appear larger than those made from fresh preparations stained with anilin dyes.

Mandelbaum (*Münchener medizinische Wochenschrift*, November 12, 1907) recommends staining the *Spirochæta pallida* in the fresh state by mixing the scrapings from a chancre or papule with Loeffler's methylen blue, and examining in the hanging drop with a 1/12 inch oil immersion lens. By this method the spirochæta stains pale blue, while other spiral organs like *Spirochæta refringens* stain very heavily. By this method the granules described by Hexheimer are distinctly brought out. Mobility can be observed for twenty-four hours, though the cover glass preparation can be kept for weeks by sealing with paraffin.

Sabolotni and Maslakovitz (*Rousski Vrach*, No. 11, 1907) observed the *Spirochæta pallida* in the serum (obtained by Biers apparatus applied over the syphilitic lesions) become attached to one another at the ends, form star like masses, and eventually undergo granular degeneration.

#### Inoculation Experiments Upon Animals.

Metchnikoff (*Berliner klinische Wochenschrift*, May 22, 1905) found the *Spirochæta pallida* in the glands and chancres of his inoculated apes (twenty-three out of thirty-one experimental lesions), and Arnol and Salmon (*Annales de l'Institut Pasteur*, July 25, 1904) report upon the features of the lesions produced upon chimpanzees, a male and a female, both showing chancres which were identical histologically with those in man.

Piorkouski (*Berliner klinische Wochenschrift*, December 19, 1904) injected 5 to 10 c.c. of blood from a patient under active mercurial treatment into a horse, intravenously or subcutaneously. Four weeks later a maculopapular rash appeared, which, examined by various experts, was pronounced to be syphilitic in nature. (No mention of *Spirochæta pallida*.)

Neisser (*Deutsche medizinische Wochenschrift*, xxxii, No. 13) has succeeded in inoculating monkeys with tertiary lesions, provided the lesion is not destroyed by suppuration or necrosis. He was also successful in producing positive inoculations by using the nasal secretion, blood and tissues from various organs, from children with inherited syphilis. He asserts the bodies of children with inherited syphilis are swarming with parasites which can pass by way of the blood into the organs.

Hoffmann (*ibid.*) also reports experiments with monkeys which have confirmed the characteristic nature of the blood during the early stage of syphilis.

Metchnikoff and Roux (*Bulletin de l'Académie de médecine*, May 18, 1906) report upon the circulation of syphilitic material into apes and man, followed by the application of a strong mercurial ointment applied locally. They found that if this application was made within one to eighteen hours it destroyed the syphilitic virus, but if made later than this syphilis developed.

Neisser (*Bulletin de la Société française de prophylaxie sanitaire et morale*, Nos. 4 and 5, April and May, 1906) proceeded upon these lines, but without success. On the contrary, though the mercurial ointment was applied one hour after the inoculation, the chancre developed in due course. He came to the following conclusions: That the chancre developed in the same manner in a mercurialized subject as in one not under that treatment, and that the disease became generalized in exactly the same manner among animals which had been mercurialized and those which had not.

Metchnikoff (*British Medical Journal*, October 19, 1907, p. 1075) at a later date experimented upon the prophylaxis of syphilis, using instead of mercury, atoxyl. This material was found to protect the monkeys from the infection, even after a single dose. It was further found that the injection of atoxyl could be successfully carried out a week or even a fortnight after the inoculation. That the atoxyl had really neutralized the virus was shown by the fact that the monkeys could be reinfected with syphilis some months after the atoxyl treatment. He then spoke of giving atoxyl by the mouth, and concluded by saying that these preventive measures had been applied to man without any harmful after effects.

Yancke (*Medizinische Klinik*, April 28, 1907, pp. 486-7) took fragments of placenta, liver, kidney, spleen, and testicle from a syphilitic fetus of six months, macerated these in distilled water and filtered under pressure through a Chamberlin filter. The filtrate was inoculated into the superciliary region of a monkey, and was followed by a slight infiltration which reached its height in seven days. Forty-two days after inoculation he found a lesion similar to those noticed in primary syphilis. The long period of incubation was probably due to the small number of organisms contained in the filtrate. He attributed the result of this experiment to two factors: First, to the emulsion, and secondly, to the high pressure of  $2\frac{1}{2}$  atmospheres.

Thibierge, Ravant, and Burnet (*La Semaine médicale*, No. 7, p. 80, February 14, 1906) experimented upon macaque monkeys with fragments of enlarged glands, of papules, and chancres; inoculated them with a series of other animals, and found the *Treponema pallidum* in the secretions and sections of tissue. They conclude that the experiment in passage, from the man to the animal, of the parasite speaks in favor of the organism being the pathogenic microbe.

Simonelli and Bandi (*Gazzetta degli ospedali e delle cliniche*, January 7, 1906) inoculated a female ape with material from a syphilitic perianal hypertrophic papule. In due time a chancre developed, but the authors were unable to demonstrate the *Spirochæta pallida* in the lesions. They found certain

masses of very delicate threadlike structures, some of which were straight, and others wavy.

Metschnikoff and Roux (*Annales de l'Institut Pasteur*, November, 1904, p. 761, and *Bulletin de l'Académie de médecine*, 1905, p. 468) succeeded in infecting monkeys with syphilis, and in four out of six cases found *Spirochæta pallida* unaccompanied by other forms.

Hoffmann and Walter Bruning (*Deutsche medizinische Wochenschrift*, April 4, 1907, pp. 553-4) succeeded in inoculating a rabbit and then to inoculate the virus to monkeys. Two dogs were inoculated with the fragments of a chancre, which was followed in sixteen and twenty-one days by keratitis of a specific character, with the presence of *Spirochæta pallida*, and clinically possessing the characters described in the monkey. By scarifying the cornea they proved that laying bare of the bloodvessels is not absolutely necessary.

Bertarelli (*Centralblatt für Bakteriologie*, April 25, 1907, pp. 790 to 793) has successfully inoculated a sheep and a dog with virus that passed seven times through rabbits by inoculations into the cornea. The cornea of the dog was scarified and smeared with the virus from a cornea of a rabbit, and sixteen days later a keratitis, specific in character, was noticed. In the dog the lesion was more extensive than in the sheep. The syphilitic nature of the lesions was confirmed by microscopical examination, and only two gave positive results, and the organisms have also been few in these two cases.

Hoffmann (*Berliner klinische Wochenschrift*, xlv) is said to have successfully inoculated four monkeys (two *Macacus rhesus* and two cercopithecus) with syphilitic blood.

Finger and Laudsteiner (quoted by Flexner, *Medical News*, December 9, 1905) report a successful transmission of syphilis to the monkey by means of inoculation of a large amount of gummatous material.

Kraus and Prantschoff (*loc. cit.*) inoculated monkeys, *Macacus rhesus*, with syphilitic material, and found that the initial lesion produced contained numerous *Spirochæta pallida*, being identical morphologically and tinctorially with the organism found in man. They were also successful in inoculating from one ape to another.

E. Finger and Laudsteiner (*Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften in Wien*, cxv, No. 3, April, 1906, pp. 179 to 199) inoculated six monkeys with the blood obtained from syphilitics in full eruptive period, and not one inoculation was followed by a positive result. These data seem to show that the blood collects in the cells in the course of the secondary eruption and is not constantly virulent, and accords with the histological examination of the blood, which has proved that the *Spirochæta pallida* is rarely found in this liquid. The milk of syphilitic women, and the sperm, did not contain the active virus, as the experiments upon *Macacus cynomolgus* were entirely negative. They inoculated a "papiou" with the centrifugized sediment of the semen from a person with a chancre of the foreskin, and lenticular papules of the arms and genital organs. Three weeks after inoculation the monkey showed an initial lesion. In one other experiment

they used the semen of a person presenting double interstitial orchitis (syphilis dating back three years) and the result was more marked than in the first. They also succeeded in engrafting syphilis upon inoculated monkeys if they inoculated the virus five days after the appearance of the primary lesion. Later than this (five days) immunity begins to manifest itself in the animal and it is impossible to obtain positive results. They also find that there is an absence of absolute immunity of the skin in the course of secondary and tertiary lesions. They then inoculated large quantities of the virus in subcutaneous pockets and they have seen not only in the course of the eruption, but also during the tertiary stage local lesions that were syphilitic in nature. They made control experiments with heated virus with negative results. These experiments confirm the work of Neisser (recent meeting of Congress of Dermatology, held at Berne) and also the observations of Metchnikoff and Roux, of Finger and Laudsteiner, of Kraus, Neisser's collaborators, Halberstadter and Baerman, and Siebert. Among these last the most important have certainly been those who have proved that the active virus is in the tissues as the marrow, spleen, lymphatic nodes, and testicles of the inoculated monkeys. Neisser found that eight hours after the inoculation, if the scarified area was extirpated it hindered only the development of primary syphilis; as in this short space of time the microbe of syphilis had invaded the surrounding tissues, and infiltrated very rapidly all the organs. He also found that previous to the development of the chancre the bone marrow and spleen contained the active virus of syphilis and it was inoculable into sensitive monkeys. This seems to prove the inefficiency of extirpation of the primary lesion.

Salmon (*Comptes rendus de la Société de biologie*, lxii, p. 254, February 16, 1907) remarks upon the work of Finger and Laudsteiner upon the re-inoculation of tertiary syphilitics being followed by the formation of lesions reproducing the aspect of tuberculous and ulcerating syphilides. He has obtained positive results in only two out of fourteen instances, and these were papulosquamous eruptions of contestable nature. He concludes that "the immunity coexists with persistent infection indefinitely; and that the syphilitic possesses an absolute cutaneous immunity against reinfection from the outside."

Siegel (*Centralblatt für Bakteriologie*, liii, March 5, 1907, also March 21, 1907) says he was the first to show that syphilis could be inoculated into the rabbit; that he was the first to show that the organs of inoculated monkeys contained the active virus; he alleges priority for the inoculation of the virus under the skin, and that he was able to obtain with great frequency the cutaneous manifestations in the chimpanzee; and that the examination of the internal organs, and especially the liver, should be carried out to consider the infection of a specific nature.

Hans Bab (*loc. cit.*) did not succeed in infecting apes by inoculating them intravenously, intraperitoneally, or subcutaneously, and expresses himself as being surprised that the intravenous inoculations were negative, as congenital syphilis offers itself as an

exquisite example of a blood infection. Rubbing the virus into the femoral vein and into incisions into the lymph glands also proved without result. In two instances inoculation into the parenchyma of the testicle was followed by syphilis in the ape. The first animal became resistant toward a second attack. The second ape was killed after thirty-six days, and with the bone marrow, two other monkeys were successfully infected. Those animals inoculated subcutaneously showed, without doubt, toxic symptoms, emaciation, cachexia, and high mortality. The *spirochætae* are by no means always present in the liver and spleen swelling, and this condition is perhaps caused by its toxine. He states that the penetration of the virus into the abdominal cavity may occur through the tubes, and that it is also possible that the virus may be mixed with the semen in the prostate or urethra.

#### Cultivation.

Leuriaux and Gelts (*Centralblatt für Bakteriologie*, xli, p. 684, 1906) in forty-two lumbar punctures obtained growths of *Spirochæta pallida* in three instances. One part neutral bouillon was added to 2 parts spinal fluid and the mixture placed at 37° C. for several days; centrifugalized twenty minutes, and then the sediment spread over coagulated pork serum. An ivory white, moist film was the result. Smears from young cultures showed bodies like *Cytorrhycles luis*, then a trypanosome, then a *spirochæta*.

De Souza, Jr., and Pereira (*Berliner klinische Wochenschrift*, 1905, No. 44) tried cultivating the organism in 5 per cent. each of sodium citrate and sodium chloride, but with negative results.

Bertarelli and Volpino (*loc. cit.*) failed in all efforts to cultivate the organisms, as did Mühleus (*loc. cit.*).

#### Remarks.

From the résumé of the literature herein recorded, though by no means complete, it seems that the majority of observers look upon the *Spirochæta pallida* as the probable cause of syphilis. I have been able to collect references of 1,210 lesions, including congenital syphilis, and in this number the parasite was present in 958. To enumerate still further it may be mentioned that of 333 chancres examined positive results were obtained in 299 and negative findings in thirty-four. Of forty-three papular eruptions thirty-five were positive and eight negative; of thirty-three mucous patches twenty-three were positive and ten negative, while of 122 roseola eighty-seven proved positive and thirty-five negative. In the lymph nodes, or more properly, the juice of the nodes, only six positive findings are recorded of twenty-four examined. Of thirty-five condylomata, twenty-two were positive and thirteen negative. Of 435 cases simply described as syphilitic, not definitely setting forth the lesions, 361 were positive. Of gummata there were records of only eleven being studied, two of which were positive and nine negative; in forty-seven cases of tertiary syphilis examined negative findings were recorded in all. By far the highest percentage of positive findings were in cases of congenital syphilis, for out of 221 instances of this form of the malady, in 123 the parasite was found.

My own personal observations have convinced me



that the *Spirocheta pallida* is the probable cause of syphilis. In congenital syphilis though the organism has been found most constantly, it is not always generally distributed in all the organs and tissues. It may only be demonstrable in one or two organs as the spleen and liver, or in the kidney, or skin, and then only in certain areas of these structures.

Anyone who has had histological training should not mistake the parasite when stained by the Levaditi method, for any tissue fibres in the different organs, while in spreads from lesions or organs it most certainly takes a practised eye to distinguish between delicate shreds of tissue and spirochaeta, especially when stained by the anilin dyes or any of the stains for blood.

Another point must also be borne in mind, and this is the certain disappearance or diminution in the number of parasites, when local or general treatment is resorted to. The examination should be made as early as possible, and I believe that the best stains to use for spreads from lesions or organs are Giemsa's azure eosin and the blood stain of either Wright or Leishman.

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#### CASE OF AORTIC REGURGITATION AND FLOATING LIVER.\*

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CASE.—G. W. R., male, aged fifty-three, laborer, married; habits temperate, especially as to alcoholics.

History.—His father died of pneumonia, aged about forty-five; mother died at seventy-three, cause unknown; he had three brothers and two sisters, all dead; oldest brother died at fourteen, of diarrhoea; second, at seven, of smallpox; third at thirty, of sunstroke; one sister died at twenty-five, of sunstroke, the other at forty-four, effects of a fall.

The patient had measles and whooping cough in childhood; occasional chills and fever at twenty; about sixteen years ago he had an attack of articular rheumatism, and four years later another attack of the same disease, neither of which, he says, occasioned any serious illness. For the most part he has enjoyed good health, and always worked hard.

His present illness began November 20, 1905, after a hard day's work, lifting heavy stones in a quarry, where he had been working for some months. In the evening as he started homeward he noticed for the first time an unusual sound like the rubbing together of his overalls, but it came from his chest. Shortness of breath upon slight exertion soon followed. He consulted a physician, who told him he "must be more careful with himself and not do any heavy work." So far as could be learned he had been given digitalis.

He consulted the writer at the Emergency Hospital, Washington, D. C., in May, 1906. Examination.—This showed at that time a hepatoptosis and cardiac disturbances so grave that patient was advised to enter a hospital for treatment. He complained of dyspnoea, anorexia, bronchitis, broken sleep, loss of weight and strength; there were arterio-sclerosis, oedema of lower extremities, albuminuria 0.2 per cent., bronchial blood pressure 228 millimetres, great anxiety.

Present State.—Patient is about 5 feet 6 inches in height, muscular, erect, general appearance good; skin normal, no oedema or eruption; pulse arrhythmic, about 80; arteries somewhat tortuous, sclerosed; sphygmomanometer registered only 155; pulse strong, at times "Corrigan." Respiration 22, frequently arrhythmic. The striking symp-

ptoms are cardiac rather than hepatic. He complained of palpitation of the heart and a mild soreness upon pressure over the epigastrium.

He has occasional headache, sleeps well, no disturbance of sensation or motility. Buccal membranes markedly pigmented; tongue of good color; circumvallate papillae extraordinarily developed; appetite excellent; no thirst or vomiting; bowels regular, no gastropnoea. Respiration 22, rhythmical; occasional cough and expectoration; microscopic examination of the sputa shows the so called "heart disease cells"—i. e., alveolar epithelial cells, containing numerous hematoidin granules (first observed by Virchow). Urinalysis is negative.

Fluoroscopic.—No apparent enlargement of the right heart, but considerable enlargement of the left ventricle. The usual shadow of the liver is entirely absent.

Ætiology.—Cardiac: The following may be cited as conditions contributory to aortic regurgitation: 1. Acute endocarditis, attended with extensive ulceration, usually terminating in speedy death. 2. Syphilis, of which there is no history in the case before us. 3. Chemical irritants, such as uric acid, lead poisoning, alcohol—none suspected here. 4. Chronic endocarditis, affecting the aortic valves by direct extension of aortic endarteritis. We must remember, however, in this connection, that arteriosclerosis, present in this case, may be secondary to chronic valvulitis. 5. Pronounced dilatation in the ascending portion of the arch near the valve, which is rare; or an aneurysm just beyond the aortic orifice—neither of which could be observed in the fluoroscopic examination here. 6. Age and sex; much more frequent in males than females, primarily because a greater proportion of the former is engaged in occupations causally related to the disease. The great majority of cases arises in advanced middle life, a relatively smaller number in still later years than that found in young adult life. My patient is fifty-three years of age. 7. Augmented aortic tension strain. Occupation is more noteworthy than alcohol as a cause of aortic regurgitation by increasing vascular tension. We cannot deny that strong bodied men at middle life engaged in such occupations as demand strain—"not a sudden, forcible strain," says Osler, "but a persistent increase of the normal tension to which the segments are subject during the diastole of the ventricle—are the most frequent subjects of aortic regurgitation." This observation is of exceeding significance in the history of the case before us. "I was at Cleveland Park," says the patient, "engaged in lifting heavy stones." This work had been kept up for some months, there was "a persistent increase of the normal tension to which the segments were subject during the diastole of the ventricle," and up to that particular hour when his mental vision became perforce introspective, when this loud cardiac murmur for the first time caught his ear, the patient did not know he had a heart.

Ætiology.—Hepatic: Floating liver is very uncommon. So far as the writer has been able to learn there have been but eighty cases reported in the literature. About ten years ago J. E. Graham collected seventy cases from this source. Since then about ten more have been added. Nearly all have been females. The organ moves slightly in the pendulous abdomen of enteroptosis, and in cases of ascites repeated. At the posterior margin the organ is so bound to the inferior vena cava and diaphragm that

little mobility at this point is possible except in case of a mesohepar or a congenital ligamentous union of these structures. The suspensory and triangular ligaments may, however, be subject to considerable relaxation, the former three inches, the latter one and three-fifths inches, and, in the erect position, permitting the organ's upper surface to lie almost below the costal margin, as in the case before us. When the organ is tilted forward a very large surface of the lobes comes in contact with the abdominal wall, and the error in such instances is by no means rare to think that the organ is enlarged. Such, possibly, is the case in point, for the writer is much of the opinion that the dull soreness upon pressure over the epigastrium complained of by the patient, and for the relief of which he had been treated for indigestion, is due almost entirely to traction upon the suspensory ligament, for no better reason than that the abdominal bandage recommended by the writer gives absolute relief, the symptom returning as soon as the patient attempts to go without it.

It will be understood, of course, that in raising the liver, not only is traction upon the suspensory ligament, upon the connective tissue which unites the uncovered area of the right lobe of the liver to the diaphragm, and, as observed by Fauré, the traction upon the hepatic veins which join the vena cava—not only are they all relieved, but, what is of infinitely more interest to my long suffering patient than all this high sounding phraseology, is the fact that, in elevating the liver the stomach likewise is elevated, and traction upon the gastrohepatic omental attachment to the lesser curvature is prevented, and the patient is at ease.

**Symptoms.** Shortness of breath upon exertion; dyspnea, especially at night; pain over epigastrium; at times, cough; occasionally, vertigo.

**Physical Examination.—Inspection.**—His thorax is well developed and muscular; apex beat displaced one interspace below and two and three sixteenths inches to the left. There is a slight precordial bulge.

**Palpation.** There is a terrible heaving cardiac impulse, a very distinct purring thrill diffused over an area of three inches square at the base of the heart. **Mensuration.**—The left thoracic segment is greater than the right by five eighths inch. **Percussion.**—This gives considerable increase in the area of cardiac dullness, extending downward and to the left. **Auscultation.**—There is a loud diastolic murmur, with seat of maximum intensity at the sternal border of the second right interspace, transmitted anteriorly and posteriorly over the entire thorax and abdomen, from the clavicles above to the pelvic brim below, clearly heard also in the vessels of the neck and the femoral artery, completely obliterating the usual myocardial and valvular sounds. It is a loud, long drawn bruit, almost a moan, and the writer takes it, of course, as caused by the reflux of blood from the aorta into the ventricle. Frequently replacing this diastolic murmur is a reduplicated or double murmur, iambic in rhythm, the one diastolic, the other exactly presystolic in time. This last the writer takes for a "flint" murmur.

The flint murmur, as explained by himself, is due to an extreme dilatation of the ventricle, as a result of which the mitral segments during diastole are forced back against the wall, and, therefore, lying in the blood current, they produce a sort of relative narrowing, the result of which is a vibratory murmur in character not unlike the presystolic murmur of mitral stenosis.

Broadbent's theory in this regard is to the effect that the regurgitant current from the aorta, imping-

ing upon the anterior or aortic flap of the mitral valve, may set it into vibration and thus produce the murmur. While Osler observes: "This apex diastolic murmur of aortic insufficiency occurs in a considerable proportion of all cases." "It is variable and may disappear as the dilatation of the ventricle diminishes."

Let us look for a moment at our patient's arteries. There is visible pulsation in the peripheral vessels. The carotids throb forcibly, the temporals dilate, the brachials and radials expand with each heart beat. They have a characteristic jerking quality. The throbbing carotids in the neck suggested aneurysm, and led to the fluoroscopic examination. Notice the suprasternal notch and the great vessels beneath the right sternocleidomastoid; see the abdominal aorta lift the epigastrium at each systole, and feel the great prolapsed liver mass pulsate with the expansive force borrowed from the same source; look more closely for the capillary pulse, seen through the finger nails; grasp the forearm above the wrist, and, holding it high, feel the Corrigan or water hammer impulse forcibly strike the palpating finger with its quick, jerking effect, and its immediate recession or collapse; then observe that short but appreciable interval between the heart shot and the fall of the bullet just as it strikes the radial bulb's eye—in a word, observe this symptom complex, and tell me if this is not aortic regurgitation?

**Abdominal Inspection.**—The lower edge of the liver is seen as a distinct linear prominence, extending transversely from the right mammary line almost to the corresponding line on the opposite side. **Percussion.**—Relative dullness of the upper border of liver, right side, is at sixth interspace in the mammary line, eighth in midaxillary, eleventh in scapular line. Lower border of hepatic dullness, right side, is on a horizontal line with the umbilicus, curving an inch above the umbilicus at the median line, and extending two inches beyond this to the left.

The vertical width of hepatic dullness is as follows: On the right in mammary line, six inches; in midaxillary line, five inches; in scapular line, three inches; in anterior median line, seven inches; in left parasternal, six and one half inches.

**Palpation.**—An extensive hepatic area is easily palpable. By Glénard's *procédé du pouce* the edge of the organ may be felt to slip above the fingers with the respiratory movement. Its character is smooth and soft. The organ distinctly pulsates. It is freely movable from side to side and from below upward.

The physical signs of the stomach are those of a slight dilatation; the spleen is a trifle enlarged. There is no perceptible abdominal tumor except the liver mass. The kidneys are apparently in their normal position, and either may be felt on deep palpation. As stated before, the condition here is not that of enteroptosis.

**Diagnosis.—Cardiac.**—The diagnosis of aortic regurgitation is based upon a diastolic murmur over the aortic area, throbbing arteries, the peculiar pulse, hypertrophy of the left ventricle, and the sphygmographic charts.

**Diagnosis.—Hepatic.**—Floating liver is the diagnosis, made upon the presence of a large tumor in the abdomen, in this case easily distinguishable from tumefaction of the other abdominal organs for the following reasons: 1, The notch is palpable; 2, there is a tympanic note over the normal hepatic region; 3, the unusual mobility of the tumor; 4, it is possible to replace the organ; 5, its size and consistency; 6, the relatively long chest and lax recti muscles, favorable to the condition; 7, the confirmatory fluoroscopic examination, showing the total absence of the shadow as produced by the upper border of the normal liver.

**Prognosis.—Cardiac.**—Eventually unfavorable, though compensatory hypertrophy may go hand in hand with dilatation, and, while subject to sudden death to a larger degree than results from any other valvular lesion, one may, in the practice of moderation, live for years. This condition following endocarditis, however, is much more favorable than when dependent on arteriosclerosis. The heart, complicated with the use of the patient's body for twenty days, with progressive aortic regurgitation, the first case on record, upon the prognosis was very exact, namely, that degeneration and death in the end.

Prognosis.—Hepatic. Favorable.

Treatment.—Hepatic.—Mechanical support, a snugly fitting abdominal bandage, preferably of linen, and with straps passed around the buttocks, like a suspensory bandage, to prevent its riding above the hips.

Treatment.—Cardiac.—The writer protests against digitalis as a routine stimulus for cardiac failure. In dilatation—when by its use slow regularity supplants the many ineffective contractions of the overdistended ventricle, this followed by cardiorespiratory rhythm and the absorption of pulmonary oedema—digitalis produces striking effect. It is powerless, however, in fatty degeneration. It disturbs the stomach, and acts on the muscular arterioles as it does on the ventricle, and thus in arteriosclerosis increases an already too high tension. Nitroglycerin will counteract this undesirable vascular effect of digitalis by dilating the arterioles, while it stimulates cardiac systole.

Strophanthus—almost free from the contracting effect of digitalis upon the arterioles—is preferred, with strychnine sulphate and nitroglycerin as adjuvants.

A grain and a half of caffeine citrate is better than larger quantities, for in some cases long continued administration of three or four grains occasions cardiac arrhythmia and distress. Sparteine sulphate in doses of three quarters or one grain, combined with caffeine and strychnine, often acts better in aortic regurgitation than either digitalis or strophanthus.

Since muscular power is directly proportional to the amount of oxygen consumed, the patient is advised to spend as much time in the open air as the weather will permit. Iron, because a great oxygen carrier in the blood and a preventive of loss as regards the contractile power in hypertrophied muscles, has been added. Meat, because of the high tension pulse, has been largely interdicted, and the value of milk, vegetable diet, and fresh fruit emphasized. Beans, asparagus, and fibrous vegetables, as cabbage, turnips, and beets, are denied.

Constipation, raising the tension of the abdominal arteries, is prevented by the use of magnesium sulphate and sodium phosphate—one to two teaspoonfuls in a cup of hot water on rising.

But strong medicines have been allowed only a secondary rôle. With sufficient stimulation to keep the heart going, emphasis has been laid rather upon the importance of hygiene, diet, and rest.

Under this treatment the patient's blood pressure has fallen from 228 to 155; he has gained sixteen pounds in weight; oedema of the lower extremities has entirely disappeared; no trace of albumin is found in the urine; compensatory hypertrophy seems established, and his general improvement is certainly quite marked.

#### DISCUSSION.

DR. THOMAS A. CLAYTOR said that the hepatoptosis was very interesting and very rare. He has seen three cases, including that presented by Dr. Magruder; one was seen in Philadelphia and another at the Garfield Hospital here.

DR. LOUIS MACKALL, JR., said the case was of great interest, particularly on account of a presystolic thrill at the apex with no apical murmur, and the presence of the loud murmur at the base with no basilar thrill. The condition suggested to him aneurysm of the heart. The heart was not much hypertrophied, and on that account he did not think that the aortic regurgitation was of long duration. He believed that the condition of greatest moment was the hepatoptosis, which by pressure and drag on the aorta threatened or had already caused aneurysm. On that account he would urge suspension of the liver after the manner described by Le Page. Dr. Mackall believed that such an operation was strongly indicated in this case, in which the heart was already in bad condition and progressively growing worse.

DR. J. D. THOMAS said that the conditions under which he had examined the patient did not justify an accurate diagnosis. The murmur was a very unusual one, and though at first it seemed to be systolic, when compared with the pulse, it proved to be diastolic in time, or at least not systolic. Although the sounds did not indicate to his mind aortic regurgitation alone, that condition was present. A pathognomonic sign of that lesion is a double bruit in the large vessels, and that sign was plainly audible

in this case in the femoral artery. Some writers hold that the sign may also be heard in mitral stenosis. The case was of great interest, but he did not think that the sounds were altogether characteristic of aortic regurgitation alone.

DR. E. P. MAGRUDER, in closing, said that with regard to the thrill it might be felt at base and apex. He had referred in his paper to the double vascular murmur mentioned by Dr. Thomas. He did not think there was any involvement of the right heart. He agreed that possibly the mitral valve also was affected, producing at times the reduplicated or double murmur effect described by Flint as replacing that of simple aortic regurgitation. As to the time of the murmur careful study had convinced him that it was diastolic. He had no opinion to offer as to the relation between the floating liver and the cardiac condition.

In the course of the last year evidences of arteriosclerosis had increased. The pulse had also markedly changed in character, due no doubt to improved mode of living.

THE ASHLEY, EIGHTEENTH AND V STREETS.

#### ORTHOPÆDIC THERAPY DURING THE EARLY STAGES OF ACUTE ANTERIOR POLIOMYELITIS.\*

BY JOHN JOSEPH NUTT, M. D.,

New York,

Instructor in Orthopædic Surgery, Cornell University Medical College; Assistant Surgeon, New York State Hospital for Crippled and Deformed Children; Surgeon, Orthopædic Department, Cornell University.

Cessation of spontaneous improvement, without a complete cure of the paralysis, after an attack of acute anterior poliomyelitis, marks the beginning of a chronic stage. It is not the treatment during this stage which it is proposed to discuss here.

Believing, however, that proper and painstaking orthopædic treatment, instituted during the more acute stage, will greatly lessen the extent of the crippling results, and be the means, in some cases, of a complete cure, I shall attempt to discuss such treatment as appears to me to be rational and essential.

The ultimate disabilities are due to the paralysis and to the deformities. The deformities result from unopposed muscular action, from asymmetry in development, and from weight bearing in an abnormal position while the sustaining tissues have their motor and trophic centres paralyzed. The treatment, therefore, before the chronic stage, should be directed toward: 1, Keeping the parts in as healthy a condition as possible; 2, the preservation of the normal range of motion in all the joints; and, 3, preventing stretching and elongation of paralyzed and weakened tissues.

1. To keep the parts in as healthy a condition as possible. The importance of this cannot be overestimated. It must be borne in mind that, in these cases, the paralysis is not only a motor paralysis, but a trophic paralysis. Not only do the muscle fibres lose the influence of their trophic centres, but every tissue, bone, ligament and blood vessel suffers from this paralysis.

The means to be used to combat this condition are massage, electricity, heat, and hydrotherapy.

\*Read before the Society of Alumni of Bellevue Hospital, January 2, 1909.



Directions to simply rub the muscles every day are not sufficient. The failure of most American physicians to appreciate the value of scientific massage, and their unwillingness to do it themselves, is a serious loss to our armamentarium. Massage should be done daily, conscientiously, scientifically. Each séance should occupy from ten minutes to one half hour, depending upon the age of the patient and the parts to be massaged. Friction alone is insufficient. Each paralyzed muscle should be stripped of its blood supply and its capillaries engorged with fresh blood.

Electricity is of use in this as well as the later stage. If there is any response to the faradic current it may be used, otherwise the galvanic current is employed. A very few minutes, perhaps three or five to a muscle, of skillfully applied electricity, daily, is undoubtedly of great service toward combating the effects of both the motor and trophic paralysis.

The local temperature should be maintained. This is often a difficult matter. Hot water bags and electric heaters are not to be recommended, as the lowered temperature is not a temporary condition. It is best maintained by preventing loss of heat through radiation and conduction. Extra clothing, constantly worn, may accomplish this, but, if not, then wrapping in cotton batting or other means must be taken.

Hydrotherapy is of value as a stimulant to the vasomotor apparatus and also as a means of preserving the skin in a healthy condition. On account of the trophic disturbance to the skin and its consequent liability to ulceration, care must be observed in the use of soaps. The alternate hot and cold douching with sea salt solution is often most happy in its results. If, however, a reaction is not at once evidenced, the douching should be discontinued.

2. Normal range of motion at the joints is preserved by passive movements. These should be carried out daily from the beginning of treatment. Muscle shortening begins within a very few weeks. Normal movements may be impossible, without the use of force, as early as six weeks after the onset of the disease, as seen in a case this fall.

This shortening of the muscles and the subsequent ligamentous shortening is due to the physiological law enunciated by the late Henry G. Davis, in his *Conservative Surgery*, page 130:

"Ligament, or any soft tissue, when put under even a moderate degree of tension, if that tension is unremitting, will elongate by the addition of new material; on the contrary, when ligaments or other soft tissues remain uninterruptedly in a loose or lax state they will gradually shorten as the effete material is removed, until they come to maintain the same relation to the bony structures to which they are united that they did before their shortening."

3. To prevent stretching of paralyzed and weakened tissues: The paralyzing effect of overstretching a muscle is known to all physiologists, but, I believe, its importance as a factor in determining the amount of disability resulting from infantile paralysis is not sufficiently emphasized by surgeons. It has been demonstrated, time and again, that the application of an apparatus relieving muscles, which had been classed as paralyzed from the cord lesion

from a long continued and uninterrupted stretching force, has produced some return of power. Even after several years of nonuse from overstretching muscles may, by proper treatment, be partially restored to their normal functions.

It is to be remarked that of all the groups of muscles which may be paralyzed after an attack of acute anterior poliomyelitis, the muscles which receive the greatest strain, under ordinary circumstances, are the ones which, in the majority of cases, remain as the only reminiscence of the disease. In paralysis of the anterior tibial muscles, whether the patient is lying down or sitting up, those muscles are on a stretch the greater part of the time. Not only is gravity stretching them, but the calf muscles, providing they are not paralyzed, are constantly exerting a stretching force. To avoid this, passive movements once or twice a day are not sufficient. The ends of the dorsal extensors of the foot must be approximated and held in that position unremittingly, except for the short time that other treatment is being given. This should be done as soon as these muscles are found to be paralyzed. The same precautions should be taken to prevent stretching of any muscles, such as the peronei, the tibialis anticus alone, or the deltoid.

To illustrate the importance of preventing this stretching paralysis, which is so frequently classed as due to the cord lesion and considered permanent, I shall briefly relate a case which was recently sent to me from up the State.

CASE I.—L., thirteen years old. Family history was good. Previous history was negative. Present history: In August, 1905, patient had an attack of what was diagnosed as acute anterior poliomyelitis. Condition in September, 1907: There was paralysis of tibialis anticus of right leg, of all the anterior tibial muscles of the left leg, and probably the intrinsic muscles of the vertebrae, which produced a lateral curvature. During three months of daily treatment of the scoliosis her paralyzed leg muscles received, also daily, massage, electricity, extension of contracted gastrocnemius of left leg, douching with hot and cold salt solutions, and passive and, where possible, resisted active motions. A very slight reaction to the faradic current was present, at the beginning of treatment, in the muscles of the left leg, but none in the right tibialis anticus. At the present time all the muscles of the left leg, which had been considered as permanently paralyzed by destruction of the anterior horn cells, show a return of power. The right tibialis anticus is probably paralyzed from the destructive process of the disease.

Another instance, to my mind, of paralysis due to overstretching was the following:

CASE II.—Last summer a gentleman consulted me regarding his chauffeur. I found the young man, then twenty-one years of age, had a paralysis of the anterior leg group of the right leg. He had had this trouble as long as he could remember and had been treated at dispensaries in New York city for a number of years. The treatment had consisted only of braces which he had worn only intermittently. One year had he been in bed, and for the last year he had been a chauffeur, he had used the foot constantly on pedals and had found that he was obtaining some use of his toes. The pedaling, making a forced dorsal flexion, would have tended to stretch the contracted gastrocnemius and this may possibly, it would seem, have been sufficient to relieve the strain on the dorsal flexors, and permitted some return of power.

Contrary to the opinion of some, prolonged rest in bed does not appeal to me as the wisest of treatment. After the subsidence of the fever, every measure which will help to restore a normal circula-

tion to the cord and place the constitution of the patient in the best possible condition, are to be employed. When the question of applying a brace, therefore, arises, serious consideration must be given as to whether the importance of supporting a weakened joint or muscle overweighs the concomitant confinement of other joints and muscles. Functional use of muscle, ligament, and bone are to be encouraged. Great care is necessary while spontaneous improvement is progressing that an apparatus does not do more harm than good. Hard and fast rules cannot be laid down. Consideration must be taken of the age of the patient, his activity, and the strength of the supporting structures of the joint. A child unable to walk, either because too young to walk or from disability, will need, if any, but simple apparatus, while an active child, continuously on his feet, and using his legs as best he can, may need protection while yet his condition is perceptibly improving. In all such cases, the muscles and joints which are confined should receive exercise by passive and resisted active movements twice a day, with the brace removed.

"THE SEMINOLE," BROADWAY AND SIXTY-NINTH STREET.

#### A CASE OF BILIARY FISTULA BETWEEN THE GALLBLADDER AND THE STOMACH, WITH A STONE IN THE HEPATIC DUCT.

By GEORGE MORRIS DORRANCE, M. D.,

Philadelphia,

Surgeon to St. Agnes' Hospital.

In reviewing the literature of biliary fistula one is struck by the rarity of fistula into the stomach. Naun mentions that twelve cases had been reported, but only gave the references to nine (Courvoisier eight, Schlorth one); Moynihan records one, the Middlesex Museum one (No. 1595), Mayo Robson one, Oppolzer one, French one, and Jaefreson one. Undoubtedly many more have been recorded, but I have been unable to find them.

The history of my case is as follows:

Patient was seen in consultation with Dr. W. P. and Dr. E. M. Kistler, of Allentown, Pa. She was a woman, forty-seven years of age. Family history was negative; previous personal history also negative; no history of typhoid fever.

History of present illness: Patient had had three attacks of biliary colic in the past four years, accompanied by jaundice in two instances, but no gastric disturbances. The present attack began with pain in the gallbladder region without being transmitted. Jaundice was intermittent for the past eight days; at the time of operation the patient was slightly tinged.

Operation: On opening the abdomen, the anterior wall of the stomach, 6 centimetres from the pylorus, was adherent to the lower surface of the gallbladder, 1 centimetre below the apex. Very few adhesions were present. With the finger in the foramen of Winslow, the common duct was found free from stones, while the hepatic duct was obstructed by a large faceted stone. The stone was "milked" down and removed from the hepatic duct. The gallbladder was opened, and the little finger passed into the stomach through the fistula. The gallbladder was drained with a rubber tube, and the wound closed, except for a large gauze drain. The fistula was not closed, but left as I found it.

Subsequent history: The wound healed in three weeks. No gastric disturbances have occurred since, and the patient reports that she is entirely well.

### Our Readers' Discussions.

#### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXI.—How do you treat gallstone colic? (Closed February 15, 1908.)

LXXII.—How do you treat fracture of the patella? (Answers due not later than March 16, 1908.)

LXXIII.—How do you treat seasickness? (Answers due not later than April 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXX has been awarded to Dr. Beverley R. Tucker, of Richmond, Va., whose article appears below.

#### PRIZE QUESTION NO. LXX.

##### THE DIAGNOSIS OF ALCOHOLIC STUPOR.

By BEVERLEY R. TUCKER, M. D.,

Richmond, Va.

A medical student, cramming for some examination, learns a long list of distinctive diagnoses of stuporous states arranged for his edification in columns side by side. This table he quickly forgets or his impressions become sadly confused. In consequence of this he may thereafter have the embarrassing experience of being brought face to face with some case of unconsciousness and be at a loss to diagnose or treat it. I shall attempt rather to give only a brief picture of states that may be mistaken for alcoholic stupor.

The conditions we will consider are: 1, Alcoholic stupor. 2, Epilepsy. 3, Spontaneous cerebral hæmorrhage (apoplexy). 4, Cerebral trauma with stupor. 5, Heat stroke. 6, Uræmia. 7, Shock. 8, Diabetic coma. 9, Cardiac syncope; 10, Narcotism. 11, Hysteria and hypnotic states. 12, Malingering.

As aids to diagnosis, we should note the time of day or night when we first see the case, the surroundings, whether or not the patient is alone, and note the posture, general appearance, and complexion of the patient. See if marks of violence or injury are present, and notice if any weapons, bottles, or papers are lying about. We should feel the pulse and skin, and note the character of his breathing, the reaction of his pupils, and whether his limbs are stiff or relaxed, and whether there is any odor about him. We also must bear in mind that in organic cases the preponderance of symptoms are on one side, while in toxic conditions they are bilateral. All this will take but a few moments, and then we begin to classify our case.

1. *Alcoholic stupor*.—If the odor of alcohol is present it is not a reliable sign, but the absence of this odor is a valuable negative diagnostic point. The patient is usually lying on his face or side, and

his limbs are flaccid and partly flexed. Pressure over the supraorbital notch or ammonia inhaled will arouse him. If the extremities move it proves that part not paralyzed. He has no convulsions, and his knee jerks are usually absent. The pupils are dilated, but react to strong light. If cardiac compensation fails his face is pale and pulse weak, but usually the face is flushed, the skin damp, and the pulse full and rapid, though of low tension. His breathing is heavy, he mutters when aroused, and his temperature we may expect to find subnormal.

2. *Epilepsy*.—The convulsion itself is not mistaken for alcoholism, but the stuporous stage following may be. The history of an immediately preceding fit, and especially of the past occurrence of others, is a valuable point. A bitten tongue, froth on the mouth, and the absence of alcoholic odor separate the two conditions. The temperature in epileptic stupor is usually normal or slightly elevated. The knee jerks are abolished, and the pupils dilated and immobile, but these reflexes return as the patient becomes conscious.

3. *Spontaneous cerebral hemorrhage (apoplexy)*.—This occurs most frequently in people past middle life, who are high livered and who present evidence of arteriosclerosis, but it may occur when none of these conditions obtain. The pupils are dilated, but, unlike alcohol, do not respond to light. The blood pressure is increased, and there is paralysis of one side, the leg on this side being more flaccid and extended than on the healthy side. The Babinski sign is also found on the hemiplegic side. The knee jerks may be plus, minus, or absent, but the superficial reflexes are decreased. The temperature is subnormal and then rises. The cerebrospinal fluid contains traces of blood. If the hemorrhage is pontine the pupils are contracted, the symptoms bilateral, and there is marked perspiration, although the temperature is high. In cortical hemorrhage the muscles are spastic and deep reflexes increased.

4. In *cerebral trauma with stupor* the symptoms of concussion and laceration are similar, compression is different. In the first two the skin is pale, cool, and clammy, the pulse weak, the knee jerks abolished, the temperature subnormal, and the respiration feeble. Concussion may go to cerebral irritation of the frontal lobes, and the patient be excited, restless, lying in a curled up position, and roll from side to side. In compression the patient lies on his back, the skin is damp and hot, the pupils vary, the skull may show the depression, and there may be focal paralysis.

5. *Heat stroke*. The atmospheric conditions are extremely high body temperature, sometimes to  $112^{\circ}$  F., and the very flushed dry skin will usually be sufficient to distinguish.

6. *Uremia* presents albumin and casts in the urine, and the face may show a swollen pallor and the breath be uræmic. This condition is usually preceded by headache, vomiting, and convulsions.

7. *Shock*—see the history in the case of difficulty. The face is expressionless and pale, the temperature subnormal, the skin cool and the pulse weak and running.

8. *Diabetic coma*.—Sugar is found in the urine, which is of high specific gravity, and there is a

sweetish, acetone odor about the breath. If coma is deep the pupils do not react. The pulse is small and rapid. Headaches and drowsiness precede.

9. *Cardiac syncope*.—This condition, known to the laity as a fainting spell, need be only slightly considered. The attack is sudden, and lasts but a short time, the pulse slow and very weak, and the face pale.

10. *Narcotism*.—This embraces too large a field to be discussed here fully. In opium poisoning the pupils are contracted and do not react, the skin is pale, and the respiration and pulse slow and feeble. In ether and chloroform stupor the odor can be distinguished from alcohol. In carbon monoxide and carbon dioxide gas poisoning the surroundings in which the patient is found help us, together with the weak pulse and feeble respiration. Stupor from chloral is marked by a pale, clammy skin, absent deep reflexes, subnormal temperature, and sometimes pupura hæmorrhagica. The pulse is slow, then rapid and weak; the respiration labored, then weak; the pupils contracted, then dilated toward the last.

11. *Hysteria and hypnotic states*.—Hysteria occurs most frequently in young women; the posture is that of a pose; the patients resist having their eyelids opened; their pupils and pulse are normal, unless the latter is accelerated from exertion. The deep reflexes are present. In trance, hypnosis, etc., the pulse and respiration are slow but regular, the pupils normal, and the muscles not completely relaxed or may be rigid. The temperature and skin are usually normal.

12. *Malingering* may be told by the person over-acting the part, the pupils, pulse, temperature, reflexes being in normal condition.

We should try, if possible, to exclude every other condition before diagnosing alcoholic stupor, and I believe that if we make a thorough examination, picturing the salient features of each stuporous state, rather than trying to memorize extensive lists of signs and symptoms, and arriving at alcoholism by exclusion, we will obviate the many distressing errors that too frequently accompany the diagnosis of this condition.

Dr. John McCutcheon, St. Louis, Mo., says:

The conditions with which alcoholic stupor is most frequently confounded are uræmic coma, apoplexy, and opium poisoning.

In acute alcoholism there is deep flushing, sometimes cyanosis, of the face; the pupils are evenly dilated and react to light; the temperature is normal or subnormal; the pulse is full, regular, and bounding; the breath has a strong alcoholic odor (which is far from pathognomonic, however); the muscular resistance is equal on both sides; respiration is slightly accelerated and deep, but not stertorous; there is often twitching of the muscles, but rarely convulsions; and involuntary evacuation of the bladder or bowels may occur, although unconsciousness is rarely complete. Retinal examinations are negative, and albuminuria, other than of slight degree, is exceptional. The blood pressure is seldom very abnormal.

The clinical picture is somewhat different in chronic cases. The face is flushed or



ily dilated or medium in size. The ophthalmoscope shows the presence of albuminuric retinitis. The coma is deep, and stertorous breathing is the rule. Oftentimes the breath has a urinous odor. There is usually marked edema and puffiness beneath the eyes, the complexion is pale and "pasty" looking, convulsions are of frequent occurrence, and a hemiplegia may be present. A careful examination of the urine is, of course, the most important of all procedures here. In fact, it is a wise precaution to make a brief but exact uranalysis in all cases of coma from any cause. A portion of the bladder contents is withdrawn, with aseptic precautions, using a soft rubber catheter. It is safer to employ two methods for the detection of albumin. I prefer the one devised by Heller and the magnesium nitric test. If negative, an examination for sugar, by Fehling's solution, should follow, in order that diabetic coma may also be excluded. The blood pressure in these cases is high, much over 150 mm. as a rule, and the urine and feces are retained.

Apoplexy is frequently associated with alcoholism of varying degree, consequently the diagnostician cannot exhibit too much care in making a positive differentiation. The face may be cyanotic, but is often of an ashy gray pallor. Unconsciousness is profound; the breathing is stertorous, slow, and irregular at times. The pupils vary. They may be irregular, and are inactive. During expiration the cheeks (especially the one on the affected side) are puffed out, and a blowing noise is made by the lips as the air is expelled and the cheeks collapse. There is usually restriction of the thoracic movements on the paralyzed side. Conjugate deviation is often present. The affected muscles are commonly flaccid and nonresisting, although they may show marked rigidity. The pulse is slow, full, strong, and of high tension, the manometer showing a pressure of 175 mm. or more. The temperature is normal or subnormal at first, later there may be fever. The urine is slightly albuminous at times, but seldom more than a trace. If a fracture of the base exists, as a complication, it is accompanied by ecchymoses, especially in the infraorbital regions, there is escape of cerebrospinal fluid, alone or mixed with blood, from the ears, and signs of external violence, such as bruises and cuts, are present.

The symptoms in a case of opium poisoning are more typical. Here the invariable presence of the contracted "pin hole" pupils is of immense aid. The face is swollen and bluish in color; the respiratory movements are irregular, labored, and greatly decreased in frequency (six or eight per minute at times); the skin is cold and clammy; the pulse is slow, weak, and soft, and the unconsciousness is deeper than in alcoholic stupor. Muscular twitching is absent. If the opium taken was in the form of laudanum its odor is imparted to the breath.

At times an epileptic seizure may be mistaken for the insensibility due to alcoholic poisoning. The brief duration of the attack, the absence of odor on the breath, the presence of convulsions at the onset, if seen, and evidences of wounds on the tongue and bruises on other parts of the body will suffice for differentiation.

Diabetic coma sometimes gives rise to an incorrect diagnosis of acute alcoholism, but an exami-

nation of the urine, as suggested under *uræmia*, will speedily dissolve any existing doubt.

During the heated season cases of sunstroke and heatstroke may fail to be recognized, and the condition ascribed to excessive indulgence in alcohol. The temperature (which should always be taken per rectum here), the skin, and the pulse will give sufficient information for a correct diagnosis. In sunstroke there is a pronounced hyperpyrexia, varying from 105° to 112° F., with a hot, dry skin, and a strong, bounding pulse of high tension. In heatstroke, or heat exhaustion, the temperature is subnormal, the skin is pale, cold, and covered with moisture, and the pulse is thready and weak.

When rendering an opinion in a suspected case of alcoholic stupor the physician cannot be too circumspect. If an error is made it should always be on the safe side, the more serious condition being given the benefit of the doubt.

*Dr. W. Hays, of New York, states:*

Stupor, or semicoma, may be defined as an intermediate stage between somnolence and coma. A partial loss of consciousness, or profound slumber, is present, from which it is possible to arouse the patient only with great difficulty and by earnest entreaty.

It is exceedingly important in all cases, in which such unconsciousness obtains, to make a thorough but rapid examination, and note carefully all physical signs. Failure to do this may result in egregious and serious blunders, as, for instance, the diagnosis of drunkenness, merely because the odor of alcohol may be detected on the patient's breath. It is essential to ascertain the condition of the pupils, whether contracted or dilated equally or unequally, the presence or absence of reaction to light or of the consensual reaction. If the eyelids cannot be readily raised, no true stupor exists. The face should be viewed so as to determine whether unilateral facial paralysis be present. Injury to the head, cuts, bruises, or depressions, must be inquired into. The color of the skin may be important. During extremely warm weather the temperature of the skin should be observed. The mouth and tongue may show injuries from the teeth; froth may be upon the lips. The comparison of the degree of flaccidity of the limbs on opposite sides of the body often gives a clue that aids very materially in diagnosis. If possible, the history of the past life of the patient should be obtained, together with a narration of events immediately preceding the onset of the condition in which found. The temperature, pulse, and the respirations should be noted.

In alcoholic stupor, pressure over the supra-orbital nerve will usually elicit a response, though it may be with difficulty, and the patient will often vehemently protest with words or blows. The face is flushed. An alcoholic odor can be detected on the breath and in the vomitus, if any. Absence of this odor will aid in positively excluding alcoholism. The pupils are equal and either of normal size or slightly dilated and react to light; no lateral deviation. The pulse is rapid, full, and strong. Respirations are normal in frequency, but deep and occasionally stertorous. The skin is very commonly cool

and moist, and the temperature either normal or slightly subnormal, unless delirium is present, when there is a rise in temperature. It is well to bear in mind that a cerebral lesion may be coexistent with the drunkenness, and signs of the former condition must be carefully looked for.

The unconsciousness of apoplexy is usually deeper than that of alcoholism, taking on more the character of a coma. The face is suffused, cyanotic, though sometimes pale. The pulse is full, slow, and of increased tension; the artery often shows atheromatous changes. The respirations are slow, noisy, and stertorous, and oftentimes irregular. Cheyne-Stokes type of breathing may be heard. The cheeks are blown out with spluttering of the lips, more marked on one side than on the other if unilateral paralysis of the face is present. The temperature may be normal or subnormal, though in cases likely to prove fatal fever is noted. The pupils are dilated, often unequal, and do not show reaction to light nor the consensual reaction. When hæmorrhage occurs into the pons or the ventricles, the pupils will be contracted because of the irritation of the nucleus of the oculomotor nerve. Conjugate deviation of the head and eyes or persistent turning to one side, the side on which the hæmorrhage has occurred, may be present. Unilateral paralysis of the face is indicated by the droop of one angle of the mouth, the effacement of wrinkles on the affected side, and the flapping cheek. Greater flaccidity of the limbs on one side may be noted by raising them and letting them fall, those on the affected side dropping as "dead." The skull should be subjected to a thorough examination for any injury, however slight it may be. The onset varies in suddenness, depending on whether the apoplexy is due to cerebral hæmorrhage, embolism, or thrombosis. Stupor or coma, with hemiplegia, complete or incomplete, may occur in the course of pachymeningitis interna hæmorrhagica.

In opium poisoning the patient can be aroused unless he is extremely narcotized. The face is at first pale; later dusky and cyanotic. The pupils are strongly and equally contracted. The respirations are slow, and may even drop to eight a minute. The pulse is slow and full. The temperature of the body is normal or subnormal. The skin is warm and moist. If the intoxication is due to laudanum the smell will be noticed on the breath.

Uræmia is a form of intoxication due to the retention within the circulation of excrementitious substances normally eliminated by the kidneys. The patient may be aroused temporarily from the unconsciousness which may be preceded by or alternate with epileptiform convulsions. The face is pale, swollen, and œdematous. The breath exhales a urinous or sweetish odor. Examination of the urine shows evidence of kidney disease, but that should not lead the physician astray. The pupils are equal and usually widely dilated, though they may be normal and reaction to light be preserved. There may be twitching and tremor of the muscles of the hands and feet. The pulse is rapid. The respirations are frequent and irregular, disposed occasionally being seen, or even Cheyne-Stokes type of breathing. The temperature is usually normal, but

may at times be subnormal. Convulsions tend to elevation of temperature. If ophthalmoscopy is possible, nephritic retinitis may be discovered. Occasional instances of uræmic hemiplegia are met with, which are unexplainable pathologically and are often transient.

These conditions are the most common ones in which a distinctive diagnosis is puzzling, and often, indeed, baffling. In addition, it is well to bear in mind that in hysteria, insolation, epilepsy, diabetes, and gas poisoning, unconsciousness is existent which may easily mislead the careless observer. In hysterical stupor the patient will resist opening of the eyes usually, and the eyeballs are rolled upward. A strong irritant, such as ammonia, held closely to the nose, will always awaken a response. Sudden anæmia of the brain causes an absolute pallor of the face; the respirations are shallow and almost imperceptible; the pulse weak and fluttering, and the pupils much dilated, with the eyes possibly wide open. Thermic fever can usually be distinguished by the excessively high temperature of the body and the history of prostration under exposure to the sun. In heat prostration a greatly subnormal temperature is present, and the unconsciousness may be due to either the sun's rays or to intense artificial heat. In epilepsy, the froth on the lips, possible biting of the tongue or lips, the history of a convulsion, and the gradually subsiding unconsciousness, will clear away any doubts as to the condition present. Diabetes is made distinctive by the discovery of a considerable amount of sugar in the urine and the sweetish, fruity odor of the breath. In poisoning due to illuminating gas, the condition is almost always obvious from the circumstances under which the patient is found. The smell of the gas will usually clear up the diagnosis, though a further criminal aspect may be given to the case by the discovery of wounds that may explain the true condition, complicated by the inhalation of the noxious vapor. Stupor may also be associated with any organic or inflammatory disease of the brain. In eclampsia due to pregnancy, stupor, or coma, preceded by or associated with convulsive seizures, can be readily diagnosed. In many of the acute infectious diseases, such as typhoid, typhus, and pernicious malarial fever, a gradually appearing unconsciousness may develop.

Careful attention to all objective signs will usually lead to a positive diagnosis, but at times the condition seems so obscure that even the most painstaking examination will be vain and fruitless.

*(To be concluded.)*

### Therapeutical Notes.

**A New Treatment for Tuberculosis.**—Lemoine and Gerant, of Lille, read a paper at the Académie de Médecine upon a treatment of tuberculosis, based upon the antitoxic action of the liver (*The Practitioner*, February, 1908). They point out that bile and the biliary acids are known to have a true chemical neutralizing effect upon the venom of the biles, and that cholesterine, in particular, behaves as an antitoxic influence. They made a series of ex-

periments to determine whether cholesterine and bile extracts possess any immunizing properties against the poison of tubercle. Bacilli were injected into the peritoneum of guinea pigs, to which were, later, given hypodermatic injections of cholesterine and of biliary extracts, obtained from the bile by petroleum ether. The injections produced no unfavorable reaction, and a greater resistance to tubercle was noted in the animals experimented upon. There was no development of tubercle. In the wards, Lemoine used the same products for injection, and found in the patients, submitted to the treatment, improved general condition, lessening of the night sweats, of the fever, and of the frequency of the pulse, increased arterial tension, return of appetite, and increase in weight. The results obtained in over 250 patients, treated during the last three years, have been that in tuberculosis of the first and second degree, the improvement has been complete, allowing on an average a return to work in the case of laborers, in from two to three months. In more advanced cases, with cavities and profuse expectoration, the results have been moderate. It is best given hypodermatically.

#### Pyroligneous Acid for Arthritis Deformans.

—In the treatment of arthritic deformities of the joints, Kolipinsky is said, according to *Journal de médecine de Paris*, for December 29, 1907, to give pyroligneous acid internally in doses of from one to two teaspoonfuls, diluted with a small quantity of water, repeated two or three times a day. Under the influence of this medicament the pain and the swelling are said to subside and the joints to regain their suppleness in a very short time.

**Antiseptic Mouth Wash.**—Robin is credited in *Journal de médecine* for December 1, 1907, with the following formula for an antiseptic wash for the mouth and pharynx:

β Betanaphthol, .....	0.02 gramme;
Sodium perborate, .....	15.0 grammes;
Peppermint water, .....	200.0 grammes;
Boiling water, q. s., .....	ad 1.0 litre.

M.

Heat the solution on a water bath, when it is ready for use.

**Extract of Brain Substance Hypodermatically in Tetanus.**—According to M. Uspenoki (*Nouveaux remèdes*, December 8, 1907; *Pharmaceutical Journal*, February 16, 1908), aqueous or glycerin extract, obtained by rubbing down brain substance of any healthy animal with physiological salt solution or with glycerin and filtering through a Berkefeld filter, has given excellent results in the treatment of tetanus with patients ranging in age from six to forty-eight years. The dose given is 15 to 20 c.c. in twenty-four hours, hypodermatically, in the abdominal region; more may be given in grave cases. It is essential that the brain substance used should be quite fresh, and not more than five to seven hours after slaughtering should be allowed to lapse before it is used. When thus active, the results obtained with the injection are at least equal to those following the use of tetanus antitoxine, with the great advantage that the material is always at hand, procurable in a short time, and cheap. The simple method of injection is also preferable to the more complicated proceeding of subdural injection into the sulcus arachnoid, resorted to with the antitoxine;

the latter, too, is often followed by complications. Besides, no pathological elements are introduced into the system by the use of brain emulsion. Good results have also been obtained, it is said, with brain emulsion extract in the treatment of neurasthenia, epilepsy, tabes dorsalis, and in mental affections.

**Abnormal Digestive Fermentations.**—Formerly these were treated by antiseptics, such as benzonaphthol, salol, etc., but Bardet (*Bulletin de thérapeutique; The Practitioner*, February, 1908) has demonstrated the uselessness of these, and has returned to the use of special antiferments to inhibit lactic or butyric fermentation. For lactic acid fermentation he gives ammonium fluoride, a substance currently employed as an antiferment in breweries and distilleries, in solution, as follows:

β Ammonium fluoride, .....	gr. iii to gr. viiss;
Distilled water, .....	3x.

M. Sig.: Tablespoonful after meals.

For butyric fermentation, the double iodide of bismuth and cinchonidine is used in combination with calcium fluoride and prepared chalk.

β Bismuth and cinchonidine iodide, ..	gr. ½ to gr. iss;
Calcium fluoride, .....	gr. ½ to gr. iss;
Prepared chalk, .....	gr. iss.

M. ft. pulv.

Sig.: One powder in a cachet after meals.

Sulphur iodide in a dose of one and one half grain in a cachet is said to be an effective remedy for the fermentations which accompany true flatulence, the eructation at intervals of gas produced in the stomach, as distinguished from that due to air swallowing which is almost continuous, and for which the remedy is of no avail. Precipitated sulphur checks lactic fermentation and stimulates intestinal contractions. It should be given in a dose of fifteen grains mixed with an equal amount of calcined magnesia in a cachet at each meal. Feculent and sugar must be limited in the diet. Uncooked fruit should only be eaten at the beginning of the morning meal.

**A Soothing, Lubricating Application in Cystitis.**—Elice McDonald, in the *Medical Record* for February 22, has found a mucilage of Irish moss of the following composition a useful, soothing application in cases of acute cystitis:

β Chondrus (Irish moss), .....	5iiss;
Distilled water, .....	O.iii.

Wash the chondrus in cold water, drain; wash again and drain. To the washed chondrus add three pints of distilled water and boil for ten to fifteen minutes, stirring frequently. Strain through muslin with expression. To the strained Irish moss add six pints of boiling distilled water and filter. Evaporate the filtrate to one fifth by bulk, cool partially and add gomenol,<sup>1</sup> one per cent. by weight, mix well, and strain through fine white flannel which has been previously boiled.

The author states that the value of this preparation consists in keeping the bladder walls apart and lubricating them, so that no friction or irritation results. The preparation is approximately the same as many lubricating jellies put up in tubes for use in vaginal examination. It is also of use in lubricating the cystoscope before its introduction into the urethra. In bladder treatment the jelly should be diluted with hot water to a thick semisolid consistence, fit for use in a syringe.

<sup>1</sup> Gomenol is made by macerating the leaves of *Gouania glabra* in alcohol, and distilling the volatile oil from the residue, and redistilling the oil from the residue.



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## THE PHILOSOPHY OF CHARLATANRY.

All educated and experienced physicians are aware of the fact of the extensive prevalence of charlatantry throughout the length and breadth of the development of human culture, from the most ancient to the most modern of times. Many who have contemplated the history of mankind have been tempted to maintain that little or no advance has been made by the human mind in its attitude toward charlatantry since the days of Homer at least, or even perhaps of the early Egyptian civilizations, glimpses of which are now being obtained with increasing frequency.

The patrons and dupes of what educated physicians call charlatantry are not at the present time confined to any class of men or of women. Even those of the highest culture and refinement seem to follow the lights of false teachers with as much persistence and as little discretion as the most ignorant of people. It becomes all the more interesting, then, to analyze if possible the philosophical foundations of successful charlatantry, with the view of understanding the principles which move so many individuals along lines which must in the end be the opposite of self conserving.

In a recent very suggestive article on this general subject Dr. D. K. Shute, of Washington (*Hygienic-Laboratory Journal*, January), has by no means that at least five factors stand forth as elements of stupendous power in cultivating and maintaining such an extensive field of charlatantry as may be

witnessed in any modern state, whether civilized, barbarian, or savage. These are human suggestibility, reasoning by analogy, reversion to primitive modes of reasoning (mostly included in the former), the assumption that ideal associations have corresponding material connections, and morbid imagination. Of these, suggestion, reasoning by analogy, and morbid imagination are the most important and fundamental.

Human suggestibility, in some degree at least, is immeasurable. Dubois has made the computation that only three per cent. of the human race is free from the slavery of suggestion. How he arrives at these figures we do not profess to comprehend, but the fact will not be gainsaid that the proportion of the unsuggestible is very small. So soon as one leaves the cold ground of mathematical reasoning, difficulties are met with in resisting the emotional elements of suggestibility, and the credulity of the multitude finds its gratification in this very element of human suggestibility. Taking it into consideration, the charlatan thrives through unworthy motives; the true physician must utilize the same power, but his aim should be and has been to educate his oversuggestible patients to a healthier philosophy of living in the battle with the discords and discomforts of life as they find it.

The omens and signs that sway people's minds are relics of old usages, customs, and manners. They derive their power from the inveterate habit of the uneducated of reasoning too much by analogy. The modern German peasant who says that meeting a flock of sheep is lucky, but encountering a herd of swine unlucky, and the Cornish miner who turns aside in horror on meeting a rabbit or an old woman on his way to the pit's mouth, is no more illogical than the modern lady of culture and even a college education who argues the good in Christian Science on the analogy of certain cures of incurable disorders. They both exhibit the radical defect of logic, of reasoning too strictly by analogy, and are keeping up relics of primitive types of thought.

And so with the factor of morbid imagination in fostering belief in the myths of ancient times. Viewed from the strictly anthropomorphic point of view, personal will entered into the day and the night, into the waterfall and into the whirlpool. Clouds were the great cows of the sky, with full udders milked by the winds; thunder was the roar of the wild beast; lightning was the serpent darting at its prey; zoster was the snake wound round the body of its victims, and even in the highest of cultures these anthropomorphic conceptions through much reduced, still held sway over the vast number of minds. We have been able to touch only upon

certain features of Dr. Shute's paper, but are tempted to point out some of his conclusions, which, although briefly stated, are of great interest.

How can the public be safeguarded against evil suggestions in medicine, against too much reasoning by analogy about medical subjects in normal modern times, and against reversions to primitive methods of philosophizing when dealing with accident and disease? It is admitted that mental atavism must be met with just as is physical atavism, and that no justifiable faith in the future will preclude this accident. Reasoning by analogy can best be curtailed by education; not by book reading necessarily, but by fostering a spirit of rational skepticism concerning extravagant and improbable pretensions in medical affairs, especially as expounded in secular publications.

#### HYGIENIC FADS.

Though it is for the most part the fate of our domestic animals to come to a violent end, they are not troubled with forebodings of death, and it may be questioned whether, on the whole, they are not happier than man. Some of them are condemned to grievous toil, but in general they are well housed and well fed, and theirs is not the burden of anxiety. Their condition, in short, must be delightful in comparison with that of the man who is incessantly taking thought of his health and of the prolongation of his life. We all know that the number of such men is very great, and it seems to be continually on the increase. It really looks as if a large proportion of the civilized men and women of the world were allowing themselves to be transformed into hypochondriacs.

Many are the men who wear out a hand mirror in inspecting their tongue, who examine their pulse almost hourly, who take their temperature every day, and who fret about a little increase of girth. They are in a perpetual state of fidgets about their health, and their solicitude is fed by what they read in the newspapers and on the display signs with which the public conveyances are adorned, so many philanthropists are there who are ready to interpret every little irregularity of their bodily condition and put them on the high road to health and longevity. There are the numerous cereals, each of which is heralded as the one article needed to insure good digestion; there are the multifarious machines for taking the place of regular exercise; there are mysterious agencies for augmenting vitality; there are "chest protectors" and articles of apparel that one cannot do without if he would preserve his health; and there is the endless list of drugs to supplement all such appliances if not to supplant them.

Learned men there are in abundance, or men as-

suming to be learned—wise, too, above the ordinary—who write books and magazine articles setting forth the minutiae of the art of prolonging life. They are clever apostles of the plausible, and they have reduced the whole range of hygiene to a faultless system—

Till you ask with surprise why anyone dies,  
And what's the disorder that kills, my boy.

They prate of proteids and other things mystifying enough to be impressive, and they all join in the chorus "We eat too much." Many of them are champions of the "hardening" process. They tell us of lurking poisons to avoid as one would shun the wiles of Satan. A slight drawback to the amount of good that they might accomplish springs from the fact that they do not all agree, and meantime there are some of us who are rash enough to go on under the more or less complete guidance of inclination, which in the happy brutes generally answers the purpose.

#### TYPHOID FEVER TRANSMISSIBLE IN THE STAGE OF INCUBATION.

We have learned that the subjects of typhoid fever continue to excrete the germ of the disease for a long time after the actual illness has ceased. Such prolonged excretion adds materially to the difficulty of checking the spread of the infection. An additional difficulty will be encountered if certain observations reported by Dr. H. Conradi (*Deutsche medicinische Wochenschrift*, October 10, 1907; *Semaine médicale*, January 22, 1908) are confirmed. These observations are not only Conradi's own, but also those of von Drigalski, G. Mayer, Pietz, and Prigge. They find that typhoid bacilli are eliminated in the feces and urine of persons who are still apparently in perfect health and do not come down with the disease for so long a period, sometimes, as three weeks.

In an instance that came under Conradi's notice Eberth's bacillus was found in the blood of a boy, twelve years old, whose sister lay ill of typhoid fever. The girl was taken sick early in March, and on the 24th of that month, while the boy was still well, the author obtained pure cultures from his blood. Four days later the boy showed symptoms of the disease. Therefore, says Conradi, bacilli that have been swallowed are capable of multiplying and even penetrating into the circulation while yet the infection is latent, and at that period there is danger to those who are associated with the person that is about to become ill. Epidemiological observations, says the author, sustain this view, and he has recently reported three cases of the spread of infection during the period of incubation.

Evidently, then, it is not the excreta of the sick

alone that may disseminate typhoid fever, but also those of persons who, though they have been exposed to the disease, have not yet shown symptoms of it. They must all be watched, and measures should be taken to prevent their contaminating the drinking water and other articles that may be ingested by others. It will be seen that this task sensibly augments the sanitary work necessary in connection with typhoid fever. Inasmuch as individuals in the stage of incubation may still be engaged actively in their ordinary vocations and traveling perhaps for considerable distances, often into districts where they are not likely to be suspected of harboring infectious material, the difficulty of dealing with them in such a manner as to prevent their spreading the disease will at once be recognized.

#### OSZENA DERIVED FROM THE DOG.

In *La Clinique* for February 14th we are reminded by a note signed by Dr. Georges Laurens that last year, in the *Annales des maladies de l'oreille*, Dr. Perez, of Buenos Aires, expressed the opinion that ozæna, declared by Löwenberg twenty-five years ago to be contagious, might be contracted from the dog. It seems that Perez had met with twenty cases in which the disease was probably of canine origin, and he states that Löwenberg's bacillus is found in the dog, though he does not inform us that actual ozæna is observed in that animal. In view of its refractory and repulsive character, all possible pains ought to be taken to avoid ozæna, among them avoidance of the disgusting habit of allowing a dog to lick one's face. The practice is known to be dangerous in other directions than that of the risk of contracting ozæna; for example, it plays a prominent part in the conveyance of hydatid disease. Oftener than is generally supposed, the fondling of pet animals leads to infection, and it is one of the manifestations of good will toward them that should be exercised only with the greatest caution.

#### WHITE PRECIPITATE OINTMENT.

It would seem from inquiries that have lately come to our knowledge that the newer graduates of pharmacy leave school without that drilling in the smaller details of dispensing that distinguished the pharmacists of an older generation. A touchstone of the care observed by a pharmacist in the preparation of galenic compounds is the white precipitate ointment of the pharmacopœia, officially entitled *unguentum hydrargyri ammoniaci*. As prepared by different pharmacists this ointment presents varieties of appearance and consistence

and one is often tempted to ask under which standard New York pharmacists prepare the official drugs and medicines. Of course, when white precipitate ointment is asked for or prescribed, only the unguent of the pharmacopœia should be dispensed. This is a preparation consisting of equal parts of hydrous wool fat and white petrolatum medicated with ten per cent. of ammoniated mercury. Explicit directions are given in the pharmacopœia for the compounding of the ointment so as to provide a smooth, creamy salve in which the ammoniated mercury is so evenly distributed as to make the particles invisible to the naked eye. Since the eighth revision of the pharmacopœia became official we have been supplied with what was represented to be ointment of ammoniated mercury, which consisted of a coarse mixture of gritty lumps of ammoniated mercury and yellow petrolatum, and with mixtures of lard and ammoniated mercury, which in all cases showed a lack of care in preparation that was most reprehensible. Pharmacists who would be so indifferent to the requirements of the pharmacopœia would not think of the necessity of using a horn or vulcanite spatula in the preparation of a mercurial ointment, and one is justified in assuming that carelessness in one thing means carelessness in others. It is a disturbing thought for a physician, who is often compelled to depend on the professional honor of the pharmacist for the preparation of medicines in strict accordance with the rules of the apothecary's art. The ointment of ammoniated mercury is frequently prescribed in the treatment of the slight eczematous conditions which sometimes make their appearance on the margins of the eyelids in young children, as well as in adults, but good results cannot be expected with ointments which are hastily thrown together without regard to the elementary principles of pharmaceutical technique.

#### "AEROSTATHERAPY."

An enumeration of the therapeutic agencies which have been advanced for the cure of pulmonary tuberculosis would disclose a most varied series of remedial measures. Not the least novel of the list would be the suggestion recently made before the Académie des sciences by M. Christian Beck (*Bulletin médical*, 1907, p. 1054) that sanatoria be provided with tethered balloons, in which patients may be elevated to any heights desired. The arguments for such a procedure certainly have some basis in fact, for, as Beck points out, the chemical and biological purity of the air encountered at a height is far greater than can be obtained closer to the earth; the



dampness so often met with at terrestrial resorts of great altitude may be avoided, and the ascent may be varied to meet the indications for each patient. He further states that the variation in the atmospheric conditions obtained by returning to the earth each night is of actual benefit to the tuberculous patient. Of this we have some doubt. It hardly seems credible that a condition so foreign to man's normal environment and so abrupt in its application can be anything but harmful to an organism already rendered unstable by the toxins of tuberculous disease. It seems probable that M. Beck's suggestion is destined to a place among the "fads and fancies" of therapy.

### Obituary.

FRIEDRICH VON ESMARCH, M. D.,  
of Kiel, Germany,

In Kiel there recently died the well known German surgeon Friedrich von Esmarch. Born January 9, 1823, in Tönning, Schleswig-Holstein, he received his medical education at the universities of Kiel and Göttingen, and took his degree in 1848, having been assistant to von Langenbeck since 1846. In the war of independence of Schleswig-Holstein he took part, first as a line officer, later as surgeon, and was, in 1849, admitted as Privat-docent to the medical faculty of Kiel, where he in 1854 became director of the surgical clinic and three years later professor of surgery and director of the hospital. This position he held until his resignation in 1899. Von Esmarch took part in the Prussian wars of 1864, 1866, and 1870-'71. In the war against Denmark he served with the army as surgeon; in the war against Austria he acted as general superintendent of the hospitals in Berlin; and during the Franco-Prussian war he filled the office of general surgeon.

Von Esmarch's scientific researches were especially directed to military surgery, to which branch he made many valuable contributions. But he is best known as the author of Esmarch's band, a description of which he made public for the first time in 1873 at the congress of the German Surgical Society (Volkman's *Sammlung Klinischer Vorträge*, No. 58).

His son by his first marriage is Edwin von Esmarch, since 1899 professor of hygiene in the University of Göttingen. In 1872 von Esmarch married Henriette, princess of Schleswig-Holstein-Sonderburg-Augustenburg, aunt of the present Emperor of Germany. In 1887 he was knighted, and in 1899 he occupied the title of *Baron*.

### News Items.

**Changes of Address.**—Dr. Ralph Francis Ward, to 205 West One Hundred and First street, New York.

**University of Michigan.**—A chapter of the honorary fraternity Alpha Omega Alpha has just been established in this university.

**A New Psychoneurological Institute** was recently opened in St. Petersburg. It is under the direction of Professor Bechterev.

**The Tristate Medical Society**, of Virginia and the Carolinas, held its tenth annual meeting in Charlotte, N. C., on February 18th and 19th.

**Iowa State Board of Health.**—Governor Cummins has appointed Dr. Albert De Bey, of Orange City, Sioux County, to membership on the board, to succeed Dr. F. W. Powers, of Waterloo, who retired from office on February 1st.

**Philadelphia County Medical Society.**—At a special election, which was held on February 12th to fill vacancies due to resignation, Dr. Jay F. Schamberg was elected fifth vice president, and Dr. S. W. Gadd, sixth vice president of this society.

**A Contribution to the Robert Koch Institute Fund.**—It is reported that Mr. Andrew Carnegie has contributed \$100,000 to the fund for the founding of an institute in honor of Dr. Robert Koch, to be devoted to research work in tuberculosis.

**The Philadelphia College of Pharmacy** held a pharmaceutical meeting on Tuesday evening, February 18th. Dr. Anna S. Kugler, a medical missionary from India, addressed the meeting. Her subject was *The Native Practice of Medicine and Pharmacy in India*.

**Buffalo Academy of Medicine.**—The regular meeting of the Section in Obstetrics and Gynecology was held on Tuesday evening, February 25th. The programme included a paper by Dr. Sigmond Goldberg on *The Danger of Operating in Acute Pelvic Conditions*.

**A Hospital for Consumptives at Albuquerque.**—It is reported that the Presbyterian Church of the United States will build in Albuquerque, New Mexico, a large hospital for the treatment of consumption, at a cost of about \$1,000,000. Albuquerque has donated the site for the institution.

**The Floyd County, Ga., Medical Society** held its regular monthly meeting in Rome on Saturday, February 22d. Papers were read by Dr. James P. Ballenger, of Crystal Springs, and Dr. W. L. Funkhouser, of Rome, the subject of Dr. Funkhouser's paper being *Medical Ethics*.

**Contagious Disease in Chicago.**—The Bureau of Contagious Diseases received notification of 470 cases of communicable diseases during the week ending February 15, 1908, which was an increase of seventeen over the previous week, but twenty-seven less than the corresponding week in 1907.

**The Medical Alumni of the University of Pennsylvania** held their annual banquet at the Bellevue-Stratford Hotel on Thursday evening, February 20th. Dr. George A. Piersol acted as toastmaster. Dr. S. Weir Mitchell, Dr. Barton Cooke Hirst, and Dr. Charles L. Dana responded to toasts.

**White River, Vt., Medical Association.**—A regular meeting of this association will be held at White River Junction on Wednesday, March 4th, at 1:30 o'clock. The programme will include an address on the Use of the Biograph in Epilepsy, by Dr. Walker G. Chase, of Boston. The lecture will be illustrated with biograph pictures.

**University of Wisconsin.**—Dr. Arthur S. Loewenhardt, of Johns Hopkins University, has been appointed professor of pharmacology and toxicology at the recently established college of medicine at the University of Wisconsin, and Dr. Charles H. Bunting, of the University of Virginia, has been appointed to the chair of pathology.

**Personal.**—Dr. Robert Koch expects to visit the United States some time this spring. It is his intention to take a rest for a year, and consequently has refused all invitations to lecture while here.

Dr. C. M. Pearce, of Sumpter, Ore., is registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

**New Buildings for State Institutions in Minnesota.**—Contracts have been awarded by the Minnesota State Board of Control for the following new buildings for State Institutions: An addition to the main building of the Rochester State Hospital, to be known as Ward C; a contagious hospital building at the Fergus Falls State Hospital; and a tuberculosis hospital building at the St. Peter's State Hospital.

**Medical Inspection of Schools in Chicago.**—During the week ending February 15, 1908, the medical inspectors of schools examined 7,166 school children, excluding 233 from attendance. Twenty-five were excluded because of measles, 10 for scarlet fever, 26 for chickenpox, 7 for mumps, 1 for tuberculosis, 2 for diphtheria, and 2 for whooping cough.

**Richmond, Va., Academy of Medicine and Surgery.**—A regular meeting of this academy was held on Tuesday evening, February 25th. Dr. F. M. Reade read a paper on the Therapeutics of the Salts of Salicylic Acid, which was discussed by Dr. William S. Gordon, and a paper on the Sequelæ of Gripe was read by Dr. T. A. Parker and discussed by Dr. M. D. Hoge, Jr.

**Ventilation of the New York Subway.**—A bill has been introduced in the Legislature by Assemblyman Egleton which will give the Board of Health of New York City authority to compel a proper ventilation of the subway. The bill empowers the board to prescribe rules and provides for a penalty of \$250 a day for neglect to comply with the orders of the board.

**The Triprofessional Medical Society of New York** held a stated meeting on Tuesday evening, February 25th. Dr. Ferdinand C. Valette read a paper on the Treatment of Chronic Gonorrhœa, which was discussed by Dr. Boleslaw Lapowski, Dr. Ramon Guiteras, Dr. George K. Swinburne, Dr. G. Morgan Muren, and others. Dr. Charles E. Panoff read a paper on Epididymitis with a New Supporting Dressing, which was followed by a general discussion.

**The Mortality of Baltimore.**—The report of the Department of Health shows that during the week ending February 22, 1908, there were 204 deaths from all causes, as compared with 211 for the corresponding week in 1907. The principal causes of death were: Typhoid fever, 1; scarlet fever, 3; whooping cough, 1; influenza, 3; consumption, 24; apoplexy, 8; pneumonia, 27; organic heart diseases, 13; Bright's disease, 18; congenital debility, 14; old age, 8; accidents, etc., 11.

**The Medical Society of the District of Columbia** held a meeting on Wednesday evening, February 19th. The general topic for discussion was Typhoid Fever, its Causes and Prevention. Dr. G. Lloyd Magruder read a paper reviewing the various campaigns against typhoid fever and the work that had been accomplished by the milk commission. Among those who took part in the discussion were Dr. H. W. Wiley, Dr. M. J. Rosenau, Dr. B. M. Bolton, Dr. Sternberg, Dr. Woodward, Dr. Kober, and Professor C. E. Lane.

**The Pathological Society of Philadelphia** held a stated meeting on Thursday, February 27th. Dr. W. M. L. Coplin read a paper entitled Further Remarks on the Bundle of His, Studied Immediately after Death. Dr. Howard T. Karsner read a paper on Whole and Differential Leucocyte Counts Before and After Anesthetic Administration. Dr. George Foster read, by invitation, a paper entitled A Study of the Hemorrhagic Diathesis in Leukæmia and Erythræmia. A number of short communications were also read.

**The Manhattan Medical Society** held a stated meeting on Friday evening, February 28th. The program consisted of the report of a case of Acute Cholecystitis by Dr. F. L. Cullen, a paper on A Case of Intestinal Obstruction of the Intermittent and Abusive Treatment, by Dr. William C. Brown, and a paper on The True Value of Cambridge's Reaction in the Recognition of Pancreatic Disease, by Dr. Herman Stern. After the reading of papers, a clinical conference was held on the following subjects: Histology, etc.

**A New Anticocaine Measure for Massachusetts** has been proposed by the State Board of Health. The board has appointed a committee to study the question of the use of cocaine in the treatment of the nose. Dr. H. W. Wiley, Dr. M. J. Rosenau, Dr. B. M. Bolton, Dr. Sternberg, Dr. Woodward, Dr. Kober, and Professor C. E. Lane.

he had had numerous complaints from all quarters regarding the illicit sale of cocaine, and that the enactment of some very stringent restrictive legislation was necessary to protect the public. He said that the cocaine was sold mainly in the form of catarrh powders.

**The Maine Association for the Study and Prevention of Tuberculosis**, which has for its object investigation into the prevalence of tuberculosis in the State of Maine, and the dissemination of knowledge concerning the causes, treatment, and prevention of the disease, has just been organized. The officers of the association are as follows: President, Dr. Stephen H. Weeks; first vice president, Dr. Seth C. Gordon; second vice president, Mr. Adam P. Leighton; secretary, Mr. Nathan Clifford; treasurer, Dr. Irving E. Kimball.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending February 15, 1908, there were during the week 699 deaths from all causes, as compared with 698 for the corresponding week in 1907. The annual death rate was 16.83 in 1,000 of population. The principal causes of death were: Apoplexy, 15; Bright's disease, 42; bronchitis, 25; consumption, 66; cancer, 24; convulsions, 2; diphtheria, 11; heart diseases, 48; influenza, 27; intestinal diseases, acute, 13; measles, 4; nervous diseases, 22; pneumonia, 144; scarlet fever, 12; suicide, 14; typhoid fever, 5; violence, other than suicide, 28; whooping cough, 4; all other causes, 163.

**Changes in the Bureau of Health of Philadelphia.**—Dr. Seth M. Brumm has been appointed assistant medical inspector, Dr. J. Earl Ash has been appointed first assistant resident physician, Dr. Edward T. Clement has been appointed second assistant resident physician, and Dr. John T. Adlyote has been appointed third assistant resident physician at the Municipal Hospital. Dr. J. Roy McKnight and Dr. Charles J. Swalm have been appointed resident physicians at the Municipal Hospital. Dr. Henry D. Jump has been appointed registrar at the Philadelphia Hospital. Dr. Charles S. Potts has been made a member of the advisory board of the Philadelphia Hospital, Department for the Insane.

**Rochester, N. Y., Academy of Medicine.**—The regular meeting of the Section in Public Health, which includes hygiene, climatology, physiology, pathology, bacteriology, and forensic medicine, was held on Wednesday, February 26th. The programme for the evening consisted of a symposium on The Systematic Examination and Treatment of Children at First Principle in Maintaining a High Standard of Public Health and Efficiency. Dr. Albert C. Snell read a paper on Ocular Defects, and Dr. Nathan Davis McDowell read a paper which dealt with Ear, Nose, and Throat Defects. Dr. S. H. Rosenthal read a paper on General Functional and Physical Defects, and Dr. George W. Goler delivered an address on School Inspection.

**A Fellowship in Pathology at Mount Sinai Hospital.**—It is announced that the George Blumenthal, Jr., Fellowship in Pathology has been established at Mount Sinai Hospital, New York. The object of the fellowship is to aid those who are anxious to obtain a laboratory training and to further the scientific work of Mount Sinai Hospital, the work under the fellowship being carried on in the hospital or elsewhere under the direction of the pathologist. All graduates in medicine are eligible. The stipend is \$500 per annum, the term is one year, and the fellowship cannot be held more than twice by the same person. Applications should be sent to Dr. F. S. Mandlebaum, pathologist, Mount Sinai Hospital, New York.

**Medical Association of the Greater City of New York.**—A general meeting of this association was held at the Imperial, 360 Fulton street, Brooklyn, on Monday, March 2d, at 8:30 p. m., under the direction of the association for the year 1908. Dr. J. Van Gieson will read a paper on the Comparative Therapeutic Value of the Compounds of Iron, which will be followed by Dr. K. A. Wiley, Dr. W. W. Dr. William C. Brown, Dr. H. W. Wiley, Dr. M. J. Rosenau, Dr. B. M. Bolton, Dr. Sternberg, Dr. Woodward, Dr. Kober, and Professor C. E. Lane. Dr. H. W. Wiley, Dr. M. J. Rosenau, Dr. B. M. Bolton, Dr. Sternberg, Dr. Woodward, Dr. Kober, and Professor C. E. Lane.

**Barnes University Merged in the Missouri State University.**—Deeds have been filed by the trustees of Barnes University, St. Louis, conveying the buildings and grounds of that institution, at Garrison and Lawton avenues, to the Missouri State University. The Centenary Hospital has already been transferred to the State. The property is valued at \$250,000 and is free from debt. It is understood that the medical department of the State University will be transferred from Columbia to St. Louis and will occupy the buildings of the Barnes University. The selection of the faculty for the enlarged institution is entirely in the hands of the board of trustees of the State University. It is reported that the medical faculty will be increased from forty-two to ninety members.

**Cornell University Hospital for Cats and Dogs.**—This new institution, which is situated in East Twenty-sixth street, is an absolutely free hospital and dispensary for the treatment of the diseases and injuries of pet animals. The hospital has three floors, and is provided with reception rooms, isolation wards for contagious cases, a general ward, a kitchen, a bathroom, and a large well lighted operating room, equipped with the latest devices in sterilizing apparatus and surgical instruments. Dr. Frederick Gwyer, professor of operative surgery in Cornell University Medical College, is at the head of the hospital staff, and associated with him, as principal assistant, is Dr. Thomas C. Sherwood, a member of the Royal College of Veterinary Surgeons.

**Medical Society of the County of Ulster, N. Y.**—The February meeting of this society was held in Kingston on Saturday evening, February 15th. Dr. Frederick C. Curtis, of Albany, delivered an address on the Diagnosis of Smallpox, which was illustrated by lantern slides. Dr. H. D. Pease, director of the State Hygienic Laboratory, delivered a lecture on Vaccines and Vaccination, which he illustrated by means of lantern slides. Dr. Joseph D. Craig, health officer of Albany, spoke on the subject of the Management of Smallpox Outbreaks. The officers of the society are as follows: President, Dr. Aden C. Gates, of Kingston; vice president, Dr. Thomas Keator, of Accord; secretary, Dr. Mary Gage-Day, of Kingston; and treasurer, Dr. Elbert H. Loughran, of Kingston.

**Scientific Society Meetings in Philadelphia for the Week Ending, March 7, 1908.**—*Monday, March 2d,* Philadelphia Academy of Surgery; Biological and Microscopical Section, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society. *Tuesday, March 3d,* Academy of Natural Sciences; Philadelphia Medical Examiners' Association. *Wednesday, March 4th,* College of Physicians; Association of Clinical Assistants of Wills Hospital. *Thursday, March 5th,* Obstetrical Society; Medical Society of the Southern Dispensary; Section Meeting, Franklin Institute; Germantown Branch, Philadelphia County Medical Society. *Friday, March 6th,* American Philosophical Society; Kensington Branch, Philadelphia County Medical Society.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending February 22, 1908:

	Children		Adults	
	Cases	Deaths	Cases	Deaths
Typhoid fever	210	7	75	11
Dysentery	21	0	10	0
Scarlet fever	4	0	1	0
Measles	113	0	18	0
Smallpox	4	0	0	0
Typhoid fever	26	5	33	4

#### Lectures at the New York Skin and Cancer Hospital.

—It is announced by the governors of the New York Skin and Cancer Hospital, Second avenue and Nineteenth street, that a series of lectures, which will be free to the medical profession, will be given in the out patient hall of the hospital. The first lecture will be given on Wednesday afternoon until April 15th Dr. Bulkley will deliver a clinical

lecture on diseases of the skin. On April 22d Dr. William Seaman Bainbridge will deliver an address on the Treatment of Unremovable Cancer, with exhibition of cases.

**Charitable Bequests.**—By the will of Loyal L. Smith the Champlain Valley Hospital, Plattsburg, N. Y., receives \$225,000.

By the will of Mrs. Amy Richmond Sheldon the Newport, R. I., Hospital receives \$5,000.

By the will of Levi Schilling the Mount Zion Hospital, San Francisco, Cal., receives \$5,000.

By the will of Mrs. Charlotte Budde, Cincinnati, Ohio, the German Deaconess Hospital receives \$200 and St. Mary's Hospital \$100.

By the will of Mrs. Caroline B. Sears the Industrial School for Crippled Children, Boston, will receive \$1,000; \$200,000 will be divided among various institutions which are to be selected, and the Boston Lying-In Hospital will receive \$80,000. All of these bequests are conditional on the death of the husband without issue surviving.

**A New Chemistry Building for the University of Michigan.**—At the January meeting of the Board of Regents of the University of Michigan, architects were authorized to draw up plans and specifications for a new chemistry building, which will include two large laboratories for general chemistry, two large laboratories for qualitative analysis, one for advanced general chemistry, one for beginning quantitative analysis, one for advanced quantitative analysis, one for beginning organic chemistry, and one for pharmaceutical chemistry, with smaller laboratories for advanced and special work, and private laboratories for the instructing staff. In addition to the laboratories there will be one large lecture amphitheatre and three smaller ones. The total cost will be about \$275,000, and it is hoped that the building will be completed by October 1, 1909.

**The Health of Philadelphia.**—During the week ending February 1, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Typhoid fever, 142 cases, 16 deaths; scarlet fever, 63 cases, 3 deaths; chickenpox, 29 cases, 0 deaths; diphtheria, 76 cases, 13 deaths; cerebrospinal meningitis, 2 cases, 0 deaths; measles, 142 cases, 3 deaths; whooping cough, 31 cases, 3 deaths; pulmonary tuberculosis, 121 cases, 62 deaths; pneumonia, 99 cases, 71 deaths; erysipelas, 13 cases, 5 deaths; puerperal fever, 4 cases, 3 deaths; mumps, 19 cases, 0 deaths; cancer, 17 cases, 26 deaths; tetanus, 1 case, 0 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 7; diarrhoea and enteritis, under two years of age, 9. The total deaths numbered 542 in an estimated population of 1,532,738, corresponding to an annual death rate of 18.31 in 1,000 of population. The total infant mortality was 116; under one year of age, 94; between one and two years of age, 22. There were 41 still births—22 males and 19 females.

#### Society Meetings for the Coming Week:

**MONDAY, March 2d.**—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

**TUESDAY, March 3d.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Medical Association of Troy and Vicinity; Hornellsville, N. Y., Medical and Surgical Association; Long Island, N. Y., Medical Society; Bridgeport, Conn., Medical Association.

**WEDNESDAY, March 4th.**—Society of Alumni of Bellevue Hospital; Harlem Medical Association, New York; Elmira, N. Y., Academy of Medicine; Psychiatric Society of New York.

**THURSDAY, March 5th.**—New York Academy of Medicine; Dansville, N. Y., Medical Association.

**FRIDAY, March 6th.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn, N. Y.; Manhattan Clinical Society, New York; Practitioners' Society of New York.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

February 20, 1908.

1. Pendulum Apparatus and an Apparatus for Rotary Correction in Curvature of the Spine,  
By ROBERT SOUTTER.
2. Mathapan Day Lamp,  
By DAVID TOWNSEND.
3. A Diabetic Chart,  
By ELLIOTT P. JOSLIN and HARRY W. GOODALL.
4. The Best Things in Therapeutics,  
By GUSTAVUS ELIOT.
5. Kallak; an Endemic Pustular Dermatitis,  
By JOHN M. LITTLE.

#### 1. Pendulum Apparatus and an Apparatus for Rotary Correction in Curvature of the Spine.—

Soutter describes two such apparatus; the first one he has used for five years, and is adapted to increasing the flexibility of the spine laterally at any level by the pendulum motion of the lower spine, while the upper is held stationary, or of the upper spine while the lower is held stationary. The amount of motion can be limited by weights, and the amount of force to obtain flexibility can be lessened or increased. This apparatus consists of a rectangular frame swung at the middle, inside of which are two half frames, one swinging above and the other below, from a point at the middle of the first frame. The first frame can be allowed to swing while the lower inside frame is made stationary, or the first frame may be fastened and the lower half frame allowed to swing. In this way the upper segment can swing and the lower remain stationary or *vice versa*. The upper half frame is used in connection with the large or lower half frame or for the application of pressure pads or straps. It can be placed in any position desired, and pressure pads and rests can be applied at any level to localize or limit the motion. It is useful in cases with bony changes, as well as in cases where the deformity is limited to the soft parts. In simple curves and round shoulders it has been extremely satisfactory. In curvature of the spine a twist or rotation is almost always present in all cases to a more or less degree. In advanced cases the twist is very marked, and in a compound curve it may be on both sides of the spine at the convexity of each curve. The application of side pressure to correct the curvature, if not carefully applied, will often increase the rotation. This apparatus has been devised so that the amount of rotation of the spine may be increased or diminished to the right or to the left and at the desired level. Both pressure correction and active or passive rotary movement can be utilized in the treatment. This can be done with the shoulders level, inclined, displaced laterally, or with the pelvis tilted at any angle so that the patient may be placed in as advantageous a position as possible and the corrective stretching applied. The patient is placed in position and immobilized up to the point where the twist is desired. The twist may be limited to the right or to the left, or the amount of rotation limited in either direction. By a rotary motion the lumbar space can be treated, and the muscles going to the lumbar region strengthened or stretched. The second apparatus consists of a base and a flexible inclined

which twists on the base. The motion is regulated by weights and pulleys attached to the arms. The base is narrower towards the front and broader towards the back to allow for the rotation of the arms. The seat teeters on a pivot until the side of the rectangular frame touches the side of the upper half frame. Blocks keep the rectangular frame steady when the rotary motion is being used. Should it be advisable to increase flexibility to one side, one block only may be inserted. Should resistance to lateral motion be needed in order to increase the muscular work, weights are attached to hooks below the seat of the rectangular frame.

4. The Best Things in Therapeutics.—Eliot gives the following drugs as of greatest value, both to the practitioner and to the patient: 1, Mercury in syphilis; 2, the salicylates in rheumatism; 3, quinine in malarial affections; 4, antitoxine serum in diphtheria; 5, aconite in the fever of acute diseases; 6, digitalis in chronic heart disease; 7, alcohol in cardiac weakness of acute disease; 8, ergot in uterine and pulmonary hæmorrhage; 9, creosote in diseases of the respiratory organs; and 10, the bromides in nervousness.

5. Kallak.—Little describes a very frequent skin disease, endemic pustular dermatitis, so prevalent among the Eskimos, and which was seen at the Moravian mission stations at Makkovic, Hopedale, Nain, Okak, and Ramah on the East Labrador coast, and at Killinek, Ungava Bay. When the Moravians translated the Bible into the Eskimo language, they had great difficulty in finding equivalents for many words. Leprosy was one of these. They had to find some word which would be understood by the Eskimo to represent a contagious, disfiguring, chronic disease, and they chose the word kallak, which was the Eskimo word for the disease described by Little. Broadly translated, it means skin disease. The missionaries thought this disease was scabies, so that to-day in the Eskimo-English-German dictionary Kallak equals Leprosy, scabies, skin disease, but as ordinarily used, it means the one definite thing, the pustular dermatitis, so common among, and peculiar to, the Eskimo. It is not a disease caused by dirt, but it is peculiar to the Eskimo, and never appears in the foreigner. The main symptom is the itching, and it appears as an eruption in the dorsal surfaces of the hands and feet, and the upper and under surfaces of the fingers and toes. At first vesicular, it almost immediately becomes pustular. In fact, the vesicular stage is seldom seen. The pustules, of various sizes from a pin head to a ten cent piece, are not surrounded by the inflammatory zone which one would expect. With the appearance of the eruption, the feelings of malaise disappear, which preceded the period of eruption, but intense itching supervenes. The pustules then appear in different groups in order, on the elbows, arms, and hands. From these centres it spreads. This spreading is independent of scratching, and takes place when the part is carefully protected and treated with antiseptics. Generally, however, the scratching and rubbing soothe or soothes a generalized itching. The eruption is limited, bleeding takes place, crabs and scabs appear. It is however, usually cured by eruption, and never becomes

Its course is very protracted, and thickening and discoloration of the skin appear. The disease may disappear, only to break out again on cessation of treatment. There is no inflammatory area around the lesions, and they are not painful except upon the buttock, and where a secondary infection has taken place. Whole houses, and even communities of Eskimos are affected at a time. The only facts that seem to have a bearing etiologically are that while it may occur at any time of the year, if they have plenty of seal flesh to eat they do not have kallak. Most of the cases, as well as the worst cases, and the epidemics, occur in the autumn after they have been living almost exclusively on a fish diet, and especially after a failure of the berry crops. No special microorganism is found in connection with the eruption, nor does it act like an autoinoculative process, such as impetigo contagiosa. The author believes it to be a symptomatic reaction to some toxine elaborated on account of the Eskimo diet, perhaps influenced by his known susceptibility to suppurative and epidemics of all kinds. As to treatment, the Eskimos themselves were accustomed to apply seal oil on rags without much effect. Dr. Hutton has found the best treatment to be the addition of seal meat and berries to the diet, the application of protective dressings, with a lotion of lead subacetate, one part in 300, and on adults in the later stages an ointment of zinc oxide and tar.

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 22, 1908.

1. Operative Treatment of Cancer of the Rectum,  
By EDWARD ARCHIBALD.
  2. The Magnesite Splint. A New Surgical Dressing,  
By RAYMOND RUSS.
  3. The Value of an Absolutely Vegetarian Diet in Psoriasis,  
By L. DUNCAN BUCKLEY.
  4. Atypical Typhoid Fever; Its Part in Preventive Medicine, and Its Distinctive Diagnosis from Estivo-autumnal Malaria,  
By JOHN PELHAM BATES.
  5. Observations on the Failure of the Radial Pulse When the Arms Are Elevated,  
By HENRY SEWALL.
  6. Final Results of Conservative Surgery of the Tubes and Ovaries,  
By ABRAM BROTHERS.
  7. Report of One Hundred and Seven Cases of Cancer Treated with Röntgen Ray, with Comments Thereon,  
By ENNON G. WILLIAMS.
3. **The Value of an Absolutely Vegetarian Diet in Psoriasis.**—Buckley has used for a number of years an absolute vegetarian diet, only allowing butter, but not milk, as treatment for patients suffering with psoriasis. The effect of this cutting off the supply of animal nitrogenous food has been very remarkable and striking in many instances (a considerable amount of nitrogen is still supplied by certain vegetables, as the legumes and oatmeal). Patients continually notice the change in the color and character of the eruption, it paling and becoming less scaly, and even entirely disappearing in some weeks, with absolutely no local treatment. In a number of instances this diet has been given to patients who had long been under his care, even for years previously, and thus they were well able to judge of the result of this radical change in the mode of life, and have watched with great interest the often rapid improvement in the eruption, under precisely the same treatment as before. This treatment has been given to patients at all periods of life, from nine to seventy-

eight years of age, and has been carried out with varying degrees of fidelity. The note has been repeatedly made that when there has been a neglect of the dietary element there has been a recurrence of the eruption, which again yielded rapidly when stringent measures were enforced. On the other hand, there have been a number of patients who have faithfully pursued this plan of treatment, in whom a long existing psoriasis has remained absent, and who, having become accustomed to the diet, say that they have lost the desire for animal food and will not touch it again. In conclusion, the author states that, while he advises an absolutely vegetarian diet in psoriasis, he believes that it has its limitations, and must be directed with care and intelligence; but that in proper cases it can control the eruption and prevent its recurrence. But patients with this eruption at times will require in addition the most varied treatment, internal and external, in order to accomplish the quickest and best results. How internal remedies act can not yet be fully stated, but in the light of our present study they probably have their action in improving the metabolism of nitrogenous substances.

6. **Final Results of Conservative Surgery of the Tubes and Ovaries.**—Brothers describes his personal experience with conservative surgery of the ovaries and tubes. He states that he has had only one death out of 160 such cases. In ovarian surgery cystic ovaries afford an opportunity for conservatism, while ovaries that have undergone fibroid degeneration are seldom amenable to conservative surgery. Ovaries in juxtaposition with pus tubes or purulent pelvic collections can safely be left undisturbed, or may be subjected to partial excision. These ovaries, if not the seat of the abscess at the time of operation, seldom give rise to trouble later. The desirability of applying conservative surgery to pus tubes is open to question in his mind. He is in favor of total and complete ablation of pus tubes down to the horn of the uterus. Experience with secondary operation for infected stumps has driven him to this position. Brothers describes plastic work on the tubes, mentioning also the excision of the tubes for the purpose of inducing sterility, where he has never seen a new connection formed to permit of the union of an ovum with a spermatozoon. Speaking of pelvic peritoneal adhesions with considerable risk of injuring the annexa, tubes, or ovaries in plastic operations, he says it is wiser to proceed with their complete extirpation, as the retention of such mutilated or damaged annexa only too often threatens the ultimate comfort and health of the patient, and leads to secondary operations for their final removal. The author divides his cases in three groups: In group 1 (conservative work in twenty-six patients on the Fallopian tubes) he has noted unsatisfactory results in two cases. One of these patients a year later was suffering from a pelvic inflammatory mass which could be distinctly felt. In the second case the patient required a secondary laparotomy for the removal of an infected stump left after the first operation. One of the patients in this series of cases died suddenly of a cancer of the rectum, which does not reflect on the propriety of the operation previously done by him. In group 2 (conservative work on forty-four patients in the ovaries)

six patients had good reason to complain of postoperative suffering. A distinct pelvic mass was present in one case and a secondary operation was required in another. In group 3 (conservative work in ninety patients with adhesions of tuboovarian disease) he has notes of seven unsatisfactory results. In three cases of this group the patients presented pelvic inflammatory masses, subsequent to operation, which caused much suffering. Four patients required secondary operations. Although the total number of secondary operations done in his cases after conservative surgery amounts to only six cases, he readily concedes that this figure is contestable on the ground that he has lost sight of a certain number of his patients after they left the hospital. Some of these patients possibly required secondary operations elsewhere at some subsequent period. As six patients required secondary operations in the cases which he was able to follow it may be fairly assumed that six others were submitted to similar operations in the other half lost from view. Thus he infers that the maximum necessity for secondary operations after conservative annexal surgery does not exceed 7 per cent. He estimates the postoperative morbidity after conservative surgery of the annexa to be about 23.5 per cent.

#### MEDICAL RECORD.

February 22, 1908.

1. Some Notes on the Ætiology, Prophylaxis, and Therapeutics of Laryngeal Tuberculosis. Including Some Clinical Experiments with Bier's Congestive Hyperemic Treatment,

By S. ADOLPHUS KNOPF and ARTHUR J. HUEY.

2. Urticaria, By EDWARD B. FINCH.

3. Cystitis in Women. With Report of Forty-five Cases. Studied Cystoscopically and Some Modifications of Treatment, By ELLICE McDONALD.

4. The Physical Signs of Incipient Pulmonary Tuberculosis, By ABRIEL ABRAMS.

5. Carcinoma of the Right Nasal Cavity and of the Antrum of Highmore, By LOUIS KLEMPNER.

6. Sudden Death in Pneumonia. Its Cause and Prophylaxis, By W. PARKER WORSTER.

**1. Laryngeal Tuberculosis.**—Knopf and Huey describe Kuhn's lung section mask, based on Bier's original idea of having the patient inhale in a slightly obstructed manner, so as to produce negative pressure in the thoracic cavity. The authors have studied the results produced by this mask. They selected six cases of laryngeal tuberculosis from the various wards in their service at the Riverside Sanatorium. On reexamination after the first application of the mask they noted that a marked congestion was produced in all the mucous membranes of the upper respiratory tract. This was especially noticeable in the membrane of the soft palate and epiglottis due to the usual pale character of the membrane in these parts. The atonic membrane, characteristic of such cases, was covered after treatment with a network of small dilated venules, proving conclusively the utility of the mask to produce the desired venous hyperemia. With this encouraging beginning the masks were worn fifteen minutes three times daily, and examinations made from time to time to discover any change in the pathological condition of the larynx. After a few days the congestion of the membranes became more or less permanent, lasting over from one treatment to another, the mucous membranes losing their

characteristic pallor. The cases ranged from the mildest with only slight infiltration of the cords and arytenoids with impairment of motion to the severest type with extensive ulceration, and in one case perichondritis and external abscess. During the application of the mask very little discomfort was experienced by the patients, consisting of slight dizziness and feeling of oppression. This became less as the patients became accustomed to the treatment. In one case complicated with chronic otitis media with tinnitus, the dizziness became so severe as to interfere with the regularity of the treatment. This was especially true in heavy, stormy weather. During the two months of treatment all the cases but one showed some improvement. In the cases of infiltration without ulceration the improvement was mainly symptomatic, the hoarseness and discomfort being relieved without any noticeable change in pathological lesion. Where ulceration existed the ulcer showed healthier, redder granulations covered by far less secretion than formerly.

**5. Carcinoma of the Right Nasal Cavity and of the Antrum of Highmore.**—Klempner describes such a case. The patient was operated upon by the author according to Denker's method. A horizontal incision in the mucous membrane of the anterior wall of the right superior maxilla was made, beginning half an inch to the left of the frenum above the sockets of the teeth, and enlarged upwards to the apertura pyriformis and outwards to the last tooth. It became evident that destruction had already taken place of the periosteum and bony wall in the fossa canina, the size of a quarter of a dollar, through which opening the tumor was bulging. The soft parts were pushed back upwards to the lowest margin of the orbit and inwards, until the lateral and lower margins of the apertura pyriformis were laid open. The whole anterior wall of the antrum and the growth which filled it were then removed. The interior wall of the antrum was also in great part destroyed by the tumor in the region of the middle turbinated bone. The mucous membrane of the lateral nasal wall was separated from the bone below the inferior turbinated, and the whole interior bony wall of the antrum removed from the apertura pyriformis, as well as the inferior turbinated. Then followed the resection of the middle turbinated, the removal of the tumor masses from the nasal cavity and the nasopharynx, the removal of all the ethmoidal cells, which were almost destroyed by the growth. The frontal and sphenoidal cavities were not affected. The loosened mucous membrane of the lateral wall of the nasal cavity was used to cover the floor of the antrum, and the so formed single big cavity was filled with iodoform gauze. The wound of the mouth was then closed. The after treatment was carried out through the nose. The course after the operation was very satisfactory. The highest temperature was 101°, on the third day. On the fourth day the packing was removed and not renewed; on the sixth day the sinuses were removed, the wound of the mouth healed without complication. After ten days the patient left the hospital. Four months later there was no sign of recurrence.

**6. Sudden Death in Pneumonia.**—Worster discusses cold application in severe cases of influenza.



in pneumonia. He says that the excitation of cold is the most powerful and energetic agent for combating such collapse and can be accomplished in the following manner: A bathtub of water at 100° F. to extend just above the patient's hips is prepared and the patient placed in it or held in a semirecumbent position, and several basins of water at 60° or lower, as the case may indicate, are poured over his shoulders, chest, and back, the operator standing on a chair and holding the water as high as possible so as to get the required force. Such a procedure, if the patient is unconscious or delirious, will often arouse him to consciousness and brighten his eye, and his countenance will wake up from its apathetic appearance, his shallow respiration will become deeper, and the excitation of the cold upon his bronchial tubes will cause him to cough and expectorate and free them from mucus and his air cells from threatened hypostasis, his cyanosed and marble skin will become ruddier, the capillary circulation will be reestablished, and the heart will gain in force and diminish in frequency. This procedure will positively change the whole aspect of the case, and perhaps only one application will suffice to save the life of that patient.

## BRITISH MEDICAL JOURNAL.

February 8, 1908.

1. Clinical Remarks on the Symptoms, Diagnosis, and Treatment of Tubal Gestation in the Early Weeks.  
By W. TATE.
2. A Case of Ruptured Ectopic Gestation Occurring in a Rudimentary Horn of a Uterus Bicornis Unicollis.  
By H. T. HICKS.
3. Rigor Mortis in the Stillborn.  
By C. H. W. PARKINSON.
4. On the Use of Chemicals in Aseptic Surgery.  
By C. B. LOCKWOOD.
5. On Splenomedullary Leucæmia and Splenic Anæmia (Banti's Disease).  
By J. G. TAYLOR.
6. Some Experiences in the Testing of Tincture of Digitalis.  
By S. C. M. SOWTON.
7. On Migraine.  
By T. H. B. DOBSON.
8. The Removal of Foreign Bodies from the Air and Food Passages.  
By D. R. PATERSON.

1. **Tubal Gestation.**—Tate states that the group of symptoms which can be described as typical of this complaint are as follows: The patient, who has missed one or two periods, is suddenly seized with severe pain in the lower part of the abdomen, which may be accompanied by some faintness, and is followed by a hæmorrhagic vaginal discharge. The patient probably goes to bed, but, as the pain soon subsides, she may get up in a day or two feeling fairly well. Soon after getting about again she has a second more severe attack of pain, with signs of faintness, and the nature of the case becomes evident. These cases may be divided into two classes: 1. Acute fulminating cases, in which the patient, without any premonitory symptom, is suddenly seized with acute abdominal pain, accompanied by faintness and collapse, together with vomiting. In this class there is a large effusion of blood into the general peritoneal cavity. 2. The more common variety, in which the patient has an attack of abdominal pain, possibly preceded by some irregular hæmorrhage; there may or may not be a little faintness at the time. These symptoms, however, subside, though the patient is probably pregnant, and

within a few days, or possibly a week or two, the patient has a more severe attack, in which the symptoms of internal bleeding may become more marked. The physical signs met with in cases of tubal pregnancy depend on the amount of hæmorrhage and the rapidity with which the bleeding occurs. Treatment depends upon the conditions present in each individual case. In the first class—the fulminating variety, where the patient is collapsed and the pelvis and lower abdomen is full of blood—immediate operation should be advised in order to save the patient from the risk of further bleeding. It may be contended that operating on a patient collapsed from hæmorrhage is a very serious undertaking; but as a rule at the time the patient is seen the hæmorrhage has ceased, and if it has not ceased there is all the more reason for not delaying operation. The operation undertaken at this period is exceedingly simple, and takes but a short time. In the second class, where the patient is not seen till a pelvic hæmatocele has formed, the treatment, to a certain extent, depends on the time that has elapsed between the severe attack of pain and the examination of the patient. If as long as ten days, the patient having been free from pain, an expectant treatment can be safely advised. In the third class, where the patient has repeated attacks of pain, together with irregular hæmorrhage, and a unilateral swelling is found in the situation of the tube and ovary, operation is always advisable. Operative treatment is indicated in those cases where the hæmorrhage is moderate or severe and of recent origin, and also where the symptoms and physical signs indicate that the gestation sac is still contained within the tube. It is safe, however, to wait and watch the patient in cases where a hæmatocele has already formed, and where, after the initial attack of pain, the patient has been free from symptoms for a week or more. Under these circumstances there is a good chance of the blood becoming completely absorbed, and no serious risk is run by following an expectant treatment.

3. **Rigor Mortis in the Stillborn.**—Parkinson has made a study of the occurrence and significance of rigor mortis in stillborn children, and reaches the following conclusions: 1. Rigor mortis may set in under certain conditions before labor, and may pass off while the child is still in utero, and possibly may delay the birth in these cases until it has passed away. 2. Rigor mortis may set in when the child dies during labor, and may either be complete before or may go on to completeness after birth, and in those cases increases the difficulty of expulsion. 3. The child may die during labor, and be expelled before rigor mortis can set in, but rigor mortis may supervene after birth more or less completely. 4. The attitude produced by rigor mortis in stillborn children differs from that produced by cadaveric rigidity under ordinary circumstances, and by its character enables an opinion to be given that the child had no separate existence, for in every such case the limbs and body generally become drawn into the position in which it lies normally in the mother's womb. Rigor mortis is not a sign of live birth, but the character of the rigor mortis enables one to decide whether or not the child was stillborn.

7. **Migraine.**—Dobson states that the word "migraine" is the shortened form of hemicrania, and represents a definite entity, and must not be used for headaches in general. Migraine is a functional disease, characterized by paroxysmal attacks of headache, usually one sided, and which may be associated with sickness, peculiar affections of sight, and various mental symptoms. Migraine is looked upon as hereditary, but it is probably the tendency to a neurosis which is inherited. Women are supposed to suffer more than men, but the writer holds the contrary. As to the primary cause of the disease, we can only say there is a hereditary predisposition to a brain storm. When we come to the immediate or exciting causes, it is generally found that mental or bodily fatigue, worry, or eye strain are responsible. Three classes of migraine may be recognized: 1. Simple hemicrania, typical in that it is unilateral and responds to every arterial beat; it recurs every few weeks. 2. Sick headache, again periodical; unilateral headache, culminating in nausea, followed by vomiting and prostration; hereditary. 3. Blind headache. Other and more alarming symptoms which may be grafted on any case of migraine are tingling of lips or the arm, numbness of arm, drowsiness, motor aphasia, and squint (temporary paralysis of the third nerve). The headache is typical in that it responds to every heart beat, is made intolerable by stooping or coughing, and is in the great majority of cases unilateral. The character of the headache, its periodicity, and usual association with vomiting or blindness makes the diagnosis easy. The attack is one of a large group of nerve storms which are liable to sweep over the human organism—epilepsy, spasmodic asthma, tic douloureux, and others. Certain constitutions seem to accumulate stores of nervous energy, which are liberated by one of these explosive methods. Treatment consists in: 1. To lessen the tendency to the explosive action in the nervous centres. Here may be pointed out the necessity for a sufficiency of sleep, nutritious food, but not excessive in quantity, prevention of intestinal fermentation, and regular exercise. 2. To avoid the immediate exciting causes. These are gastric disturbance, constipation, and eye strain. In migraine there is no deterioration of mind.

LANCET

February 8, 1908.

1. Sleep and Sleeplessness. By A. MONTGOMERY.
2. Some of the Sources of World Trifles. By C. B. LOCKWOOD.
3. The Human Nose: The Best Measure of Social Intelligence. By E. M. LIPPINCOTT.
4. Excision of the Rectum for Carcinoma. By W. A. LANE.
5. The Methods of Primitive Midwifery. By J. B. HELLIER.
6. Observations on Phosphaturia and the Treatment of Disease by Conversion. By R. HARRISON.
7. Hæmopericardium Associated with Syphilis. By J. J. COLEMAN.
8. A Case of Acute Myocarditis Perforans. By H. W. VENABLE.
9. A Case of Labour During the Seventh Month of Pregnancy, of a Uterine Fibromyoma Weighing Seven-and-a-half Pounds. By J. J. COLEMAN.
10. The Value of Treatment of Rheumatism. By J. J. COLEMAN.

1. **Insomnia.**—Morison holds that change in the brain cells themselves is the primary cause of sleep, and that vascular and neural changes associated with sleep are effects, not causes, of the condition. What the essential cause of these intracellular changes is, is unknown, but they undoubtedly exist. Normally, a moderate degree of exhaustion of the nerve cell from the exercise of function appears to be the essential cause of sleep. With this there may be exhaustion of other organs, and more especially of the voluntary muscular system. But, however the latter may participate in sleep production, the primary cause is the need for rest on the part of the brain cell itself. Temperament is of the greatest importance in relation to sleep and sleeplessness. The temperamental differences which influence cellular excitation, influence also disturbances of sleep due to afferent neural and to hæmic causes. Sleeplessness may therefore be classed in three groups: Cellular, neural, and hæmic. But, whatever the immediate cause of sleeplessness, the effects of it, though varying in degree, are the same in kind and the opposite of those observed in sleep. Thus, the temperature of the body is slightly raised, visceral actions are quickened, and secretion, especially the urinary secretion, is increased, not diminished. The latter phenomenon, like all the phenomena of sleeplessness, is most evident in the neurotic insomniac and is due to the higher vascular tension involved, which causes a larger excretion of urine by the kidneys, for the increased output is usually of a limpid character. 1. Cellular insomnia. The majority of cases of disturbed sleep are referable to this class. The subjective and objective causes of cerebrocellular disturbance must be distinguished. Of these the former, dealing with sensibility and emotion, are more likely to preponderate than those dealing with executive overwork. Worry kills and keeps awake more frequently than overwork. 2. Neural insomnia includes all those cases in which sleep is disturbed by afferent impulses of a more strictly physical kind. Pain and bodily discomfort originating in whatever system, be it cutaneous or pulmonary, renal or hepatic, gastric or intestinal, may rouse conscious activity and prevent its dropping into the rhythmical repose natural to it. This may be caused directly, as by pain, or indirectly, as by elevation of the blood pressure. 3. Hæmic insomnia. This is the smallest group of those into which cases of insomnia fall. Among its causes, in addition to anæmia, are elevation of the body temperature without the development of localized disease and various intoxications. The terrible insomnia of the delirious pneumonic, which frequently hastens death, belongs to this group. Drug and food agents act through the blood: also products of defective metabolism acting through the nervous system on the blood vessels and inducing a hypertonic state unfavorable to cerebrocellular repose. Vascular hypertonus of a spastic and functional type has its organic expression in the arterio-sclerotic changes of old age so often associated with defective sleep. The prognosis in cases of insomnia depends, and deal upon the reversibility of the disturbance. The rate of disturbance has on the prognosis of functional, as apart from organic, is of great value. Of the same type, some, though it is not severe, may cause the same

any way with opium and its derivatives. No agents, however, are more apt to produce the drug habit. In the absence of physical pain and visceral commotion, most of the reliable hypnotics belong to the methane group—sulphonal, trional, veronal, chloral, etc. With them may be prescribed bromides and a derivative of hyoscyamus or cannabis indica. The writer recommends the use of what he calls an "open air" pillow—a lightly padded iron frame covered by a case of smooth webbing and open at both ends, on which the head and neck rest comfortably, surrounded by air of the same temperature as that of the bedroom.

**6. Phosphaturia and Conversion of Disease.**—Harrison states that it has not infrequently been observed in the treatment of chronic urethritis and mucopurulent discharges following it, irrespectively of the internal administration of alkalies, and often imperceptibly to the patient himself, that the urine becomes altered in character and assimilated with that known as phosphaturia. And, further, that when this change is observed the cessation of the discharge or gleet, for which the patient originally came under treatment, usually soon follows, either spontaneously or by treatment appropriate to the phosphaturic state without apparent reference to the cause which preceded it. The writer suggests that the artificial production and temporary continuance of such a state of phosphaturia might be utilized in the treatment of specific gleet affections following upon gonococcal infections. To produce a urine having the prominent features of phosphaturia by the administration of alkalies—potassium bicarbonate—is not difficult nor detrimental to the patient. The effect on the urine should be sufficient to make it react to the usual tests for phosphaturia—not merely an alkaline reaction. Further, it is necessary to maintain this condition for some little time, during which all local applications should be suspended. After ten days or so, as the phosphaturic condition passes off under the influence of altered treatment and diet, it will usually be found that the original ailment has also departed.

**8. Recovery in Landry's Paralysis.**—Vining reports a case of severe acute ascending (Landry's) paralysis, which, when the diaphragm showed signs of paralysis, threatened to be speedily fatal. The diagnosis lay between diphtheritic paralysis, Landry's paralysis, and a toxic paralysis affecting the anterior cornua or nerves. There was, however, no evidence of diphtheria, or of exposure to such toxic influences as syphilis, gonorrhoea, lead, or alcohol. In this case, strychnine appeared to have a very beneficial effect.

#### LA SEMAINE MEDICALE.

February 5, 1908.

Cystic Epitheliomata of the Ovary, By M. LEJARS.

**Cystic Epitheliomata of the Ovary.**—Lejars reports a case of this kind met with in a young woman, twenty years of age, in which the right ovary was involved; another case in a woman, fifty-seven years of age, in which both ovaries were diseased; and a third in a woman, fifty-three years old, in which the left ovary was the seat of the new growth.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

February, 1908.

1. The Clinical and Pathological Distinctive Diagnosis of Diseases of the Female Breast, By J. C. BLOOMGOOD.
2. Some Fundamental Principles in the Treatment of Functional Nervous Diseases with Especial Reference to Psychotherapy, By J. COLLINS.
3. The Pathogenesis and Treatment of Neurasthenia in the Young, By R. N. WILSON.
4. Nervous Manifestations of Arteriosclerosis, By A. STENZEL.
5. Arteriosclerosis in the Young, By F. FREMONT SMITH.
6. Lack of Gastric Mucus (Amyxorrhoea Gastrica) and Its Relation to Hyperacidity and Gastric Ulcer, By J. KAUFMANN.
7. The Etiology and Symptomatology of Cerebrospinal Meningitis, By T. A. CLAYTOR.
8. The Complications and Sequels of Typhoid Fever, By C. D. SELBY.
9. The Laryngeal Complications of Typhoid Fever with the Report of Two Cases, By W. RIESER.
10. Purulent Cerebrospinal Meningitis Caused by the Typhoid Bacillus without the Usual Intestinal Lesions of Typhoid Fever, By J. N. HEINRY and R. C. ROSENBERGER.
11. Chronic Fibrous Myocarditis in Progressive Muscular Dystrophy, By C. H. BUNTING.
12. Certain Unusual Forms of Hepatitis, By D. SYMMERS.
13. A Case of Unilateral Mixed Nystagmus Benefited by Treatment, By C. A. VEASEY.

**1. Clinical and Pathological Distinctive Diagnosis of Diseases of the Female Breast.**—Blood-good states that every palpable mass in the breast of a woman should be regarded as malignant until proof is obtained of its benignity. Previous to the age of twenty-five, lesions of the breast are, as a rule, benign. They include intracanalicular myxoma, fibroadenoma, and diffuse virginal hypertrophy. In women over twenty-five every tumor of the breast should be explored without delay. They may be malignant or doubtful. The former should be operated on by the extensive dissection devised by Halsted. In doubtful cases an exploratory incision is first made, and if malignancy is apparent the radical operation is at once performed. If it is not malignant the extent of the operation will depend upon the nature of the tumor and the condition of the surrounding breast, the procedures being excision of the tumor only, excision of the entire breast, or excision of both breasts. Clinically, doubtful tumors may be either solid or cystic, the latter being of rare occurrence. Carcinoma of the breast may be divided into adenocarcinoma, medullary, and scirrhous.

**2. Fundamental Principles in the Treatment of Functional Nervous Diseases.**—Collins affirms that the treatment of psychasthenia, like the treatment of nervous disease founded on degeneracy, consists in treating the patient and in treating the chief factor of the disorder, heredity. The neuroasthenic usually yields to treatment when the cause no longer exists and the general health is restored. The latter usually follows proper rest and exercise, massage, thermal, and mechanical agencies. The psychasthenic will usually require much more searching psychotherapy. He will need plain statement as to the nature of his ailment and the various data involved in overcoming it. He must develop selfreliance and courage. Treatment by suggestion will be of great importance, though hypnosis will usually be unnecessary and inadvisable.



Means which will improve the general health are of prime importance, also healthful reading and useful occupation. Introspection and constant questioning as to one's acts and thoughts must be overcome by paternal and pedagogical cooperation.

**3. Neurasthenia in the Young.**—Wilson narrates a number of cases in which his treatment consisted in first winning the complete confidence of the patient, then in educating the physical body to do more than it had ever done to attain perfect tone, in order that the mind and nervous system might follow the body in regaining control and balance. The patient was fed regularly, and then ample exercise was taken in the open air to consume the entire intake of food. A thorough evacuation of the bowels, artificially produced, if necessary, was always insisted upon, every morning. Exercise morning and evening to the point of physical tire, but not exhaustion, was continued, and as the muscles hardened the depression and neurasthenia diminished. Gradually selfconfidence was acquired, hopefulness in the possibility of cure became established, and after months of such treatment cure resulted. The author recognizes that the close attention and great labor which such cases require will not be possible with the majority of physicians.

**4. Nervous Manifestations of Arteriosclerosis.**—Stenzel affirms that various nervous symptoms are to be met with in this disease, some of which are consequences of the disease, while others are due to associated organic diseases. Those who suffer with arteriosclerosis are often affected at the same time with structural disease of the kidneys, heart, brain, or other organs, and it is always necessary to distinguish the symptoms caused by the associated conditions from those which are directly due to arteriosclerosis. The error must be avoided of attributing to arteriosclerosis the symptoms which result from purely accidental organic diseases when associated with it, but not essentially due to it. There is great danger of attributing all the obscure conditions of senility and even of the presenile period to arteriosclerosis. The aim of the author in this paper is consequently to point out the certain results of vascular occlusion or disease, and also the symptoms associated with arteriosclerosis, which may be attributable to that condition on account of their analogy with the symptoms of that disease, and the exclusion of other probable causes.

**9. Laryngeal Complications of Typhoid Fever.** Rieser finds nearly 300 reported cases of such complications. The following are considered causative factors: 1. Friction and irritation due to phonation and swallowing, together with constant coughing, all being produced upon a surface which is part of an organism suffering from general typhoid toxæmia. 2. A mucous membrane itself in a state of catarrhal inflammation with scollar surface pathology. 3. Thermic influences, heat or cold, in both in rapid succession, including sudden draughts. 4. Bacteria, the lymphoid tissue, or any part of the body being subject to primary invasion by the typhoid bacillus. 5. Extension of pharyngeal involvement in parotitis, with infiltration of the styloglossopharyngeal folds. 6. The closed glottis.

# AMERICAN JOURNAL OF OBSTETRICS.

February, 1908.

1. The Influence of the Central Nervous System in the Causation of Uterine Hæmorrhages. By H. EHRENFEST.
2. Phlegmonous Sigmoiditis, Resection, Recovery. By I. QUINSTEAD.
3. Intrapartum Vaginal Ovariectomy for Ovarian Cyst Obstructing Labor. Report of a Case. By K. I. SANES.
4. Scopolamine Morphine Anæsthesia in Gynecology. By E. RIES.
5. Vesicouterine Fistula. By W. H. W. KNIPE.
6. Obliterating Thrombosis of the Ovarian Artery. By H. GRAD.
7. Normally There Should Be No Hæmorrhage from the Placental Site at the Time of Delivery. By J. G. DRENNAN.
8. A Consideration of Neurasthenia in Its Relation to Pelvic Symptoms in Women. By E. A. WEISS.
9. Curettage and Puerperal Sepsis. By C. E. RUTH.
10. Cases Illustrating Common Mistakes in Gynecological Diagnosis. By W. S. SMITH.

**1. The Influence of the Central Nervous System in the Causation of Uterine Hæmorrhages.**—Ehrenfest states that the endometrium was at first believed to be the cause of such bleeding. Then came the theories that the fault was in the uterine wall. Either it was a thickening of the tunica media of some of the arteries, or there is relative insufficiency of the uterine musculature with excess of fibrous tissue, or there is insufficiency of the uterine elastic tissue. None of these theories include simple functional disturbance as a cause. The author then studies the subject from the standpoint of the nervous system and draws the following conclusions: 1. Impulses from the central nervous system may alter the normal uterine function both as to menstruation and labor. 2. Vasomotor anomalies may result, such as amenorrhœa, menorrhagia, and irregular hæmorrhages, or motor disturbances such as the sudden beginning or cessation of uterine contractions. 3. The mechanism by which such nervous influence may cause amenorrhœa or metrorrhagia has not been clearly explained. With these facts in view, the effect of increase of uterine tone from whatever cause will be passive hyperemia with local increase of blood pressure and dilatation and rupture of the endometrial capillaries.

**4. Scopolamine Morphine Anæsthesia in Gynecology.**—Ries reports the results of this treatment in 185 cases, including all kinds of gynecological operations. He administers 1/50 grain scopolamine and 1/2 grain morphine in three equal hypodermatic injections, two and a half, one and a half, and one half hour before an operation. Hyoscine may be substituted for scopolamine. The patient should be kept quiet in a dark room while the injections are being given, the general preparation of the patient preceding the injections. The operations in question, in twenty-four cases, were without the assistance of other anesthetics, the patient being in a quiet sleep. Vaginal operations by this method are usually more successfully carried out than abdominal ones. Pulse and temperature undergo little change during this anesthesia but the rate of respiration is sometimes considerably reduced. Very young patients should not receive this treatment. In combination with ether anesthesia this treatment produces the best results.

**8. A Consideration of Neurasthenia in Its Relation to Pelvic Symptoms in Women.**—Weiss determined from the analysis of a series of neurasthenic patients who required gynecological examination and treatment that diagnostic error often attributes to the pelvic organs lesions which do not exist, that operations have often been recommended and performed in such cases, and that in the majority of the cases operated upon there was either no improvement or the symptoms were aggravated by the operation. He asked that these facts be borne in mind: (1) That neurasthenia may be present without any pelvic disease, (2) that neurasthenia and pelvic disease may coexist without causal relation of one upon the other, (3) that they may coexist with definite relation. The whole class of patients is very difficult to treat, and requires much patience and care in differentiating real from imaginary evils.

## ANNALS OF SURGERY.

February, 1908.

1. Ludwig's Angina. An Anatomical, Clinical, and Statistical Study, By T. T. THOMAS.
2. Experimental Surgery of the Lungs, By S. ROBINSON.
3. Should Cholecystitis and Cholelithiasis Be Any Longer Considered Medical Affections, and What Are the Usual Consequences of so Treating Them? By C. B. G. DE NANCREDÉ.
4. The Value of the Differential Leucocyte Count in Acute Appendicitis, By A. H. NOEHREN.
5. A New Technique for Dealing with the Appendix Stump, By C. W. BARRETT.
6. Obstruction of the Internal Urinary Meatus by Folds of Mucosa, By W. JONES.
7. Postoperative X Ray Treatment of Malignant Disease, By R. H. BOGGS.
8. Endoaneurysmorrhaphy (Matas) in the Treatment of Traumatic Aneurysm of the Femoral Artery, By J. M. ELDER.
9. Further Observations on the Treatment of Paralytic Talipes Calcaneus by Astragalectomy and Backward Displacement of the Foot, By R. WHITMAN.
10. The Trough Suspender Forearm Sling, By W. C. WERMUTH.
11. Partial Resection of the Upper and Lower Maxillæ for Congenital Deformity of the Face, By R. T. MORRIS.

**2. Experimental Surgery of the Lungs.**—Robinson thinks, as the result of thirty experimental operations on the lungs and pleura, that a positive pressure apparatus is better for such work than the negative pressure cabinet. Further investigations will show whether disturbances to the pulmonary and aortic systems are greater than from negative pressure methods, also the cause of pleuritic effusion and death after pneumectomy of one side. He also proposes to test different methods of thoracoplasty, including artificially produced mediastinal and diaphragmatic herniæ, to obliterate, at least partially, the unoccupied cavity. He thinks it has not been proved that interlobular abscesses and other localized inflammatory conditions of the pleural cavity may not be approached through uninvolved regions, brought to the wound, walled off, and drained as in intraabdominal operations. He then proceeds to answer the eight objections of Sauerbruch to positive pressure for intrathoracic operations, as compared with negative pressure.

**3. Should Cholecystitis and Cholelithiasis be Any Longer Considered Medical Affections, and What Are the Usual Consequences of so Treating Them?**—Nancrède thinks the importance of

certain biliary conditions and the impossibility of successfully treating them except with the knife is not sufficiently recognized. It is not necessary for a diagnosis of cholecystitis that there be jaundice, a painful tumor in the gallbladder region, chill, and fever. The author holds that cholecystitis is an infective process which precedes the formation of calculi, and implies potential dangers, with or without the formation of such bodies. The most common form of the disease is caused by germs of low virulence, but one is never sure that there may not be secondary infection, with virulent organisms, causing infectious cholangitis or suppuration or gangrene of the gallbladder. There are also possibilities of adhesions involving the stomach and intestine with permanently serious results. The absence of gallstones at an operation does not prove that none have been passed nor that others may not form.

**7. Postoperative X Ray Treatment of Malignant Disease.**—Boggs desires to emphasize the necessity of such treatment early, without waiting until recurrence has taken place. Radiation should be used in such a manner that the site of operation and the adjacent lymphatic glands will be saturated, thus producing a physiological result. It must be remembered that inadequate treatment is useless, that small doses stimulate growth of tissue, while efficient radiation retards and destroys new growths. The treatment with this agent will vary with the situation, the results for malignant disease at the surface of the body being far more satisfactory than for its interior. For cancer of the breast the following suggestions are made: 1. The breast should be removed by the radical operation and be immediately followed by x ray treatment. 2. If there is slight glandular involvement, intense x ray treatment should immediately follow an operation. 3. If the glandular involvement is extensive, intense radiation daily until axillary glands cannot be felt, then a radical operation and cautious use of the x ray.

## THE GLASGOW MEDICAL JOURNAL.

February, 1908

1. Degeneration of the Spinal Cord Associated with Severe Anæmia in a Case of Chronic Gastric Ulcer, By T. K. MONRO and MARY B. HANNAY.
2. Case of Cirrhosis of the Liver in a Boy Nine Years Old, By WALTER K. HUNTER.
3. Albuminuric Retinitis with Vascular Changes: Aneurysms on Retinal Arteries, By A. J. BALLANTYNE.
4. Three Cases of Severe Injury at the Ankle Joint, By ALFRED A. YOUNG.
5. Mediastinal Cancer, Occurring Ten Years after Removal of the Breast, with Secondary Nodulation Well Distributed Over the Head and Trunk, By J. SOUTTAR M'KENDRICK.
- 2. Cirrhosis of the Liver.**—Hunter had such a case in a boy, nine years of age. He remarks that as to the etiology of cirrhosis of the liver, we are still in the dark, but it seems reasonable to suppose, as a predisposing cause, an undue irritability or susceptibility of the liver tissue, which may be congenital or acquired; and, as exciting cause, a toxine of unknown composition and origin, which sometimes reaches the liver by the portal and sometimes by the general circulation. Such a cirrhosis has been produced experimentally by injecting a certain

drug into the general circulation; and it is probable that a toxine of this sort is produced over a long period and at times in greater quantity than at others, for the symptoms show, from time to time, definite exacerbations alternating with periods when the patient seems to improve. The enlargement of the spleen so often met with is probably also due to a toxæmia, which will be increased as the liver gets less efficient. Microorganisms and toxins in the blood tend to collect in the spleen, from whence they may pass again in the portal blood stream to the liver, and possibly in this way add a portal cirrhosis to what may formerly have been a biliary cirrhosis. Some explanation of this sort is required to account for the association of portal and biliary cirrhosis in the same liver.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*One Hundred and Second Annual Meeting. Held in Albany, January 27, 28, 29, and 30, 1908.*

The President, Dr. FREDERIC C. CURTIS, of Albany, in the Chair.

(Continued from page 281.)

**Clinical Observations on Vaccines.**—In this paper Dr. JOSHUA M. VAN COTT referred to the involved and prolonged technique with which the production of vaccines was associated, thus overcoming most of their clinical usefulness. It was this fact that had first led him to the manufacture of a vaccine composed of enough species of streptococci and staphylococci to cover all conditions. Following the use of this vaccine, he reported no untoward effects. On the contrary, the patients seemed to experience a sensation of acceleration. There was no local reaction except slight hyperæmia. All the patients vaccinated were in poor general condition and had shown no tendency to improve by any other treatment. The Bier congestive apparatus was used in three of the cases. He reported eleven cases, all of virulent infections, in which the patients were vaccinated, with only two deaths. He believed that the results obtained were sufficient to warrant a favorable report of this composite vaccine, and that we might eventually get rid of at least some of this elaborate and objectionable technique.

#### Report of Four Cases Treated by Vaccines.

In this paper Dr. ALGERNON T. BRISTOW, of Brooklyn, began by stating that the organism protected itself in two ways—by the blood serum itself and by phagocytosis. In some cases of infection the serum had no bactericidal power, and thus phagocytosis was the only antagonistic factor to infection.

Case I was that of a lady, fifty-eight years of age, who for some time, at intervals of about three weeks, had symptoms of infection and rigors. When she was first seen her temperature was 102° F. She had a swelling on the side of the neck, moderately painful upon pressure. The blood count showed 14,000 white blood cells. A few days later the pain was less, the swelling was more diffuse, and there

was a white count of 10,000. An operation was done, which consisted of a long incision, parallel to the sternocleidomastoid muscle. The abscess was opened and pus evacuated and the abscess drained. Five days after the operation a culture from the wound showed a mixed infection with streptococci. She was vaccinated with 5,000,000 streptococci, obtained, not from her own organism, but from a stock vaccine. Following this her temperature rose, she had a convulsion, and she required active stimulation. A second dose of 10,000,000 was then given a few days later, and from this time the patient steadily improved.

Case II was that of a girl, aged twenty-one, brought to the hospital with a history of rheumatism. Her general condition was bad, and streptococci were found in the blood. She had headache, some retraction, and pain in the joints. She was given antistreptococcus serum for several doses, but without any beneficial effect. She subsequently received three doses of vaccine of 5, 10, then 5 million streptococci. Following the last dose there was an uninterrupted recovery.

Case III was that of a nurse suffering from furunculosis. Culture showed staphylococci. A vaccination was made from her own organism. Following its administration she remained free for some months, then a second furuncle developed. She was revaccinated, and it rapidly cleared up.

Case IV was that of a boy, eighteen years of age, suffering from gonorrhœal arthritis. He had a high temperature, and the joint was swollen and painful. Seventy-five million gonococci were given and repeated in four days. In a week the boy was up on crutches, and a rapid improvement followed.

Dr. Bristow regarded these results as sufficiently striking to warrant a thorough investigation of vaccine therapy upon the part of those who were not familiar with it.

**A Description of the Methods of Sir A. E. Wright.**—Dr. WILLIAM H. WOGLOM mentioned the three elements necessary for the test, viz., the serum, the washed leucocytes, and the organism. He described the method of obtaining the washed leucocytes by dropping the blood into a one and a half sodium citrate solution, centrifuging, pipetting off the supernatant fluid, rewashing, and recentrifuging with a sodium chloride solution, causing the separation of the leucocytes, which were designated "washed leucocytes." The collection of the serum was then explained; the use of the glass capsules, the sealing in the flame, etc., also how the clot formed and how the capsule could be broken when the serum was to be tested.

To make the "bacterial emulsion," a twenty-four hour culture was advised. Some of this was taken on a flat loop and mixed with normal saline solution. The thickness of the emulsion could best be determined by experience.

Mark off some amount on the pipette and call it volume. Take one volume of washed leucocytes and then one volume of the bacterial emulsion, allowing a bubble of air to interpose between them, then one volume of the patient's serum with a bubble of air between them. Then blow out upon a slide and mix. The mixed solutions are then drawn up in a pipette and left for ten or fifteen



minutes to incubate. Then go through the same process, using normal serum, which might be obtained from a "pool" of many normal bloods. The object of this was a control. Blow off a drop from the pipette upon a glass slide, and smear with a smearer whose edge was slightly concave. Then count at least one hundred leucocytes, both those which had "phagocytized" and those which had not. The average number of bacteria found in the leucocytes actuated by the patient's serum was then divided by the average number of bacteria found in the leucocytes actuated by the serum from the pool. The result obtained would be the patient's index.

**The Value of the Opsonic Index in Controlling the Use of Vaccines.**—In this paper Dr. WILLIAM H. PARK declared that to Dr. Wright belonged the credit of causing and stimulating the profession to use vaccines, and that it would take years to learn the limits of the opsonic work. He referred to the fallacies of the technique and the results, not only in the hands of American workers, but as done by the assistant of Dr. Wright himself. So he advised that but little dependence be placed upon only determination. The difficulties of the work were said to lie in three main causes: 1. The personal equation in counting. 2. The irregularity with which the leucocytes would take up bacilli. 3. The difficulty of technique; one could not always take the same number of blood cells and of bacilli.

Besides this, he continued that the proper culture must be obtained, viz., from the individual affected; that each day the pool of normal blood must be renewed (and this would vary), and that the irregularity of the disease lent its weight in making the determination more difficult. He declared that the opsonic power was not the only protective element in the blood, but one of many.

He reported a series of examinations by ten different laboratories, all of the same specimens of blood. The results of the laboratories, while very interesting, showed marked variation, and the results only emphasized the fact that little dependence could be placed upon one determination. He recalled his visit to England and to the hospital in which Dr. Wright carried on his investigations. He said that the patients, while not doing as well as Dr. Wright in his enthusiasm would lead one to suppose, were on the whole benefited by this method of treatment. He stated that Dr. Wright himself thought the index to be of little clinical importance. He concluded by affirming that the results obtained in England were no more accurate than those of American workers.

Dr. Rochester asked if a low index to any organism would warrant a diagnosis of an infection by that particular organism, and whether, before using a vaccine, the cultural method was used, or simply the vaccine from the germ found in a given case, or if the vaccine was made from a stock culture.

Dr. BOSWELL, of Rochester, wished to know if all the phagocytes were counted, or if the method of Sim was employed.

Dr. PARK said that Dr. Wright himself used the index but little for diagnostic purposes. But he asserted, if a marked variation of the index to any particular organism occurred it usually pointed to an invasion by that organism. In reply to Dr. Boswell,

he answered that as a rule he counted all the phagocytes, though he did sometimes use Sim's method.

**The Importance of Examination of Those Who Have Been Exposed to Tuberculosis.**—Dr. JOHN H. PRYOR, of Buffalo, read this paper. He quoted the annual death rate from tuberculosis in New York State as being about 14,000, which constituted one tenth or one eleventh of the total number of deaths in one year. He declared tuberculosis to be endemic in its nature and the influence of preventive measures to be open to discussion. Outside of New York, he considered the matter of prevention a delusion and a snare, and the whole system a matter of diplomacy between the physicians and the various health departments. He declared that the solution of this problem called for rigid laws and an adequate knowledge on the part of health officers before their appointment. He referred to the utmost importance of an early diagnosis, and said that the profession must learn to find the victims early, and that no case of tuberculosis should be allowed to reach the stage when the patient could give the disease to another before preventive measures were instituted.

He believed that thorough and repeated examinations of those who had at any time been exposed to the disease should be carried out, and that the disinfection of apartments after death should be complete, and not done in the slipshod manner in which it was often carried or not carried out.

He asserted that the physical signs did not always give an index of the extent of the disease, and that if earlier hemorrhages were common, the diagnosis would be easier. In his opinion exposed persons should be instructed as to the early symptoms of the disease and kept under constant observation. Underfed persons were especially susceptible, so tuberculosis was largely a disease of the poor, and he lamented the fact that the practitioner often overlooked the disease in its early and most favorable stages.

He cited an outbreak in an institution as a striking example of common and fatal indifference. In this instance a nurse was found to have tuberculosis. The entire force of nurses with whom she was associated was examined, and out of thirteen nine were found to be suffering from the disease; also a boy who was employed there proved to be infected. This only showed the indifference with which most people regarded this great scourge.

Dr. GOODALL agreed with Dr. Pryor as to the importance of early diagnoses, and stated that when tubercle bacilli could be found in the sputum ulceration had already taken place, and that if the case could be recognized before ulceration had occurred, the prognosis would be infinitely better. He believed also in hunting out the cases.

To emphasize the importance of exposure, he cited a series of pleurisy cases. Of those who subsequently had tuberculosis, sixty-five per cent. had been exposed, and of those who did not have the disease later only twenty-five per cent. had been exposed.

He believed that the mortality record of tuberculosis had increased in the last few years, possibly because of keener diagnoses, and not because of any greater frequency of the disease.

Dr. ROCHESTER congratulated Dr. Pryor upon the general excellence of his paper. He stated that he examined the nurses and boy in the institution re-

ferred to by Dr. Pryor, and that he recommended that the boy be sent to the Erie County Hospital and the nurses to Ray Brook, but that not one recommendation had been carried out by the trustees of the institution, and that the boy was retained in its employ till Monday, January 10th. He regretted exceedingly that it was so difficult to get the people to carry out the physician's suggestions, or even orders.

Dr. PRYOR in reply to Dr. Goodall stated that the death record was still probably too low as compared with the actual situation; many cases of tuberculosis were entered upon the death certificate as pneumonia or heart disease for insurance purposes.

**The Treatment and Prognosis of Suppurative Cystitis.**—In this paper Dr. V. C. PEDERSEN said that there was but little new in the treatment or prognosis of suppurative cystitis. Inasmuch as the bladder was never at rest it was a difficult organ to treat, and the treatment would depend upon the character of the inflammation and the degree of the effect. If the functional powers were totally impaired, the organ would never return to its normal condition. He declared that in the treatment the first step should be the removal of the cause whenever it was practicable, such as the dilatation of strictures, the removal of vesical calculi, or treatment of the prostate. Tuberculosis and cancer being hard etiological factors to remove, the prognosis was correspondingly worse.

As to constitutional treatment, he advocated good hygiene, plenty of sleep, and regulation of the bowels, especially in old people. A change of climate and avoidance of excesses in food, alcohol, or physical exercise, vesical fatigue, or irritation from highly seasoned foods, were also advised.

In cases where the urine was alkaline he recommended urotropin given in large doses up to toleration, as much as a drachm in twenty-four hours. He believed the balsams to be beneficial, but they were not to be given if the stomach showed any tendency to rebel. Irritants, such as cantharides and oil of turpentine, were to be avoided, but he did advise irrigation, inasmuch as it stimulated, cleansed, and soothed the mucosa of the bladder, and was a mechanical aid in removing mucus, etc. In this procedure he preferred the soft rubber catheter and a normal solution of salt or of sodium bicarbonate injected till the return fluid was clear even in a test glass. The posture of the patient did not make much difference. The fluid used should be about the bodily temperature, but the heat might be increased to 110° or 115° F. From two to four ounces should be used at a sitting, though in old cases with a dilated bladder from eight to sixteen ounces might be employed. The success of this operation depended upon the degree of comfort afforded and the lack of tenesmus.

In chronic cystitis the mucous membrane should be stimulated, but not irritated. If any antiseptic was used in the irrigation some of it might be left in the bladder. The treatment should be repeated when the symptoms returned, but some bladders required irrigation daily, while others might be quiescent for five or six days. When tenesmus occurred, he believed it to be due to too irritating solutions, undue trauma, or emptying the bladder too rapidly. In

some instances he advised the maintenance of the knee chest posture during treatment, especially if there were accumulations in the bladder wall. The indwelling catheter was more applicable to women. Unless the organ was badly damaged, the prognosis was usually favorable. Many bladders, however, might recover up to a certain degree, but never entirely.

**The Sequence of Pathological Changes in Appendicular Peritonitis.**—Dr. E. MCD. STANTON presented a study of 1,019 cases. He admitted the sequence of the pathology to be complex, varying from day to day, and running a definite course either toward resolution or toward abscess. In general it was seen that when peristalsis was arrested, only a local peritonitis occurred, but, on the other hand, if cathartics and food had been given, the infection was disseminated by the movements of the intestines.

Following inflammation the exudate might be of two varieties, fibrinous, or dry, and serous or sero-purulent. The dry variety formed adhesions to the omentum, the liver, the end of the cæcum, the parietal peritonæum, and some coils of the intestine, and these bands of fibrin were later replaced by granulation tissue which walled off the pus cavity. Though these granulations were soft and weak at first, they were usually sufficient to confine the abscess, provided peristaltic movement was effectively arrested.

In the second variety, with the fluid exudate, it was shown that there was little or no evidence of localization, especially in the early stages. In cases of this type operated in upon the first day there was intense congestion of the peritonæum, but otherwise no change. In second day operations the exudate was found to be more diffuse, with some few feeble adhesions and slight dullness of the peritoneal surface. Upon the third day there was apt to be a purulent exudate, with more adhesions of fibrin, but the lesion was so extensive that no sharply defined abscess cavity could be made out. By the fourth or fifth day organization was well established and definite abscess cavities were then discernible. Upon the fifth or sixth day there would be definite evidence of abscess formation. Then, it was observed, there would be a progressive diminution in the extent of the area involved, with resolution of the peritonæum outside of the abscess cavity; and on the tenth or eleventh day there would be left but slight, if any, evidence of inflammation in the general peritoneal cavity. Thus three stages of the disease were said to exist: 1. When there was no marked alteration of the peritonæum, requiring only temporary drainage. 2. During peritoneal irritation, when an operation was not advisable. 3. When the peritoneal abscess had formed and drainage constituted the operation.

The object of his paper was to establish the fact that the distribution of an intraperitoneal infection was purely mechanical, due to the movements of the intestines.

Dr. OCHSNER said that he had looked forward to the exposition of the living pathology of this condition and especially in a large series of cases. He believed the paper so complete and that it must henceforth stand as a basis of our knowledge of the

pathology of acute appendicitis. Eight years ago he had brought out the proposition, then heretical, that the distribution of infection and the consequent mortality depended not so much upon the primary disease as upon its dissemination throughout the peritoneal cavity by the peristaltic action of the intestines, and eight years before that he had believed it possible to limit the infection, provided peristaltic action could be arrested. This was best accomplished by withholding food and by gastric lavage, possibly adding rectal feeding more for the benefit of the friends than of the patient. He believed that quiescent symptoms were often lighted up and infection spread by an abdominal examination or the administration of food or cathartics. The paper showed to his satisfaction that if advantage was taken of the anatomical relations the abscess would be walled off and the outcome of most cases favorable. He believed that the superiority of this treatment had been conclusively demonstrated.

Dr. W. G. MACDONALD discussed the paper adversely, and expressed the opinion that no artificial chronological division of pathology or symptoms could be made in any surgical or medical disease.

Dr. MONRO, of Boston, commended Dr. Stanton for the high order of his communication, and agreed with him that the pathology could be identified day by day.

Dr. SKINNER stated that the facts set forth in the paper coincided with his own observation in cases where there was no operation. He disagreed with Dr. Macdonald and referred to the chronological cycle of various functions, such as the pulse, respiration, menses, etc., and also to the fact that in cases of peritonitis treated by this method the bowels usually moved on or about the tenth day.

Dr. LAKE expressed his extreme pleasure in listening to the paper, because it recalled the early teachings of Alonzo Clark, and he said that it seemed good to him to hear a surgeon say, "Don't operate; wait."

Dr. BUTLER cited his own case as a child, when he suffered from peritonitis. He stated that he was kept under opiates for about six weeks. The unusual feature of the case was that he had a localized abscess, which ruptured into the bladder, and the pus escaped with the urine.

Dr. A. VANDER VEER asked as to whether or not the disease was progressive as to the number of attacks, and he wished to know the history of the second and third attacks. He believed that in a gangrenous and perforative appendicitis the best chance was given to the patient by an immediate operation.

Dr. STRANAHAN cited a series of one hundred cases treated by Ochsner's method with no deaths, and he stated that this series included all kinds of cases.

Dr. OCHSNER, in reply to Dr. Vander Veer, declared that every patient seen during the first thirty-six hours should be operated upon, because the condition of the peritonæum was still such that it would be restored to the normal condition by only temporary drainage. But on the second, third, or fourth day an operation was decidedly contraindicated. The procedure he recommended in those cases was to wash out the stomach, apply an abdom-

inal bandage, and use rectal feeding, giving along with the enema 10 to 30 drops of the deodorized tincture of opium. Slow, continuous rectal irrigation might be employed if the patient was thirsty, and if nausea or vomiting occurred he would wash out the stomach.

Dr. STANTON, in reply to Dr. Macdonald, stated that until he undertook the study of this subject he too had not believed in any chronological order of pathology, but he declared that even in the saline treatment a certain attempt at a chronological order could be made out, and that the death rate was not one seventh of what it was in cases of operation on the third, fourth, or fifth day. In reply to Dr. Vander Veer, he stated that recurrent attacks were more severe and more apt to perforate.

**Diffuse Peritonitis in Women.**—Dr. ELLICE McDONALD said in this paper that he believed the prognosis to depend upon the cause, and it might be puerperal infection, perforation of a gastric or intestinal ulcer or the gallbladder, or infections from the bowel. Peritonitis from appendicitis in women was much less common than in men, but women seemed especially predisposed during the puerperium. The difficulty of diagnosis when it was associated with puerperal infections of the uterus was pointed out. In the treatment he considered raising the general resistance by vaccines and the leucocytosis by nucleinate of sodium to be of great importance.

Dr. JAMES N. VANDER VEER exhibited a case of carbuncle on the back of the neck, and showed the Bier congestive apparatus and its application.

**Hereditary Syphilis.**—In this paper Dr. G. W. WENDE stated that the symptoms might appear at birth, about the third week, at the third month, or even later. The lesions present were more active than those of acquired syphilis, and they might attack any organ. There was often no room for hesitation, but then snuffles were pointed out to be only a matter of degree, and might be due to coryza, or the skin lesion might be closely counterfeited by eczema.

The epidermis was often macerated, and bullæ might be found on the hands and feet. This last condition indicated a serious type of disease, and the child usually died. Then, again, children might be born apparently normal and remain so for a few months, and then show lesions about the lips or a pustular eruption somewhat resembling that of the acquired form of the disease.

The tubercular syphilide was not so commonly observed in the hereditary as in the acquired form, but it did sometimes occur on the scalp or even on the rest of the body. He believed syphilis to be responsible for delayed dentition; this dental involvement might include all the teeth or only the incisors. Hutchinson's test teeth were the two upper permanent incisors, and their outer edges, if continued down, would meet at a point. This deformity was said to be due to a stomatitis which had existed in the first week of life, and if the infant escaped this stomatitis the teeth would be normal. Teeth when first cut might not show any notch, but they were usually friable and the enamel was scaly. If notches existed they usually disappeared about the twentieth year.

He defined syphilitic pseudoparalysis as an inabil-



ity to control muscular movements due to separation of an epiphysis. It was said to be not a true paralysis, but an atrophy of disuse. The speaker declared it to be due to a gummatous osteomyelitis in early childhood. Joint lesions resulting from hereditary syphilis were practically the same as those resulting from the acquired form. The bones might be large, globular, and of bony hardness, or might be atrophic and associated with ankylosis. In hereditary syphilis the bones were said to be more often affected than in the acquired type, because the bones of young children were more susceptible to pathological processes.

**The Clinical and Historical Features of Acquired Syphilis.**—Dr. J. A. FORDYCE, in this paper, pronounced extragenital initial lesions of acquired syphilis to be relatively common, but often mistaken for malignant disease, especially when occurring on the lip, where they were infiltrated and irregular and resembled a beginning epithelioma. As a rule, the initial lesions were said to be single, but they might rarely be multiple, especially about the nipples of a wet nurse who had suckled a syphilitic child.

The secondary lesions included a papular and sometimes a pustular eruption, which could easily be mistaken for smallpox or vice versa. Pigmentation might persist in the site of these lesions, especially in nephritics. On the other hand, the eruption might be scaly and resemble psoriasis.

The circinate form of eruption was referred to as existing principally in the negro race, and attention was called to the similarity between the eruption caused by potassium bromide in susceptible individuals and some manifestations of syphilis.

The rarity of gummata of the palm was pointed out, though they were sometimes present, but they were apt to develop along the inner side of the leg.

The spreading of a seriginous syphilide was explained by the spreading thrombosis of minute vessels. The giant cells met with in syphilis were believed to be of vascular origin, because in this disease the muscular layer of the bloodvessels was markedly thickened.

**The Technique of an Efficient Operative Procedure in Malignant Disease of the Skin.**—Dr. SAMUEL SHERWELL, of Brooklyn, read this paper. He said that he did not claim novelty as to method or absolute perfection as to result for the procedure to be described, but he had used it for thirty-five years with good results and relatively few recurrences. He recommended simply curettage, but thorough, deep, and efficient, followed by the immediate and thorough application of an escharotic, preferably a sixty per cent. solution of acid nitrate of mercury. The caustic agent must be neutralized by some alkaline medium; he preferred common sodium bicarbonate in powdered form. This formed a scab, which was allowed to remain till it fell or was pushed off by the process of repair beneath. He said the scar was relatively insignificant. The knife was perhaps preferable in pendant and loose portions of the body, such as the penis, the lips, and the ears, but in many of these cases even he preferred the method here described. He objected to the x-ray and radium because of time, expense, and uncertainty of result.

He advised great caution in diagnosis, the slow

growths being often tertiary syphilitic manifestations. Ulceration of the nasal septum where it joined the lip, or any tumor involving the nasal cartilages, was more characteristic of syphilis than of epithelioma. But sarcoma was appropriately treated by this method.

He seldom found it necessary to use general anesthesia. The curette used should have a clean wire edge. He preferred nitrous oxide gas where general anesthesia was necessary. Before giving a general anesthetic he introduced two or three drops of a two per cent. solution of cocaine about the edges of the affected part and at the same time, with the same needle, gave a hypodermic of about 1/4 to 1/3 of a grain of morphine, with or without atropine, in a distant part of the body. The larger curette was used with force in, around, and about all parts of the affected area, so as to remove all morbid tissue. Smaller curettes could then be used in sinuses and anfractuositities with energy; there was no need to fear hurting sound tissue. He used a Paquelin cautery, a solution of adrenalin, and a ten per cent. cocaine solution to check persistent bleeding, followed by acid nitrate of mercury in full sixty per cent. strength, mopped on with cotton wool mops of the bulk of a pea. This was the painful part of the procedure, but the pain was controlled by the anesthesia. The amount of touching with acid nitrate could be learned only by experience; he frequently allowed it to remain for from ten to twenty minutes before neutralization. The last step was the introduction of bicarbonate of sodium into the excavated surface, pressed firmly down to make an adherent scab. This turned yellow and later black, and usually came off in a fortnight or three weeks. It should be kept dry. He did not use bandages. Inflammation followed at the site after a day or two, but no dressing, and particularly no wet dressing, must be used. It would soon go down.

He considered the chances of recurrence far less than those that followed the use of the knife, for the following reason: The less viable cells of which malignant growths were composed must perish under conditions which would little if at all affect the normal; the inflammation itself and the absorption of the potent alterative escharotic element by the lymphatics caused the breaking down and destruction of those cells into innocent waste products to be cast off by the economy. This was the only way he could account for the nonliability to recurrence. He always put his patients on a course of arsenic for a long time after these operations, intermittently for months, even years. He was no admirer of arsenical preparations in ordinary skin disease, but did believe in their inhibitive virtues in sarcoma, and possibly in epithelioma and carcinoma, and referred to the beneficial action of arsenic on the economy in the destruction or prevention of malignant cell life.

He said he had used this procedure for many years with success, having performed over forty operations during the past year. Relapses had occurred in less than ten per cent. of the cases, and he did not hesitate to urge his colleagues to adopt this measure in appropriate cases.

**A Study of Four Hundred Cases of Epithelioma.**—In this paper Dr. L. D. BENCHAM referred to the many statements regarding the cause of

epithelioma, and said that none was universally adopted. He spoke of the striking resemblance that these lesions had to syphilitic ulcers, and said that because of this similarity many were improperly diagnosed and erroneously treated. He believed the prognosis to be directly dependent upon the wisdom with which the lesion was treated from the time of its inception.

He did not consider heredity to be an important factor, and declared that epitheliomata might disappear spontaneously or under proper local applications. He found them to be more frequent in males, and especially between the ages of thirty-five and fifty-five.

He made a pathological classification of epitheliomata, as those originating from the basement layer of the skin and those developing from the prickle cells. In those developing from the basement layer of the skin the progress was seen to be slower, and they might show evidences of spontaneous healing. They did not give rise to metastases, and were amenable to treatment, notably with the x ray. They occurred most often on the face.

The second form of epithelioma, growing from the more superficial layers, showed mitotic figures and epithelial pearls microscopically. This variety did give rise to metastases, was more rapid in its growth, and was apt to occur at a mucocutaneous junction. Bland ointments had apparently cured lesions similar to the epitheliomata of the second variety. He cautioned the general practitioner against the indiscriminate use of silver nitrate. He referred to the constant changing of treatment in the past thirty-five years, but said that the results depended upon the stage of the disease and the completeness of its removal. He still thought that the knife offered the best and surest method of removal. Patients treated with arsenic paste often recovered, but the process was slow and painful, and this form of treatment had largely been superseded by the x ray. Curetting, combined with other methods, such as cauterization, was recommended, but it had to be thoroughly done. The escharotic which the speaker preferred in connection with the curette was pyrogallie acid. He believed that the x ray presented the greatest advantage in the treatment of certain cases of epithelioma. But, as this agent had been used in this connection only for the past five years, too much confidence must not be placed in it yet.

(To be continued.)

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

**Poisons: Their Effects and Detection.** By ALEXANDER WYNTER BLYTH, M. R. C. S., F. I. C., F. C. S., etc., Barrister at Law, Public Analyst for the County of Devon, etc., and MEREDITH WYNTER BLYTH, B. A., B. Sc., F. I. C., F. C. S., etc., Public Analyst for the Borough of Brighton and for the Borough of Eastbourne. Fourth Edition, Thoroughly Revised, Enlarged, and Rewritten. With Tables and Illustrations. London: Charles Griffin & Co., Ltd., 1906. (Through D. Van Nostrand Company, New York.) Pp. xxxii-772. (Price, \$7.50.)

In this new edition of the standard work in the

English language on toxicology the author has by expansion in some directions and condensation in others provided much additional information without increasing the bulk of the volume over that of the preceding edition. The book has been brought well up to date by descriptions of several of the medicinal substances introduced within the past decade or so, which have been found to cause poisonous effects through prolonged use or excessive doses. Thus, the poisonous effects of and the antidotes for the sulphones—sulphonal, trional, and tetralol—receive mention in paragraphs under the heading Minor Anæsthetics and Narcotics. Adrenalin, called epinephrin by the author, has a subchapter to itself under Mammalian Poisons, and it is further distinguished by being described as the most powerful of all modern poisons. There is no work on toxicology more accurate and comprehensive in its treatment of the subject than Blyth's book, and to such as make its acquaintance for the first time the introductory chapters on The Old Poison Lore and the Growth and Development of the Modern Methods of Chemically Detecting Poisons form very interesting reading, the romance of the poisons and poisoners of history being finely brought out. The fact that the book has reached a fourth edition is evidence in itself of the value which has been placed upon it by succeeding generations of teachers and students. We are glad to reiterate our previously expressed good opinion of the work and commend it as a volume of indispensable value to both students and practitioners of medicine.

**Blood Examination and its Value in Tropical Disease.** By CLAUDE F. FOTHERGILL, B. A., M. B., M. R. C. S., L. R. C. P., etc. With a Preface by Major RONALD ROSS, F. R. S., C. B., Professor of Tropical Medicine, University of Liverpool, etc. London: Henry Kimpton, 1907. Pp. 34. (Price, 60 cents.)

Dr. Fothergill's essay is intended to show the value of blood examinations in the diagnosis of tropical diseases. There are very few tropical diseases in which a blood examination is not the most important examination to be made. It is always necessary to exclude malaria and its influence in all kinds of disorders of tropical and subtropical diseases. We can as well imagine a physician determining that a patient has fever without using a clinical thermometer as we can imagine a physician forming his opinion on a disease of the tropics without studying the blood. We dare say that there are physicians who would undertake to do both. For such the essay of Dr. Fothergill is especially suitable.

**Reflections on Plague and the Methods of Checking it.** (With Letters to the Press.) By PESTONJEE M. KANGA, B. A., LL. B., Solicitor, High Court, Bombay. Bombay: Bombay Education Society's Press, 1907. Pp. 74.

It is a difficult matter for an American to appreciate the obstacles in the way of hygienic advancement in a country like India. It would seem that now that the relation between the rat and the flea and the spread of plague was proved, it would be a simple matter to rid a community of rats and fleas and plague. The essay of Mr. Kanga and his letters to the press of Bombay show that this is not so. Mr. Kanga's ideas are sound, and if the government and people of India could come to some workable understanding in the matter of housecleaning it





*Cholera—Foreign.*

India—Calcutta.....	Dec. 14-28.....	120
India—Rangoon.....	Dec. 28-Jan. 4.....	19
Russia—General.....	Dec. 25-31.....	28
.....Jan. 1-7.....		3
Russia—Tomsk.....	Jan. 1-8.....	2

*Cholera—Insular.*

Philippine Islands—Manila.....	Dec. 28-Jan. 4.....	31
Philippine Islands—Mariguana.....	Jan. 4.....	Present.

*Plague—Foreign.*

Brazil—Rio de Janeiro.....	Jan. 5-12.....	3
Ecuador—Guayaquil.....	Feb. 13.....	Present.
India—Calcutta.....	Dec. 7-28.....	70
India—Rangoon.....	Dec. 28-Jan. 4.....	70
Portuguese East Africa—		
Lorenzo Marquez.....	Nov. 8-Jan. 12.....	8

**Public Health and Marine Hospital Service:**

*Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the week ending February 22, 1908:*

BAHRENBURG, L. P. H., Passed Assistant Surgeon. Granted leave of absence for twenty-one days from February 23, 1908.

FRIEDMAN, H. M., Acting Assistant Surgeon. Granted leave of absence for one day on account of sickness, February 10, 1908.

KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for eight days from February 18, 1908.

McCoy, G. W., Passed Assistant Surgeon. Granted leave of absence for one month and twenty-one days from November 28, 1907, on account of sickness.

MILLER, CHARLES, Pharmacist. Temporarily relieved from duty at the Marine Hospital at San Francisco, Cal., and directed to report to Passed Assistant Surgeon Rupert Blue for special temporary duty.

PARKER, T. F., Acting Assistant Surgeon. Granted leave of absence for two days from March 4, 1908.

STANTON, J. G., Acting Assistant Surgeon. Granted leave of absence for twenty-one days from February 14, 1908.

TAPPAN, J. W., Acting Assistant Surgeon. Directed to proceed to Douglas, Arizona, for special temporary duty; upon completion of which to rejoin his station at El Paso, Texas.

THOMAS, A. M., Pharmacist. Temporarily relieved at the Angel Island Quarantine Station, Cal., and directed to report to the medical officer in command of the Marine Hospital station at San Francisco, Cal., for temporary duty.

*Board Convened.*

A board of medical officers was convened to meet at San Francisco, Cal., February 21, 1908, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman, and Passed Assistant Surgeon C. H. Gardner, recorder.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending February 22, 1908:*

CRAIG, C. F., Captain and Assistant Surgeon. Advanced to the rank of captain, to date from February 18, 1908.

DALE, F. A., Captain and Assistant Surgeon. Ordered to Fort Lincoln, N. D., for duty.

FLAGG, C. E. B., Captain and Assistant Surgeon. Resignation as an officer of the Army has been accepted by the President, to take effect April 15, 1908.

GRAY, W. W., Lieutenant Colonel and Deputy Surgeon General. Granted leave of absence for one month.

HANNER, J. W., Captain and Assistant Surgeon. Granted leave of absence for two months and seven days, from February 19, 1908.

MCANDREW, P. H., First Lieutenant and Assistant Surgeon. Ordered to Fort Slocum, New York, for duty.

PEED, G. P., Captain and Assistant Surgeon. Will proceed on or before the expiration of his present leave of absence to Fort Ontario, New York, for duty.

SILER, J. F., First Lieutenant and Assistant Surgeon. Will proceed on or before expiration of present leave of absence to Fort Des Moines, Iowa, for duty.

**Navy Intelligence:**

*Official list of changes in the medical corps of the United States Navy for the week ending February 22, 1908:*

BAKER, M. W., Passed Assistant Surgeon. Unexpired portion of sick leave revoked; ordered to the Naval Hospital, New York, N. Y.

BELKNAP, J. L., Assistant Surgeon. Detached from the *Wabash* and ordered to the naval training station, Newport, R. I.

HEINER, R. G., Passed Assistant Surgeon. Detached from the *Wasp* when placed out of commission and ordered to the *Pennsylvania*.

KENNEDY, J. T., Surgeon. Detached from duty with naval recruiting party No. 3 February 29th, and ordered to the naval recruiting station, Dallas, Texas, March 2d.

RICHARDS, T. W., Surgeon. Ordered to the *Colorado* February 22d, when discharged from treatment at the Naval Medical Hospital, Washington, D. C.

SCHALLER, W. F., Assistant Surgeon. Detached from the *Pennsylvania* and ordered to the *Relief*.

TAYLOR, E. C., Passed Assistant Surgeon. Detached from the Naval Hospital, New Fort Lyon, Colorado, and resignation accepted.

WILSON, G. B., Surgeon. Detached from the *Colorado* and ordered to the *Wabash*.

**Births, Marriages, and Deaths.***Married.*

BARTON—TOWNSEND.—In Richmond, Virginia, on Tuesday, February 18th, Dr. Posey L. Barton and Miss Bessie Townsend.

BERAUX—MAUMUS.—In New Orleans, Louisiana, on Wednesday, February 12th, Dr. L. A. Beraux and Miss Anita M. Maumus.

JUSTICE—WOODRUFF.—In Philadelphia, on Wednesday, February 5th, Dr. Crawford Tait Justice and Miss Elsa Marguerite Woodruff.

LUPTON—WOODS.—In Charlottesville, Virginia, on Wednesday, February 12th, Dr. Frank Allemond Lupton, of Birmingham, Alabama, and Miss Mary Watts Woods.

McCANN—BELLERBAUX.—In Louisville, Kentucky, on Friday, February 14th, Dr. Frank E. McCann and Miss Catherine Crystal Bellebaum.

MAGEE—DONNELLY.—In Trenton, New Jersey, on Wednesday, February 13th, Dr. David M. P. Magee, of Philadelphia, and Miss Suzanne C. Donnelly.

*Died.*

ARMISTEAD.—In San Francisco, California, on Thursday, February 6th, Dr. Cecil Armistead, aged thirty-seven years.

BROWN.—In Providence, Rhode Island, on Saturday, February 15th, Dr. Lucy A. H. Brown, aged sixty-six years.

CROOK.—In Glenwood Springs, Colorado, on Friday, February 14th, Dr. J. J. Crook, aged eighty-one years.

GRAHAM.—In Denver, Colorado, on Friday, February 14th, Dr. John W. Graham, aged sixty-four years.

HEUCHLING.—In Evanston, Illinois, on Monday, February 10th, Dr. Theodore W. Heuchling, aged sixty-nine years.

HODGSON.—In Roanoke, Virginia, on Saturday, February 15th, Dr. Wilmer Hodgson, aged sixty years.

KLOCK.—In Mahanoy City, Pennsylvania, on Saturday, February 1st, Dr. H. A. Klock, aged sixty-four years.

LE CRONE.—In Columbus, Ohio, on Wednesday, February 12th, Dr. Thomas W. Le Crone.

LEWIS.—In Tip Top, Harden County, Kentucky, on Thursday, February 13th, Dr. J. C. Lewis, aged sixty-three years.

PEASLEE.—In Schodack Landing, New York, on Saturday, February 8th, Dr. John Peaslee, aged fifty-eight years.

PEIFFER.—In Louisville, Kentucky, on Monday, February 17th, Dr. Robert M. Pfeiffer, aged fifty-one years.

RENICK.—In Butler, Missouri, on Friday, February 14th, Dr. O. F. Renick, aged eighty-three years.

STARR.—In Washington, D. C., on Saturday, February 15th, Dr. William M. Starr, aged one hundred and one years.

WOOD.—In West Chester, Pennsylvania, on Wednesday, February 12th, Dr. Henry C. Wood.

# New York Medical Journal

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### Original Communications.

#### PSYCHIATRIC EXPERT EVIDENCE IN CRIMINAL PROCEEDINGS—ITS IMPERFECTION AND REMEDY.\*

By GEORGE W. JACOBY, M. D.,  
New York.

Every important criminal trial in which the question of the insanity of the accused forms part of the defense is followed by a discussion about medical experts and medical evidence in which both professions, that of law and that of medicine, take part.

The lawyer looks upon medical evidence as an unsatisfactory kind of testimony and attributes this to the inexactness of medical science, or to reasons still less flattering; the physician, on the other hand, sees the causes in the defects of the law or in the manner of its application, and reflects in general against the practice of our courts.

Certain it is that judges and juries do not receive this testimony with the respect and confidence which is accorded to it in other countries, and it devolves upon us, as alienists and neurologists, as the ones who are consulted in the class of cases referred to, to investigate whether the fault lies entirely in ourselves or only partly so, and to consider whether a situation which has become intolerable to all of us cannot be altered.

It has become proverbial that every nation possesses the government which it deserves, and it may be said, with even more justice, that an independent people such as we are possesses the government which it desires. This is true not only of the government in general, but it also applies to each single link in the commonwealth, to every dispositive of our legal activity, to each single law, whether the latter be fundamental in character and of all pervading import, or insignificant in its activity and immaterial in its consequences.

If we have the laws which we desire, we must also desire the necessary sequences of the laws which we have, inasmuch as the laws exist for the purpose of regulation of our outward life. On the other hand, are we discontented with the results produced by the application of our laws, then it follows that our laws and our will are no longer in unison.

It is often not easy to take the decision to alter laws under which we have grown up. Our concepts of what is right and what is good develop with time and with progress in conditions of existence, becoming modified according to the altering conditions

of society and culture, whereas the laws themselves correspondingly change but little or not at all.

Then it may occur that gradually and imperceptibly there develops, between the concept of the law and the law itself, a disparity which at a given moment, at some special happening, becomes manifest as a gross discord, and then a law which heretofore has filled its mission in an approximatively thorough manner, but has not kept pace with the progress of the times, nor with us, may appear as a very questionable fabric.

On the other hand, all of the unsatisfactory manifestations which evidence themselves under the workings of a law are not always due exclusively to inadequacies of this law.

Frequently the cause for disaffection is to be sought in the persons who carry out the law, in ourselves. If the people themselves are reasonable and just, if they enforce the laws with reasonable wisdom instead of making a fetish of the letter of the law, then even under antiquated law existence may be thrifty and flourishing.

When, however, as was recently the case in a sensational murder trial, the law's application results in a monstrosity which obtrudes itself painfully upon the consciousness of every law loving citizen, then it is our duty to ask ourselves conscientiously, Are such monstrosities, such excrescences, the result of inadequate laws, or are we ourselves at fault in the manner in which we apply those laws which we have?

Do our existing laws which govern the plea of insanity in criminal cases constitute in themselves the chief cause for such occurrences, or would it have been possible with these same laws to have built up a more harmonious structure, to have avoided the outcry against the medical expert and therewith against the courts, the laws which govern them and the methods of their administration? Whether or no this could have been done in the individual case here referred to I am not competent to discuss, but I do say that our method of legal procedure in such cases does require earnest investigation in order to ascertain whether it to-day still actually represents that which we desire, that which we as citizens are in duty bound justified in demanding.

My own personal opinion, and I am sure that I do not stand alone herein, is that in many ways we do not get from these laws as they are to-day what we ought to have and what we want. This present writing is undertaken in order to indicate in a general way wherein I believe this defect to exist and in the hope that if a sufficient clamor for a change is raised, such change may ultimately be effected.

\*Read before the New York Neurological Society on December 10, 1907.  
March 3, 1908.

In my opinion the prime change needed is an alteration in the method of giving and taking expert testimony in our courts.

The aim of every criminal procedure is to answer the question whether the accused is guilty. If there exists any reasonable doubt as to such guilt, the verdict must be "not guilty."

This verdict of "not guilty" does not, therefore, without further ado and under all circumstances say that the accused is in reality not guilty, but that the guilt has not been proved. For practical life, and especially so far as the law is concerned, he is then to be placed on a par with the innocent. This is a demand of justice and above all of equity and humanity; but we see that practically it is perfectly reconcilable with even the most ideal conception of criminal procedure that a person who is really guilty may, from lack of evidence, be acquitted. In so far, therefore, the task set for a criminal proceeding is by no means solely the establishment of the truth.

On the other hand, a verdict of "guilty" should be rendered only if the accused is actually guilty; to err is human, but all possible safeguards should be established in order to prevent the occurrence of such an error, and we must strive with all our power to have only him who is really guilty so pronounced. Herein the task of the criminal proceeding is at one with the task of discovering the truth. Inasmuch, however, as it is impossible to say whether a procedure will end with a verdict of "guilty" or "not guilty," each individual case must be conducted from the beginning to the end with but one object—the ascertainment of the truth. To determine the truth is the province of the jury; to point the way to such determination, the province of the court. From the contest between prosecution and defense the truth is to be unraveled, the means at hand for such disentanglement being the evidence, made up of the testimony of witnesses and of experts.

Both witnesses and experts serve only one purpose, the elicitation of the truth; those through truthful evidence of what they have seen, heard, or otherwise observed; these by giving their opinion in accordance with their best knowledge and capability; both, no matter how much they may strive to be accurate and truthful, are subject to error, both are subject to all the influences of human frailty, the measure of each individual as regards the demands which he takes upon himself, his criterion of duty, etc., being measurable by no general standard.

It would be a great gain could we select witnesses in accordance with a certain gauge, but this we cannot do; we must, as a rule, take them as we find them. Not so, however, is it with experts; these may be selected. In fact, they are even now selected, but in an entirely different manner from which I would have it done. While in a certain sense it is anomalous to speak of witnesses for the prosecution and witnesses for the defense, inasmuch as all witnesses, without exception, are supposed to be witnesses for "the truth, the whole truth, and nothing but the truth," and should not allow themselves in testifying to be swayed by the influence which their testimony may have, one way or another, it is certainly monstrous to refer to the *experts* as an expert for the prosecution or an expert for the defense.

The expert is in a way the assistant, the aid, of the jury. In the case of the jury, of course, the ordinary wit-

ness holds, or ought to hold, the same relation, but the expert does so in quite a special sense. Whenever there arises a question in regard to things for the consideration of which the competency of the jurors, in consequence of the lack of special or technical knowledge, is inadequate, experts are needed; where no such extraordinary knowledge is required the jurors will arrive at the truth by means of their own faculties, unaided by extraneous elucidation, without the assistance of experts.

The expert, whose efficiency also culminates in a judgment, should, therefore, place himself as far as possible in the position of a juror, and should draw himself away as far as possible from the position of either the prosecution or the defense.

If, then, as already stated, we are able to select the expert, in contradistinction to the ordinary witness, whom we must take as we find him, with all defects of mind and character which he happens to have, we should do this all the more, because it is his opinion, his judgment, which may be decisive in the formation of the judgment of the jury, or at any rate frequently furnishes this verdict with an important basis. Especially is this so when, in a criminal proceeding, it is a question of the insanity of an individual; here the matter of opinion stands predominant, and the value of this opinion will depend much upon the qualities, educational and otherwise, of the person giving it.

As already indicated, even to-day a certain selection of experts takes place, but in such a manner that the prosecution and the defense enter into direct competition in order to secure whom they consider the most available alienist and to obtain his "opinion" for their own side; of course, always for a fee, which is rarely a small one.

Against this payment of a fee nothing can be said, for the physician is certainly entitled to a remuneration for his time, thought, and knowledge, but it must be clear that the impartiality of expert opinion would, to say the least, in no wise be affected if the payment of such remuneration were left to others than the interested parties. We then have "experts for the prosecution" upon the one side and "experts for the defense" upon the other, and it is accepted that this right to choose and to remunerate an unlimited number of experts should not be curtailed. Yet something must be done, if not to curtail, then at any rate to modify this right, for whereas this competition of the contestants to secure the experts does guarantee that the most "celebrated" specialists will appear as acting "personae dramatis" upon the scene, it does by no means guarantee that the most competent will be called to this honor; and when I speak of competency, I refer not only to scientific attainments, but to that strength of character which will enable them fearlessly to tread the right road, unbiased by any attractions which ambition may present.

Let us be frank with ourselves. Especially in large cities, the eminence of a specialist is only too often dependent upon the accidental, upon extraneous factors which have nothing in common with actual worth, and is often built up through conditions of society, so called, which in its turn is supported upon a foundation made up chiefly of wealth.

Under such circumstances, what are we to expect if the accused is poor? Will these celebrities then



also be obtained to work in his interest? And while upon no field of justice should the success of either party be dependent upon money, certainly in the field of criminal justice the chances of the defense should not be invalidated by poverty! This reason alone should explain why the highest medical authorities call for the abandonment of the present voluntary experts.

We ought, as a permanent institution, to have a class of forensic physicians. This institution, which I am here discussing for psychopathological purposes and which I would premise may be correspondingly developed for all branches of medical jurisprudence, should, in my opinion, be somewhat as follows: These physicians are to be public officials, not city or county, but State officials, so that they may be as independent as possible of local influences. The determining factor in their appointment should be fitness for the specialty which they are to represent. Under no circumstances should their appointment in any way be determined by political influences or considerations.

This exclusion of political influences may be effected by the necessary legal enactments. Most important, however, would be that these safeguards be honestly protected. We must elevate ourselves to a standard which will enable us to realize that there are certain things which stand so high as to be beyond the reach of politics, and among these we must place most prominently the selection of the physicians who are so frequently called upon, by means of their expert opinion, to exert a strong influence upon the honor and the life of their fellow citizens.

This choice is not to be made without discrimination from the general body of physicians, but certain special qualifications should be legally required. Firstly, there should be a certain age limit, before which it is hardly possible to imagine the existence of the requisite professional and general experience. Then a special training should be demanded. This training should start at college with special courses on legal medicine and legal psychopathology, should be followed by clinical psychiatric work in a State hospital, and terminated with a special examination by the State Board of Medical Examiners. The bestowal of a special degree of "physician to the courts," by this board, after proper examination, would ensure the necessary addition to the curriculum by the colleges, and the acquisition of the necessary knowledge by the candidates. The appointment would then be made by the State from the number of successful candidates and should be a life position.

The physician to the courts is obliged at call of the court to give to the court an expert written opinion, and later an expert verbal opinion before the jury. This, however, is, I repeat, only to be done upon request of the court. In the composition of this opinion the expert is neither to receive or accept instruction from any one, his responsibility is one which must be between himself and his own conscience. He should not be prohibited from giving an opinion at private request and for private use, but should be permitted to give an expert opinion for public purposes, and to testify in court only upon call of the court itself. Hence the

physician to the courts will be as little an organ for the defense as a creature of the district attorney. This is the only manner in which the absolute impartiality and the authoritative respect due to the purposes of such an institution can be maintained.

For every piece of work which the physician to the courts does upon call of the courts he should receive a remuneration apportioned in accordance with the difficulties of the individual case and the length of time which he has devoted to its consideration. In addition hereto he should be allowed to occupy a teaching position and to carry on a medical practice in the same manner as is permitted every physician.

By such or similar means will we develop a body of neurological and psychiatric experts who are so in the true sense of the word.

The regulation and supervision of this institution of physician to the courts would, in my opinion, devolve primarily upon the State. Whatever supervision be exercised, the supervising body must by law have the power to render its supervision an active one.

So much about the physicians to the courts, as such. From their number then the court shall, upon motion, or upon its own initiative, select and appoint the experts for each individual case, it, of course, being the province of the court in any special case to appoint as expert any other physician it may desire. Capable judges are competent in any case to say whether the court requires the testimony of experts for its own information, or for the enlightenment of the jury, and also to say who shall be summoned for this expertness.

The expert being appointed, all material which may be of even remote use to him in the formation of a relevant opinion should be placed at his disposal. Only from the entirety of the case can he form an opinion of value. Particularly in questions concerning the mental condition of a person may circumstances which appear irrelevant to a non-medical man be of the greatest importance. Particularly regrettable would be any opposition on the part of the district attorney to the consideration of evidence, for instance, communications which the accused has made to a third party, even where he has the right to object, simply because he believes or fears that such evidence would be of injury to the prosecution.

While it is perfectly true that the relation of the defense to the prosecution is that of antagonism, and that, therefore, each side should and must follow out its individual aim, yet this antagonism on the part of the prosecution should not be overaggressive, for the aim of the prosecution should not be the desire to convict, but the discovery of the truth, the determination of guilt.

It should, therefore, be the duty of the public prosecutor to allow to be brought to light, yes, even himself to bring to light, each and every circumstance which may in any way be of service in determining the mental condition of the accused, without regard to whether these appear to be of service to the prosecution or to the defense. And, furthermore, it should be the province of the court in case either side be one-sided or another be untrue to

this direction, to take upon itself the steps necessary toward bringing out the circumstances which are being concealed or obscured.

For the determination of the mental condition of a person all his acts of commission or omission, his conduct, his mode of life, what he has said, and what he has not said, may be of importance.

Man is an entity. Our comprehension of him will be based upon his development up to the moment of the act which stands in judgment, his personality during the act and immediately after the act, and also upon his life in its subsequent course and his deportment during the investigation. For all this is part of him; all serves for the recognition of his being. The act is a product of his personality; after the act this personality does not lose its entity; the person after the act is no other than the person before the act. To attribute such significance to the act, as to be willing to say: "Everything that was done, said, etc., by him before, during, and immediately after the act, may be admitted in evidence, but everything that occurred subsequently is, so far as possible, to be excluded," is an arbitrary, an unscientific, and an unmedical conception.

The science of medicine cannot be other in a court of law than it is in a sick room, and, therefore, the law must conform to the teachings of science. If, for instance, the accused, while in prison has had various conversations with the physicians, *all* these conversations may be of significance, and it would not be right to admit, let us say, the three first conversations in evidence and not the others; but it may be objected, the accused, who knows the purpose of the conversation, dissembles, simulates, lies, etc., in order to influence and deceive the observer in his favor. True, this may all be so; but *all* without exception, even the fact of simulation, assuming this in a given case to be a fact, serves also for the determination of the being, of the mental state of the accused.

Scientifically there exists no reason why the entire life of the accused after the act should not be admitted as evidence, without limitation. Just as the physician must consider the life before the deed, all individual occurrences before the act, so he must do the same for the life, for the details after the deed. And as the physician must do this in order to arrive at a relevant opinion, so the jury should be permitted to do the same in order to enable it to arrive at a relevant verdict.

The more complete the picture of the accused which can be unfolded to the physicians, the better will it be for the performance of their task, and the court proceedings should be such as to enable them as far as possible to attain this end.

Allowing that the expert should have at his disposal the greatest possible knowledge of the entire case material, in order to be able to give his expert opinion with the greatest possible relevancy, then he should also be permitted to give his opinion as an entity, as a whole. This expert opinion is a scientific achievement, a decision dependent upon so and so many conclusions from so and so many circumstances and particulars of all kind.

The highest scientific demands may be made upon the expert, but no obstacles to the production of sci-

entific work must be placed in his way. Above all, I would demand that he be allowed to deliver his expert opinion quietly and connectedly. Every scientist, artist, or technician in whatsoever field he may be active, if his opinion is desired upon any complicated or difficult matter, would consider it selfevident that he be allowed to expound his opinion in *his* own manner, as he is best able to make it clear to his audience, and that he be given uninterrupted audition. Or if this consideration cannot be given him, he would decline the imputed honor; this he owes to the individuality and thoroughness of science.

Why should the psychiatrist, in this regard, be treated differently in a court of justice than every other scientist is treated outside of the court room; and that he is so treated, no one can deny. Often true equilibristic performances are demanded of him; not three words is he allowed to speak without being interrupted by one side or the other, and questions are all propounded to him piecemeal. Surely, in this way nothing sensible can be produced. Were it not, so to say, a special duty, to serve the courts with expert opinion in cases of criminal actions, no conscientious and selfrespecting psychiatrist could be found who would be willing to participate in such an "obstacle race." And what is the practical result of such proceedings? The expert finally has said all that he wants, or is allowed, to say, in a fragmentary manner, amid endless interruptions and deviations, and frequently amid personal explanations of the most undesirable nature. Therefore, that much is attained, that he is unable to expound his opinion in the proper manner, and that the jury has the greatest difficulty in forging anything serviceable out of this scrap heap. In this way the most simple matter may be complicated in a most unwarrantable manner.

Instead of serving the truth, we are strewing sand in each other's eyes. I can see no reason why the expert, after having been sworn and after giving his qualifications, should not be asked and allowed to expound his opinion of the case in continuity. He is supposed to have been present during the entire trial before the jury, and, therefore, should be perfectly conversant with the subject matter of the action; he can, therefore, of himself, without outside aid, give a clear exposé of his opinion. If there are special points, the understanding of which cannot be expected of a nonjurist, there can be no objection to the necessary instruction being given. We want the truth, we ask him openly and honestly, we explain to him freely and directly the special juristic difficulties, and then he will answer just as openly and honestly, just as freely and directly.

After the expert has finished his exposition in continuity, there probably will yet remain something upon which the defense, the prosecution, and perhaps the court or the jury will, from their point of view, require amplification, explanation or correction. Let each one *now* ask the questions which he would like answered. Herein, what is a matter of course for the court and the jury applies equally to prosecution and defense, namely, that the questions be put simply and honestly with the expressed purpose of arriving at a better understanding of the truth, and that all bythought and hidden design—

technical sophistries for the purpose of confusing the expert—be foregone.

It should not be attempted to make use of the expert in order to show that black is white, or that the one side is the better and the other the worse. Questions of mental disorder, especially those relating to borderline states, are in themselves difficult enough to understand and explain; it is not at all necessary that the subject matter be in addition artificially confused and obscured.

Especially do I believe that the hypothetical form of question is, in general, unnecessary. It is not difficult to deduce, from a correct expert opinion, upon what asserted facts or circumstances it is based, either as a whole or in part. The confirmation of the facts or considerations is a matter for the jury. And is, by implication, contained in their verdict. The expert opinion preceding the verdict, the confirmation of the facts, is, in so far as the expert opinion is concerned, of course only hypothesis.

Wherever a misunderstanding may be possible, this hypothetical character may be emphasized in the form which is given to the opinion. But to attach the entire opinion directly to a hypothetical question does not always make for clarity. Certainly the question should never be given a monstrous form.

I desire now to refer to another aspect regarding the delivery of the opinion by the expert. It is not only to be given coherently, in continuity, but also in language which may be commonly understood. Technical terms, as are used in professional intercourse among physicians, and which are not understood by the average nonphysician, should not be used. The psychiatrist is to use simple expressions and explanations; so far as possible he is to say what he has to say in plain English, and wherever this is not possible he must explain his terms without first being asked to do so. The better qualified, professionally and generally, the expert, the easier will it be for him to develop his ideas in simple language, so that every one with ordinary knowledge and intelligence can follow and understand him. A most peculiar impression is certainly made when, without rhyme or reason, difficult Greek terms are employed, in reference to which, then, questions and responses arise, as in a schoolroom; again a new means of distraction, of confusion—ostensibly, of course, one of enlightenment. For an accurate expert opinion it is furthermore necessary that the expert confine himself to such psychopathological exposition as is required by the case under consideration, and here allow the essential to stand out prominently. Yet how often do we witness an expert going through almost the entire field of insanity, with references to all possible and impossible allied forms of disorder.

*This should not be.* And this will be avoided, if, in accordance with the demands already made, the psychiatric expert be really treated as a man of science and be allowed to solve his task coherently and without interruption.

Then he can and will of himself keep to the point and endeavor to instruct the jury in simple, inartificial, truthful manner, instead of blinding them with sophistical fireworks.

The ideal in expert testimony would be still more approximated if the expert, at as early a stage in the proceedings as possible, was permitted the great-

est possible insight into the details and entirety of the case; which means that he be not drawn into the case, as is now done, just at, or shortly before, the trial itself. The proceedings before the jury are certainly the essential, but no lawyer, whether he be for the prosecution or for the defense, and no court would show any special predilection for occupying themselves with the case only when the proceedings before the jury are begun.

The earlier the stage at which the expert approaches the case, the deeper will be his understandings of it, and the sooner will he become equal to the task which has been set for him. For this reason, in every case in which there is a question of mental disorder, the expert should be called in from the very beginning. Time spent by him in his own study and in the cell of the accused will be well applied, and when, thus fortified, he is present at the trial itself, he will be able in a brief exposition to furnish the best that could be demanded of a medical expert, and will be able to instruct the jury with the greatest imaginable certainty. In all cases in which it is a question of the insanity of the accused, not only at the time of the proceedings, but particularly at the time of the commission of the deed, it would be of great importance, not only to have him examined by a commission aided by experts, but, in the interest of personal liberty and acceleration of the proceedings, to commit him for observation during a limited time into an insane asylum. In clear cases this would not be necessary, in doubtful ones, however, of inestimable value.

The scientifically organized and medically supervised insane asylum is the only proper place for such observation. That, of course, a State asylum is the only one which could here be considered, must from the nature of the proceedings be clear. The maximum time of internement for the purpose of observation could in each case be determined by the court; yet a general maximum which should not be transgressed, say, perhaps six weeks, which would, in my opinion, be ample even in the most difficult cases, could be established by law. Yes, it is even a question in my mind whether such internement could not be permissible even before the findings of the grand jury—that is, before any formal indictment has taken place. The results of such observation might then occasionally be such that the grand jury would decline to indict. Then the mental rack of the proceedings could be spared the patient, treatment be started earlier, his rights of citizenship sooner safeguarded, his family protected against unspeakable suffering, and last, but not least, the mass of sensation lusting members of "society" be robbed of one victim of their ignoble curiosity.

I have already said what seems to me to be a self-evident truth, that a surplus of experts acts as an injury to a case. From the moment that the people have gained actual confidence in the experts themselves and in their mode of action in criminal cases, and have accustomed themselves to look upon and to appreciate the expert as a leader toward truth, then the endeavor of the parties to have as many experts as possible will cease of itself. More attention will be given to the qualities of the experts than to their number. The law already to-day empowers the court to reject superfluous evidence. If the expert



system as I have expounded it is once established and employed, the judge will, even less than at present, have any reason to fear that, through the rejection of such superfluous expert testimony, the proceedings may be successfully attacked. And what I have said here about the rejection of superfluous experts applies also to the rejection of superfluous questions asked of the experts. If the expert has given his opinion coherently and exhaustively, and has supplemented it, so far as necessary, by answers to the questions asked by the two sides, by the judge, and by the jury, he can, with a clear conscience, decline to answer any further questions, and the judge will support him in this refusal, in order that the court procedure be not turned into a farce. But, as stated, it is my firm conviction that no side with any selfrespect will endeavor, by means of unnecessary questioning, to make a caricature of a serious scientific opinion, which has done justice to all of the circumstances bearing upon the case. Far be it from my desire to unwarrantably limit the right and duty of questioning and cross questioning. I desire only that the misuse of this right and duty be opposed, opposed not only in open court in each individual case, but as a matter of principle through public opinion. All of which clearly appears justified by the fact that the refusal by the court to allow really immaterial questions can in no wise be considered among the causes for appeal. Herein, therefore, no change of the existing law is in any way required.

It is merely a question of the manner of administration. On the other hand, I would lay stress upon the following innovation. At any stage of a criminal procedure, the court, whether upon motion of either side or upon its own initiative, should be permitted to appoint one or more experts. In which case the prosecution, regarding its task as it should be regarded, viz., the ascertainment of the truth, would very rarely feel called upon to introduce additional experts. The defense also will, in the majority of cases, relying upon the personality, capability, and integrity of the expert appointed by the court, be content with such appointment, knowing full well that its own interests will be completely protected.

I do not conceal from myself that this proposition will in the beginning meet with manifold energetic opposition. This opposition is voiced by a judge of the Supreme Court of New York with the words: "This idea of official witnesses is totally opposed to all ideas of American and English jurisprudence. It would be a departure in a direction contrary to the spirit that has given rise to our free institutions. It may be an improvement, but it is radically different; and we should consider that before we determine as to what is the true solution of the problem."

But this proposal tends toward placing the experts in every way above party lines; it is directly interwoven with the high conception which we all have of the duties of an expert, and which I would like to see adopted and practically carried out, even "if the ideas of American and English jurisprudence" must adapt themselves to the progress of the times.

When the experts make such high demands upon themselves and the people will have accustomed

themselves to see in the expert the real scientific expert, instead of the medical counsel for the defense or for the prosecution, then this proposition will lose all appearance of doubtfulness, and then will, as I hope, the appointment of the expert by the court, whether upon motion of the prosecution or of the defense, or upon its own initiative, become the rule.

Not one of the least important advantages which such a procedure would carry with it would be that the most capable experts would be available, even in proceedings against the poor and the destitute. I would advocate still one more change in our existing criminal law, which, as it now stands, reacts deleteriously upon our entire expert system. I refer to the part of our penal code, derived from the old English law, which still exists among us, but which certain States of the Union, especially certain New England States, have long ago altered. This is our right and wrong test of insanity. As is well known our penal code requires for the irresponsibility of the accused such a defect of reason that the accused, in consequence of this defect, at the time of the execution of the act, did not know the nature or quality of the act he was doing, or did not know that the act was wrong. According to this no other state of mental disorder suffices for the assumption of irresponsibility. But this is one sided and by no manner of means just toward the requirements of medical science.

Scarcely any textbook of insanity, no matter in what country it is published, can be opened without finding therein, as a clear and indisputable, practically proved fact, that there exist a certain number of mental disorders in which the intellect is not so influenced that the patient did not know the nature or the quality of his acts, or did not know what was right and what was wrong, but in which, nevertheless—in full knowledge of the nature of his action or of the wrongfulness of the act—on account of a pathologically altered will or emotion, he was not able to conform his actions to the dictates of his intellect; in other words, that it is not the knowledge of the nature of the act or of the right or of the wrong—in relation to the concrete act—that it is not the intellect which is of decisive importance, but much more the question whether the person, in consequence of pathological disorder, was limited or inhibited in the use of his will.

Most nations have since a long time so altered their criminal law that it now conforms to this fact of medical science; only not in England and in single states of English law. Our New York law has, up to the present time, in opposition to all scientific progress, held on to this peculiarity of the old English law; therefore, to-day, still possesses antiquated English law. Every expert in insanity, lawyer or physician, knows this to be a fact. Yet what is the result of the application of this law in our criminal proceedings?

If the accused at the time of the commission of the act was disordered in intellect to such an extent that he could not recognize the nature of his act, or could not distinguish between right and wrong in relation to it, then, of course, according to our law, the expert encounters no difficulty whatsoever. He simply gives his opinion that the ac-

cused, as a result of his disease, was unable to recognize the nature of his act and could not distinguish between right and wrong.

But how about the other cases in which the patient is able to recognize the nature of his acts, and is able to distinguish between right and wrong, yet in consequence of disease is deprived of his freedom of will and thus is prevented to act accordingly? Here, then, the conscientious expert must declare it as his opinion that the accused, who, under the influence of a disordered mind, was deprived of his freedom of decision, is, in the sense of the law, *not insane*. For the honest scientist truly a position which could not be worse. Under such conditions the temptations for some may be strong, by means of subterfuges, by means of all kinds of dissertation upon all possible and impossible forms of insanity and symptoms, to rescue justice from the hardship of the law.

It has seemed to me necessary to go into this question on account of the close relationship which exists between it and the attitude of the expert in court.

In conclusion I would say that my essay upon the system of expert evidence in criminal proceedings by no means seeks to introduce a doubtful or dangerous experiment into our legal life. The recommendations here made are those which, in other places, so particularly in Germany, are in action, are in accordance with general conviction of the people, and have proven themselves worthy.

They could be organically woven into our criminal proceedings without creating any difficulty or causing any disturbance. Thus, the privileges of the judge would be somewhat extended, but the fundamental law which governs our courts, that the trial of the case belongs to the opposing parties, while only the general direction lies with the court, would be little, certainly not materially, interfered with; nor can I see that, that "*nole me tangere*" of the lawyers, "the law of evidence," is in any way hereby affected.

44 WEST SEVENTY-SECOND STREET.

## THE NEED OF CARE FOR THE CONVALESCENT FROM THE HOSPITAL STANDPOINT.\*

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In 1899 the surgeon in charge of a general hospital in Manila deemed it inadvisable to have his convalescent soldiers eat their meals in the wards, and in conformity with military procedure forwarded a request to the commanding general for authority to have a messhall constructed. The request was returned disapproved, with the endorsement that soldiers who were well enough to go to a messhall were well enough to be out on the firing line. The general's attitude impresses one as harsh, unnecessary, and subject to condemnation; and yet the attitude of many hospitals to the convalescent is similar, though it is true that the motives that prompted the general referred to were not the same as those that have op-

erated in civil hospitals, because the latter have had to provide the greatest amount of relief to the greatest number, and the convalescent has had to be discharged to make room for the acutely ill or for those in need of operative interference.

In many ways a hospital is a manufactory of health, a repair shop for mankind; and like all manufacturing establishments its efficiency is based on a complexity of organization that has carefully considered the relation of means to ends in accordance with the class of patients treated. But, unlike a factory in which certain mechanical, physical, or chemical procedures will entail certain definite products, a hospital cannot by certain similar procedures, in apparently similar morbid conditions, produce health. Many patients attain a normal condition in an average time, but there are others affected by similar diseases who, at the expiration of the average time, are only more or less advanced in convalescence. Such patients cannot well be kept, until they have regained their health, in a hospital intended for an acute service, without detriment to the purposes of the institution and to their own convalescence.

Many centuries ago Plato submitted the postulate "that in all well ordered states every individual has an occupation to which he must attend, and has therefore no leisure to spend in continually being ill. This we remark in the case of the artisan, but, ludicrously enough, do not apply the same rule to people of the richer sort." He goes on to say that "when a carpenter is ill he asks the physician for a rough and ready cure; an emetic or a purge or a cautery or the knife—these are his remedies. And if some one prescribes for him a course of dietetics, and tells him that he must swathe and swaddle his head, and all that sort of thing, he replies at once that he has no time to be ill, and that he sees no good in a life which is spent in nursing his disease to the neglect of his customary employment; and therefore bidding good bye to this sort of physician, he resumes his ordinary habits, and either gets well and lives and does his business, or, if his constitution fails, he dies, and has no more trouble."

While the hospital staff may not always keep in mind that their poor patients have no time to be sick, in general most measures are adopted that will carry the patient as expeditiously as possible through to convalescence. Then the patient is discharged to his home, or permitted to continue in the ward, with such cursory supervision as seems advisable until he asks for his discharge, or it is apparent that he has regained his usual efficiency, or it is evident that the latter cannot be regained. Either of these latter methods is inadvisable and uneconomic. To send a convalescent patient home is to relegate him frequently to an undesirable environment, to inadequate or improper food supply, to the ministrations of injudicious relatives or friends, to premature work to earn his support, and each or all of these in the condition of lessened resistance associated with convalescence may divert the latter into a state of permanent invalidism.

To keep such a patient in a hospital intended for acute diseases is an unnecessary tax on the higher per diem cost of maintenance in such an institution, and deprives the patient of those measures of hydrotherapy, mechanical therapy, electrotherapy, and aera-

\*Read before the Section on Public Health, New York Academy of Medicine, January 14, 1908.

therapy which should be particular features of hospitals for the care of convalescents and which are rarely available in general hospitals.

In 1904 the Census Bureau made an important investigation of the hospitals in the United States and found that there were 220 public, 831 private, and 442 ecclesiastical institutions, a total of 1,493 hospitals. At an expense of \$28,200,866 these hospitals treated 1,064,512 patients, of whom 71,530 were in the hospitals at the end of the year, and therefore 992,982 patients were discharged or died. How many of these patients were discharged in a state in which they needed further treatment? The percentage may be approximated from the experiences of Bellevue and Allied Hospitals, which in 1906 discharged 31,334 patients, of whom 13,825, or 44.1 per cent., were discharged improved; that is, they were not in a condition to resume their usual avocations.

If, from necessity, they did resume their customary work, it was done with a more or less impaired physique, and consequently with proportional diminution in efficiency. Let it be granted that the four city hospitals referred to have an exceptional clientele in the destitute poor of New York City, that all other hospitals transfer to them those patients whose diseases entail prolonged convalescence or are incurable, and that in turn Bellevue and Allied Hospitals pass these patients on to the hospitals of the Department of Charities, still it is believed to be a moderate statement that more than thirty per cent. of the patients discharged from hospitals in this country are in need of further treatment. This would mean that in 1904 about 300,000 patients had to be discharged who needed hospital care longer.

Great Britain, France, Germany, and Switzerland have recognized the importance of the transfer of convalescent patients from city to country hospitals. Indeed, in Great Britain there are 278 such institutions, and thirteen of the London hospitals have their own convalescent homes. In this country there is a good example in the Massachusetts General Hospital, which has 261 beds, and which established in 1882, at Waverly, a convalescent home containing thirty-one beds, at a cost of \$50,000. These institutions should give a fair idea of what such a home may accomplish. In 1906 the hospital treated 5,075 and the home 519 patients; the average number of patients in the hospital was 272 and in the home 23; the average number of days each patient was in the hospital was 19.6, and in the home was 16.2. A little more than ten per cent. of the patients were sent to the convalescent home, and the latter was not used to its full capacity.

English hospitals find greater need for this convalescent relief. The East London Hospital for Children, having 109 beds and treating 1,587 patients, has the Princess Mary Convalescent Home with twenty-eight beds, and treated 317 patients. The French Hospital, that has seventy beds and treated 790 patients, has a convalescent home at Brighton with sixteen beds, and treated 180 patients. Victoria Hospital for Children, with 104 beds and treating 962 patients, has a convalescent home at Broadstairs with fifty beds and treated 663 patients. Middlesex Hospital has 343 beds and treated 3,147 patients, and its convalescent home at the seashore

has sixty-one beds and treated 878 patients. Charging Cross Hospital, with 187 beds and 2,465 patients treated, has a convalescent home of fifty beds, which treated 470 patients. These figures might be continued and would show an accommodation of about twenty per cent. of the hospital population. And it is believed that the number that would be helped would be greater if it were not for the question of finance.

From the cost of administration standpoint it is materially more advantageous to provide convalescent hospitals. In the latter the cost per patient in Great Britain is about one half of what it is in a general hospital; and in the Massachusetts General Hospital, while the per diem cost in 1906 was \$2.062, it was \$1.302 in the convalescent home.

From the standpoint of cost of construction, while the urban hospital of the present day type will cost from \$3,000 to \$5,000 a bed, the convalescent hospital can well be built at a cost of from \$1,000 to \$1,500 a bed.

One of the greatest difficulties that would be met with in applying the principle of treatment in a convalescent hospital to patients whose preliminary treatment was in a general hospital would be the opposition of the patient or of his relatives and friends to his transfer. The administration of the institution would be subjected to political, financial, social, and other pressure to exempt certain patients from the application of the rule. There should be in a free hospital a nurse in charge of convalescent relief work who should visit each new patient admitted to the hospital, and by tactful inquiry she should learn the general situation of the individual, and whether there were dependents left at home who should be looked after by some organization or volunteer worker. Her professional training and knowledge of the methods of the visiting physician or surgeon would indicate those who should be transferred to the convalescent hospital, and she should represent to them the advantages in ultimate and perhaps complete cure that would be gained by a sojourn in such an institution.

Establishments for convalescents should be located in accessible places that could be reached by a minimum expenditure for car fare, and that would not exhaust the patient by fatigue when transferred. Reasonable provision should be made for the care of those not distinctly convalescents, but who are dependent on the patient, as in the case of mother and child.

The following conclusions are submitted:

1. The purpose of hospital treatment should be to further as expeditiously as possible the return of the patient to a condition of physical efficiency.
2. Proper hospital treatment for convalescents should be provided to accomplish this end.
3. For economic reasons the treatment of convalescence should be separated from that of acute conditions. But for the same reasons a hospital for convalescents may be associated with one to treat chronic diseases.
4. Urban accommodation for convalescents is impracticable and undesirable, and accessible suburban sites should be selected to locate hospitals for convalescents.
5. Convalescent hospitals should be constructed at



moderate cost; they should provide for patients likely to require a long as well as a short duration of convalescence; they should be equipped with all apparatus that will further restoration of tissues and organs to normal; the patients should be subjected to proper medical supervision.

6. A committee or society to advocate convalescent hospitals should be formed to cooperate with a charity organization society, or association for improving the condition of the poor, or State board of charities. Such a society in England has accomplished good results.

144 EAST THIRTY-SEVENTH STREET.

## A BRIEF STUDY OF THE PROSTATE WITH REFERENCE TO THE CURABILITY OF GONORRHOEA.\*

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It is surely not necessary at this late date to quote from the extensive literature on the subject, in order to demonstrate that the crucial point in any discussion of the curability of gonorrhœa in the male, is to be found in the presence or absence of gonococci in the prostate and its annexa. Experience has taught us that the genital portion of the genitourinary tract is the most resistant to treatment, and the last part of the affected region to recover. It, therefore, goes without saying that although the urethra proper may be entirely cured of the gonorrheal process, the prostate and annexa may still be infected, and that from time to time outbreaks will occur which owe their being to the latent gonococci which have not been dislodged by treatment, from their deep seated hiding places in the prostate and vesicles.

That the gonococcus may remain dormant in the prostate and awaken months and even years after the initial infection, has been clearly shown by the studies of too many careful observers to admit of any serious doubt. Nevertheless, in spite of this well known fact, and perhaps just because it is so plainly obvious, comparatively slight attention is usually paid to this subject in actual practice, and it is the purpose of this brief paper to direct attention to this oft neglected but highly important element in the study of gonorrhœa.

We must confess that all of us are not yet altogether agreed on what constitutes a cure in gonorrhœa. We have on the one hand the busy general practitioner, always glad to get rid of his "clap" cases, and who discharges his patients as soon as the urine becomes clear and there is no discharge at the meatus; on the other hand we have the physician-specialist who goes to the other extreme and cries at every breath "once gonococci, always gonococci." These men represent the great divergence of opinion which characterizes medical men in the matter of the curability of male gonorrhœa. The one man declares that "clap" is nothing worse than a slight

cold, and is just as easily cured; the man at the other extreme regards gonorrhœa as a hopelessly incurable disease. Who is right?

It is certainly true that many cases of gonorrhœa do get well in remarkably short time, with or without treatment, and often in spite of treatment. It is also true that a considerable number of men who have been infected with the gonococcus, never get rid of their disease entirely. So that both extremists may justify their attitude in the light of experience. My personal preference is to take the happy medium and say that although gonorrhœa in the male is often cured entirely, and sometimes spontaneously, it very often remains uncured, in spite of the most enlightened and skilful treatment obtainable. And I would furthermore declare no case cured until the infectious element, the gonococcus, has been entirely eliminated from every portion of the genitourinary tract. So long as a single living gonococcus remains hidden in any part of this tract the patient is in danger of an outbreak of his old disease months or even years after all traces of his original attack have passed off.

It is customary with many practitioners to examine the freshly passed urine of a patient seeking a verdict of "cured," and if it appears clear and sparkling, and if in addition they find no gonococci in it, they send the man on his way home rejoicing that he is well and cured. Yet I believe it is more than probable that every man who has had a posterior infection, even if his urine is clear as crystal, has a prostate that is to a greater or less degree choked up with gonococci, ready at any moment to spring into activity and demonstrate their presence by unmistakable symptoms.

Several years ago my attention was attracted to a large number of cases of chronic and recurrent gonorrhœa that came under my notice, all of them presenting a common trinity of symptoms, a slight or moderate discharge, especially in the morning, a large and tender prostate, and a history of frequent recurrences under excesses of venery and drink. Microscopical examination of the urine or discharge often showed the utter absence of gonococci, but with very few exceptions, the massaged urine or, better still, the expressed secretion of the prostate nearly always showed the presence of gonococci. This observation led to a detailed study of fifty-five cases and they furnish convincing proof to my mind, if such proof were necessary, that it is the deep seated gonococci in the prostate and vesicles that we have to get rid of before we can hope for a lasting cure of gonorrhœa. A few typical cases will illustrate this point very nicely.

CASE I. E. W., aged 35 years, a stock broker, married, no children. Appeared for treatment because of the presence of a moderate, slightly mucous, discharge, and because of a large, tender prostate. He had been married for three years and had one child. He had been treated for gonorrhœa several times, and had been cured of the disease each time. He had no history of gonorrhœa, but he had had several outbreaks of gonorrhœa which were quite customary with him.

Physical Examination. Temperature 98.6, pulse 72, blood pressure 110/70. Prostate 4x5x3 cm., firm, tender, and slightly enlarged. Urethra normal. Urine clear, but on standing it became cloudy. Microscopical examination of the urine showed no gonococci. Microscopical examination of the expressed secretion of the prostate showed many gonococci. Treatment. This attack had been followed with strict and painful continence. He had been treated with salicylates, but he could recall about fifteen distinct attacks. Treatment. He was given a course of treatment with penicillin. His prostate was never examined or treated.

\*Read before the American Urological Association at Atlantic City, N. J., 1927.

Examination: The discharge contained pus and epithelial cells, numerous gonococci (gram negative). First urine passed was cloudy, with pus and many shreds; second urine, clear; massaged urine was very cloudy. Microscopically, the first urine contained few gonococci; second urine none; massaged urine very many. The irrigation test showed the presence of posterior urethritis. The prostate was fairly large and tender to the touch. Vesicles the same. No stricture appreciable.

Subsequent History: Under local and internal treatment the discharge quickly subsided and disappeared, the urine cleared up within ten days, and the freshly passed morning urine showed the complete absence of gonococci. On February 2d the patient expressed himself as feeling entirely cured. With the present study in mind, I had him call early the next morning, and he passed two ounces of over night urine in a sterile flask (glass 1). This was perfectly clear; I then massaged his prostate and vesicles vigorously, and he passed two ounces of very cloudy urine in another flask (glass 2). Microscopical examination of the urine gave this result: Glass 1, negative as to gonococci; glass 2, positive; also much pus and epithelia. These examinations were made at intervals of three or four days for three weeks with the same result: Glass 1, negative; glass 2, positive. Meanwhile treatment was continually being directed to the prostate and vesicles, with the result that in April (nearly four months after treatment was begun) the massaged secretion for the first time gave a negative result. Thereafter the result wavered from negative to positive and vice versa, until a month later (May) I succeeded in getting seven consecutive negative results, at intervals of one week.

The man has resumed his marital relations, he drinks as usual, and has had no recurrence of his old attacks. Once a month he comes for examination, and throughout the entire year I have been unable to discover any gonococci in the massaged urines or in the expressed secretion from the prostate. I consider this man cured.

CASE II.—A. A. A., cigarmaker, age twenty-three, unmarried, presented himself for treatment on May 1, 1906, with a moderate discharge, and symptoms of chronic cystitis. Duration one year. First attack was treated by various physicians, but never declared cured. Prostate was never examined or treated.

Examination: The discharge contained gonococci (gram negative) in moderate amount. Urine passed in three glasses were all cloudy, and all contained gonococci. Examination made the next day by the writer's three glass catheter test<sup>1</sup> revealed an anteroposterior urethritis and chronic cystitis. Prostate large, hard, and tender in certain spots. Vesicles moderately congested. No stricture appreciable.

Subsequent History: After two months of treatment directed at the bladder, prostate, and vesicles, the urine became quite clear, but not entirely free from shreds and mucus. A series of examinations similar to that described in Case I was gone through, with the same result, viz., the morning urine passed by the patient was free from gonococci; the prostatic secretion contained numerous gonococci.

This man has been under constant observation and treatment just one year, at this writing. His over night urine has been clear and free from gonococci since July, 1906; but it is only since March, 1907, that his massaged secretion gives an occasional negative report. When I can succeed in getting from seven to ten negative reports in succession I shall feel justified in concluding that this man is as thoroughly cured as, with our present knowledge, it is possible to be.

CASE III.—E. K. J., aged twenty-eight, unmarried, lawyer, presented himself for treatment on May 1, 1906, with moderate amount of discharge, cloudy urine, and some pain in passing it.

Previous History: First attack, September, 1900. Was treated six weeks and pronounced cured. Since that time has had repeated attacks at rather frequent intervals, especially after sexual excesses. Prostate had never been examined.

Examination: The discharge contained gonococci. The Jadassohn-Goldenberg irrigation test showed the presence

of a chronic anteroposterior urethritis; both urines were cloudy and loaded with gonococci (gram negative). Prostate was large, hard, and tender, vesicles the same. No stricture.

Subsequent History: After four weeks of treatment the urine became clear and the gonococci were not found after repeated examinations. The massaged prostatic secretion, however, gave a positive finding until September (four months after treatment was begun), since which time repeated examinations have given uniformly negative results. The man has since married, and recent examination failed to reveal the presence of gonococci.

These three selected cases out of fifty-five thus studied, illustrate the point I wish to emphasize in this paper, namely, that the mere presence of pus and gonococci in the urine passed by the patient is no criterion as to whether or not he may consider himself cured; the important point to determine is whether or not the prostate has been emptied of the gonococci that infested it. And this can only be determined by the methods described—that is, vigorous massage of the prostate and annexa, and a careful examination of the expression urine voided, or, better still, the secretion obtained by massage and stripping.

Without wishing to burden this paper with details of the fifty-five cases studied, a few general figures and conclusions might not be out of place.

Duration of disease before coming under observation:

6 weeks to 6 months.....	24 cases
6 months to one year.....	15 cases
1 year to three years (never well).....	7 cases
3 years to 10 years (frequent recurrences).....	5 cases
12, 15, 19, 26 years (frequent recurrences, of each one case).....	4 cases

Of the fifty-five cases studied fifteen patients are still under treatment and observation because of the occasional positive finding of gonococci in the expressed secretion. Forty have, therefore, been declared cured. Of these forty patients the duration of treatment before the disappearance of the gonococci from the morning urine, passed by the patient, varied from ten days to eleven weeks; from the massaged prostatic secretion in the same patients from nine weeks to ten months. While exact figures cannot be given, these cases show that the longer the duration of the infection, the longer it takes to get the gonococci out of the prostate and annexa.

### Conclusions.

1. The so called "incurable" and "recurrent" cases of gonorrhoea are those in which the gonococci remain latent in the prostate and annexa.

2. Every case of chronic gonorrhoea in the male should be thoroughly examined for gonococci in the prostate and annexa.

3. The morning urine passed by the patient may or may not contain gonococci; the massaged urine passed immediately after, or, better still, if it can be obtained, the expressed secretion of the prostate, will most always give a positive finding.

4. The urine passed by the patient may be clear and sparkling; yet the massaged urine may be full of pus, and epithelia, which are loaded with gonococci.

5. There is no direct relationship between the urine clearing up and the disappearance of gonococci from the prostate.

6. Five examinations of the massaged urine may give a negative result. The sixth may give a reverse verdict. Here persistence is a cardinal virtue.

7. Before a patient can be declared "cured" and marriage sanctioned, he should be put on the customary tests, and in addition, the massaged prostatic secretion should be examined at weekly intervals until at least six consecutive negative findings result. Thereafter for at least a year, a monthly examination of the same kind should be made, so as to make assurance doubly sure.

105 EAST NINETEENTH STREET.

## THE OPERATIVE TENDENCIES IN MODERN OBSTETRICS.\*

BY ARTHUR STEIN, M. D.,  
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A study of the development of the art and science of midwifery during the many centuries up to modern times shows a decided neglect in the direction of the evolution of the operative field. In spite of the fact that operative obstetrics originally was taught by surgeons and was regarded as a part of surgery, this branch of medicine drifted far away from its mother science. In the second half of the last century, while great strides were being made in operative gynecology, chiefly under the guidance and cooperation of prominent surgeons such as Billroth, Simon, Czerny, and Mikulicz, the opinion still prevailed that operative obstetrics had reached its full development. Only when modern gynecologists began to apply the knowledge they had acquired in the diagnosis and treatment of the female genital organs to the functional activity during the period of gestation, did operations become more frequent in obstetrics. And even then the advances were few, for the gynecologists were still too wrapped up in their own subject, so that operative obstetrics only began to keep pace with the advances in gynecology during the last two decades.

Beginning with Säger's and Kehrer's improved methods of performing an abdominal Cesarean section and the introduction of Porro's operation, we gradually reach a period in which operative obstetrics began to advance along lines hitherto unknown. Briefly stated, the sentence: "Every perforation of a living child is a crime," covers the operative tendencies of this period, in which the life of the child was given as much consideration as that of the mother. All the more recent operations were devised to deliver a living child whenever possible without imperiling the life of the mother. These operations can be divided into two classes, those involving the maternal soft parts and those involving the bony pelvis.

At the International Congress of Medicine held in Berlin in 1890 Bossi and Dührssen, independently of each other, suggested an operation on the maternal soft parts which made it possible to empty the uterus in a very short time, with the underlying purpose of delivering the mother of a living child without thereby imperiling her life; the former trying to attain this end by a bloodless, the latter by a cutaneous operation. Bossi's method was at first adopted with enthusiasm by almost every one, only to be gradu-

ally supplanted by operations based on more scientific principles.

Believing that the bloodless methods of dilating the cervix then in vogue (laminaria, bags, bougies, etc.) did not suffice in urgent cases, because they required too much time, Bossi constructed a dilator with which he asserted that it was possible during pregnancy or labor to dilate an unobliterated cervical canal to such an extent, in from fifteen to thirty minutes, that all major operations like forceps delivery, version, or extraction could be performed without further delay. The indications set down by Bossi for his method of dilatation included all cases in which a rapid delivery was desired in the interest of the mother or child, thus in cases of eclampsia, cardiac disease without compensation, grave diseases of the respiratory tract, premature separation of the normally or abnormally situated placenta, rigid external os, prolapse of the cord, pernicious anemia, prolonged labor, and in cases with signs of decomposition of the uterine contents or of beginning infection; furthermore, he considered it a new method of inducing labor. When we consider that the older methods employed to dilate the cervical canal really required many hours or even days before complete dilatation was accomplished, we can readily understand the great advantages of a rapid method of dilatation followed by immediate delivery. Bossi's procedure was therefore very tempting, for it seemed to satisfy a long felt want; its advantages were, however, accompanied by such great disadvantages that no conscientious obstetrician could fail to weigh the latter in his mind before employing the method.

The dilator whose use was chiefly advocated by Leopold and his school consists of four steel branches which can be separated eight or ten centimetres from one another, through the medium of a screw, after the closed instrument has been inserted into the cervix. The mode of action of the instrument depends upon whether the cervical canal is still entirely closed, or whether it is wholly obliterated, with only an undilated external os. In the latter case, provided the condition of the soft parts is normal, the instrument will, as a rule, dilate the os rapidly, easily, and without danger. Even Dührssen, its most zealous opponent, admits this when he says: "In a number of cases with obliterated cervical canal the instrument can dilate the closed or partly dilated external os of a primipara to such an extent as to make the extraction of a living child possible." In other cases of this category it is at times impossible to dilate the external os, or the dilatation takes place at the expense of cervical tears. If this occurs in cases with an obliterated cervical canal, how must the instrument act in those cases for which it was originally recommended, i. e., those where there is no dilatation of the cervical canal. As a matter of fact, the most extensive and uncontrollable injuries, with their disagreeable after-effects, have taken place in these latter cases. Wyder in von Winkel's *Handbuch der Geburtshilfe* says: "There exists the danger of causing more or less extensive tears of the lower uterine segment, which may enlarge during subsequent delivery. A fact easily understood, as Bossi's instrument does not dilate the cervical canal in the physiological manner, but only pulls its walls apart, the stretching taking place from the points where

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the four branches of the dilator come in contact with the cervix, and not equally in all directions. It need hardly be mentioned that the cervical tissue at these four points is subject to being crushed, and that the intervening tissue which is put on a stretch is in danger of being torn." Numerous cases have been reported in which extensive tears occurred in just this manner, among them those of Knapp, Wagner, and Lederer. It does not come within the scope of this article to describe in detail the injuries observed in their cases, but the general impression gleaned from their reports and also my own experiences, which were similar to von Bardeleben's at the Charité in Berlin, led me to believe that in performing a purely mechanical dilatation with Bossi's instrument we do not properly consider the dynamic forces. I furthermore doubt whether Bossi is right when he maintains that it is possible to stimulate the dynamic forces of the uterus during the short time of dilating the cervix with his instrument. Other disadvantages of his method are, an increased liability to infection and the danger of atonic post partum hæmorrhage, to which Schatz especially draws attention. Endometritis and inflammations of the parametria as results of deep cervical tears must also be considered when we discuss the value of Bossi's method. As was said before, the procedure is connected with little danger when the cervical canal is entirely obliterated, as the injuries then involve only the external os, but under such conditions the use of the dilator is unnecessary, as bags produce a more complete dilatation when the os yields easily, and as incisions are more reliable when the os is rigid. The only way to avoid the dangers and disagreeable after effects of Bossi's bloodless method of dilatation is to abandon it. This we can all the more readily do since in Dührssen's cutting operation we possess a method of dilatation which enjoys all the advantages of the Bossi method, while it is free from its disadvantages.

Dührssen first described his method under the name "deep cervical incisions," and finally after improvements in technique changed it to "vaginal Cesarean section," under which name it has attained an undisputed place among modern obstetrical operations. He showed how, by means of four deep cervical incisions, combined with episiotomy (*Scheiden-Dammnincision*) if the vagina was small, it was possible to deliver even a primipara with closed cervical canal of a living child, provided, however, that the supravaginal portion of the cervical canal was obliterated. This proviso became unnecessary in the vaginal Cesarean section, as the lower uterine segment was now included in the field of operation. *The introduction of this operation represented a real advance in modern operative obstetrics*, for it was now possible, during pregnancy or labor, to bring about an immediate delivery if the condition of mother or child demanded it, even when no part of the cervical canal was obliterated, and then without imperiling the life of the mother; the operation was therefore also a means by which an abdominal Cesarean section could be avoided. This operation in my belief is also destined to take the place of the classical Cesarean section in the dying woman. In this case we must operate in the interest of the child.

While this operation possesses only one contraindication, i. e., a true conjugate below seven or eight centimetres, it possesses very important advantages over abdominal Cesarean section; in the first place, the peritonæum remains unopened, so that it can be carried out in infected cases, when the abdominal method is contraindicated on account of the danger of general peritonitis; secondly, it is not held in such horror by the laity, who give their consent to a vaginal operation much more readily than to an abdominal one.

This brings up the much discussed question as to whether the operation should be performed in a private house. Cases have been reported in which a general practitioner successfully performed it in private with the assistance of a midwife, and often not under desirable surroundings. Of course, it is understood that it must be done only by a physician, who is capable of making a correct diagnosis and who has had some surgical training; in his hands the operation is easy and should be successful if he operates according to Dührssen's rules.

The latter's method, briefly stated, is the following: The cervix is grasped with two bullet forceps and a sagittal incision made through its posterior lip, extending for four centimetres into the posterior vaginal fornix, when the fold of peritonæum, known as Douglas's pouch, is separated from the posterior wall of cervix and uterus, by blunt dissection. Then the mucous membrane of the anterior vaginal wall is divided from the urethra downwards, the bladder is pushed back (which is a very easy matter under normal conditions in pregnancy), and the anterior lip of the cervix is divided sagittally. Having exposed the anterior and posterior uterine walls the cervical incisions are extended through them for six centimetres, the opening thus made must admit a fist before the extraction of the foetus is begun. If there is an atonic hæmorrhage the placenta must be manually extracted and the uterus packed, but ordinarily the third stage may take its normal course, after which the wounds are closed with interrupted sutures, and a small gauze drain inserted into the antecervical and retrocervical space. To my mind the modifications of Bumm, who divides only the anterior cervical and uterine wall, and of Döderlein, who divides only the posterior cervical and uterine wall, should be abandoned, because they do not give us quite enough room. At the hands of experienced operators Dührssen's operation requires but seven to fifteen minutes, another advantage over the abdominal method, in which the closing of the uterus alone takes from fifteen to twenty minutes. Ill effects of the resulting scars are not to be feared, as five cases of Dührssen, Wennerström, Jerie, and von Bardeleben go to show. These cases were all observed in normal deliveries after a vaginal Cesarean section had been performed upon these patients during a previous pregnancy.

From the conservative to the radical vaginal Cesarean section is only a short step, the latter being indicated in those cases in which a carcinoma, a marked uterine infection, or an uncontrollable hæmorrhage is present. P. Müller's method of hemisection uteri with subsequent hysterectomy is then the best mode of procedure.

As regards the mortality, Dührssen collected 248 cases of conservative and radical Cæsarean section with a death rate of 1 per cent., after excluding all deaths due to causes other than the operation itself. On the other hand, Olshausen, who has obtained the best results with abdominal Cæsarean section abroad, reported a mortality of from 6 to 8 per cent. This marked difference in the death rate should cause all obstetricians to operate per vaginam rather than per abdomen. As a matter of fact if we follow the work and writings of obstetricians of note, we notice that they gradually changed their position from one of hesitancy to one of enthusiasm for the vaginal operation. I need only mention Bumm, Leopold, Zweifel, and von Winckel in Europe, and Fry and Williams in this country, all of whom have become staunch advocates of the operation, Fry even stating that since the introduction of the vaginal method, abdominal Cæsarean section has but few indications. I do not believe we are going too far in agreeing with Bumm when he says: "The value of the operation and the advance which its introduction into obstetrics represents, lie in the fact that we are placed into a position to open the uterus sufficiently to permit a delivery along the normal passages, without loss of time, in a clean cut surgical way, and at any moment during pregnancy or labor. No other method of dilating the unobliterated cervical canal at our disposal to-day is capable of accomplishing anything like a vaginal Cæsarean section."

We shall now discuss those operations which bring about an enlargement of the birth canal by cutting through some portion of the bony pelvis. In the beginning of the sixteenth century Severinus Pineus recommended such an operation, but not until 1777 was it performed on the living subject, when Jean René Sigault was the first to do so. The operations on the bony pelvis may be classified under two heads, symphysiotomy, in which a joint is divided, and hebostotomy (also called pubiotomy or hebotomy), in which one of the pubic bones is divided.

Symphysiotomy was at first enthusiastically received, only to be gradually abandoned on account of the variable results obtained by it. In Germany, Siebold, of Würzburg, was the first to perform one in 1778; he was followed by others, and in 1820 Ritgen was the last to recommend it for some time to come. Not until the last quarter of the past century was it again taken up, when, due to the improvements in technique and asepsis, the operation was again advocated by Morisani, Pinard, and Zweifel, but in spite of their agitation in its favor it did not gain a permanent place among obstetrical operations. It is chiefly indicated in contracted pelves, especially in flat and just minor pelves, but is contraindicated in the former when the true conjugate is under six and one half centimetres, and in the latter when it is under seven centimetres. Its disadvantages are so many that it can hardly be called an advance in operative obstetrics: the fact alone that a joint is opened and brought into connection with the septic aspects vagina from where it is only too frequently infected, is significant. The real dangers lie in the injuries necessarily inflicted upon the soft parts: the wound may enlarge during

the subsequent delivery or the urethra may be torn from its attachments, the bladder and corpus cavernosum clitoridis may be injured, injury of the latter being likely to be followed by a retropubic hæmatoma, which is often infected; deep vaginal tears are also frequently met with. Even when carried out subcutaneously, as recently advised by Zweifel, the complications become no less frequent, so that it is not surprising that most obstetricians, who have a large number of contracted pelves to deal with, have abandoned symphysiotomy in favor of a new operation devised to supplant it, namely, pubiotomy.

This new operation is not without faults, but offers many advantages over symphysiotomy. Though recommended in the seventeenth century, its present vogue is entirely due to Gigli, who advocated it in the latter part of the last century, when Bonardi and van der Velde were the first to perform it on the living subject. They were soon followed by Calderini, Morisani, Caruso, and others. The methods first suggested by Gigli and van der Velde were open ones; they exposed the os pubis and then divided it. More recently Döderlein devised a method, partly subcutaneous, and Bumm, Walcher, and Leopold introduced one entirely subcutaneous, the bone being divided either after a moderate or no dissection of the soft parts. In all the methods the vagina, urethra, bladder, and corpus cavernosum clitoridis lie outside of the field of operation; but Döderlein's has found the largest number of followers and has given the best results. He makes a small incision along the upper border of the pubes just internal to the tubercle and large enough to permit the introduction of the finger behind the bone, where the retropubic tissue and bladder are pushed away. Under guidance of the finger a carrier is passed behind the bone and brought out just external to the labium majus, where a small skin incision is made, then the carrier is threaded with a saw, withdrawn, and the bone divided. From the time that Döderlein introduced his partly subcutaneous method, pubiotomy has been more frequently performed, especially since Sellheim has demonstrated that the pelvic enlargement following pubiotomy is the same as after symphysiotomy. When we consider that in addition the results following pubiotomy have been more favorable than those of symphysiotomy, it is not surprising that the latter has been less frequently performed.

We may summarize the indications of pubiotomy by the statement that it is indicated in all cases in which perforation of the living child was hitherto resorted to, especially in cases of flat or generally contracted pelves in which there is a disproportion between the size of the fetal head and the size of the pelvis. From a practical point of view we may divide them into prophylactic and imperative indications. Under the first heading those cases of contracted pelvis are included, in which there was a previous stillbirth or difficult delivery; then hebotomy is best performed at the end of the first stage, and labor permitted to go on spontaneously. The second heading includes those cases in which mother or child is in immediate danger, or in which there has been an unsuccessful attempt at forceps extraction. Under the latter circumstance it is best

to perform the hebotomy with the forceps *in situ* and then to complete the labor instrumentally. Whenever possible one should get along without forceps, as the cases of hebotomy followed by spontaneous delivery have given the best results for mother and child. According to Baisch's analysis of 187 cases in which hebotomy was followed by forceps, the foetal mortality was 4.3 per cent., while in seventeen cases in which the labor was ended spontaneously all the children were born alive, the mortality being 0 per cent.

After symphysiotomy the average mortality among the mothers reaches 17 per cent., which Morisani, Pinard, and Zweifel, who performed the operation frequently, reduced to 8 per cent. Following hebotomy the mortality is only 4.2 per cent., which is reduced to 2.9 per cent. when those cases which were infected before operation are excluded. As regards the justly feared bladder injuries, I should like to mention that they occurred in 2.4 per cent. of the cases operated on according to Döderlein, and in 17.6 per cent. of the cases operated on according to Bumm. Cases of severe infections, bladder injuries, and one of fatal hemorrhage may surely be attributed to first trials, and will become less frequent as the technique improves. It cannot be denied that pubiotomy must be considered as competitive with abdominal Cæsarean section in certain cases.

As regards the after treatment, it is sufficient to dress the wound, and place a few adhesive straps around the pelvis, in addition to supporting it on either side with sand bags. The healing in normal cases goes on quite rapidly, so that the patients can get up out of bed at the end of the third week, without any disturbances as to function.

It would be going too far were I to discuss such operations as the removal of large tumors during pregnancy and labor, the resection of pelvic veins and hysterectomy for septic conditions during the puerperium; nevertheless, they are good examples of the modern operative tendencies in obstetrics.

Before closing I wish to touch upon the question as to which of the operations which I mentioned can and should be performed by the general practitioner, who so frequently meets with difficult obstetrical cases. I have already mentioned that the vaginal Cæsarean section, according to Dührssen, gives good results in the hands of the general practitioner who has had some surgical training. It is different with respect to pubiotomy, the result of which in a given case cannot be foretold and concerning which many questions still remain unsettled. I consider it a risky undertaking for the general practitioner, and believe the operation should be confined to the specialist, a man familiar with pelvimetry, obstetrical diagnosis, and the technique of the operation—above all, one equal to the task of meeting any of the complications liable to come up during and after the operation. Final judgment has not been passed on pubiotomy, but up to the present time most obstetricians abroad look upon it with favor. A definite opinion cannot be formed until the histories of more cases have been published, and for this reason I hope the operation will find more extensive trial in this country in the future.

From what has been said we cannot fail to draw the conclusion that a "new obstetrics" has developed in the last two decades, due chiefly to the adoption of modern surgical principles, and that obstetrics no longer fails to keep pace with the advances in other branches of medicine.

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36 WEST FIFTY-NINTH STREET.

#### GALLSTONE DISEASE AND ITS SURGICAL ASPECT.\*

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When a positive diagnosis of gallstone disease has been made in a given case, does this condition belong among those to be treated by medical means or by surgical ones?

If we exclude those cases where gallstones are being constantly passed with slight discomfort to the patient (I am not at all sure that even these should

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be excluded) and those cases where the risk of any surgical procedure is very great (e. g., from cardiac, pulmonary, renal or arterial changes, or from marked overadiposity) I think that I am voicing the present day opinions of the greater number of conservative surgeons when I say that the remaining conditions may best be treated by surgical methods, and the earlier the better.

Early gallstone surgery has been and is still being opposed by many medical men in much the same way that early surgery of the appendix was opposed. Not long ago an article appeared written by a medical practitioner of much experience in this city discussing the subject of operation in gallstone disease. He said that many cases had best be treated medically, boasting that he had carried one patient through somewhere between ten and twenty severe attacks of gallstone colic.

That this patient was running a great risk in any one of these attacks, and in the interval as well, I think we would all admit.

If we exclude those conditions previously mentioned gallstones should be removed (and the ducts drained in many cases), not necessarily just as soon as the diagnosis is made, but shortly thereafter for the following reasons: Patients with gallstones are liable at any time to one or more of the following serious complications: (a) Abscess of the gallbladder; often with (b) subphrenic abscess secondary to it; (c) gangrene of the gallbladder; with ensuing (d) spreading peritonitis; (e) perforation of the gallbladder into the duodenum, stomach, or transverse colon; with occasional (f) intestinal obstruction from the contents or from subsequent constriction bands; (g) impaction of one or more of the calculi in the common or hepatic duct, followed by obstructive jaundice; later by acute ascending infection along the liver ducts; and resulting in (h) abscess of the liver localized and operable, perhaps, or diffuse and beyond the reach of the surgeon; (i) chronic hepatitis; and (j) chronic pancreatitis; (k) cancer developing in the vicinity of the gallstones; and finally (l) changes in the kidneys (chronic nephritis).

Before surgeons could conscientiously recommend operation as a routine measure to patients with gallstones, they had to show that the operation *per se* was not an extrahazardous one, and that their final results were better in the cases operated on than in those treated by medical means alone. This has now been done by many surgeons the world over. Gallstones are being recognized more and more as objects which the surgeon is called upon to remove, and the disease which has produced them as one to be treated at the same time by surgical drainage. No one would venture to-day to question the propriety of operating early in appendicitis, because some patients who have been allowed to run on to diffuse peritonitis from appendix infection have died following too late an operation. In the same way in the gallstone case should it be. Patients should be operated upon early, not late.

The most valuable type of surgery is that which aims to remove the source of the trouble, in this case both gallstones and infection of the ducts, before dangerous complications arise or permanent harm has been done. In this way the time that the patient is kept in bed is shortened, the strongest possible

scar is obtained, and the digestive disturbances soon disappear.

There are two things that have delayed the recognition of gallstone surgery in its proper value: 1, The attacks of gallstone colic do not at the start seem to be as dangerous as attacks of appendicitis often are; and, 2, owing to the situation of the gallbladder and ducts the diagnosis is often not made until several attacks have occurred. Marked jaundice, we know, is infrequent in cases where the stones and the infection are located mostly in the gallbladder or cystic duct. Attention is therefore often diverted to the stomach as the primary seat of the trouble, and the patient is treated for indigestion for years, while gallstones are accumulating and secondary changes are occurring in the bile tracts, liver, stomach, pancreas, intestines, and kidneys.

I have heard surgeons criticised because in some of their operative cases they were not able to remove all of the calculi at the time of operation. Many calculi are undoubtedly formed at a late period of the disease in the ramifications, which often are inaccessible, of the hepatic ducts in the liver. They are due to the constantly ascending infection of a mild grade. The best way to have prevented such formation high up would have been to have removed the preceding gallstones below and to have drained the ducts at an earlier date. Of course patients may refuse operation in this early period, not realizing the serious nature of their trouble, but the medical practitioner advising operation at this time will have given his patient the best advice, and the responsibility for subsequent stone formation and further duct infection cannot then be laid at his door.

The well known fact that gallstones are often found at autopsy in patients dying from other causes, and that they have apparently been the source of little or no discomfort is often mentioned, when surgical treatment is discussed. This fact has but little bearing on the question, for those that give rise to no symptoms are not brought to the attention of medical or surgical practitioner. We are here considering the cases that present symptoms. What do medical practitioners say that they can do in the cases that are not operated on in the way of arresting the formation of gallstones or of dissolving them or of helping them through the ducts safely?

As to the prevention of their formation, it is believed by some that by keeping the bowels thoroughly cleared out by saline laxatives—by diluting the bile by large draughts of water—by giving certain drugs and adhering to a certain diet, further infection can be arrested. Much good can undoubtedly be achieved by these means, and we see the symptoms often quieted down for a time in this way. That the stones are not forming during this time, however, higher and higher in the ducts, we cannot say positively. As to the dissolution of stones already formed no proof has ever been adduced that such an occurrence can be brought about in the living body. As to helping the stones down the ducts some practitioners feel that the administration of olive oil over long continued periods has been of benefit service in this way. While I have seen this form of treatment followed by cessation of pain in a certain number of cases I cannot conscientiously say that stones have passed in greater quantities or

with less pain than under other methods of treatment. Many stones are too large to pass through any of the ducts. Such are apt to cause ulceration. The small faecal masses passed during the olive oil treatment have often been mistaken for gallstones. I am not now dealing with the subject of the surgery of the gallbladder, and I shall not here take up the question whether the gallbladder should usually be removed or not, but my experience justifies me in the opinion that if we are led to exclude the cases mentioned in the first part of this article the proper treatment for the others is to remove the gallstones when they are distinctly diagnosed, and at the same time to drain the ducts of their infection, so that subsequent serious trouble may be avoided. It is not believed, after the stones have all come away from the gallbladder and from the drained ducts, that there is any subsequent stone formation, except in very rare cases. Stones found later are usually believed to have been either overlooked or inaccessible.

The conclusions which follow are based on my own operative records of patients suffering from gallstone disease. In all of them gallstones were found in numbers varying from one to 2,059. In the first division are thirteen cases operated on for gallstones before serious complication had set in. These are the cases of so called indigestion, dyspepsia, gastritis, biliousness, etc., etc.; no deaths, no failure of cure. In the second division, nineteen cases operated on after the development of serious complications, ten patients cured, three improved, six deaths. The causes of death in these six cases were as follows: Septic foci scattered through the liver (septic cholangitis from calculi), one case; carcinoma of bile ducts and of the liver following old standing gallstone disease, two cases; septic peritonitis with septic nephritis following acute infection of a stone bearing gallbladder, one case; gangrene of gallbladder with subphrenic abscess, and perforation into transverse colon, general peritonitis, double septic pneumonia, one case; calculus imparted in ampulla, with chronic pancreatitis and chronic cholecystitis, matting parts together in one cartilaginous mass, with fatty degeneration of the liver and chronic nephritis, death due later to uræmia, one case.

**Conclusions.**—Provided the patient is a good surgical risk:

1. Gallstones should be removed at an early date from gallbladder or ducts; such infection is treated by drainage of the ducts. At this time the operation is comparatively safe, convalescence is prompt, and cure lasting.

2. Serious complications are liable to arise at any time in patients with chronic gallstone disease. Long journeys, in which efficient surgical aid cannot be secured promptly, are distinctly hazardous. Operations at this time are much more serious, they are often necessarily incomplete, and the outlook for permanent cure is less bright.

3. Cancer is liable to develop at any time at or near the seat of irritation. Operation then is very hazardous and the outlook bad.

4. Medical practitioners should familiarize themselves with the results obtained by the surgeons today in the early uncomplicated cases.

42 EAST TWENTY-SIXTH STREET.

## DIAGNOSIS AND TREATMENT OF BENIGN TUMORS OF THE RECTUM.\*

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In selecting the theme of my paper I was actuated by a desire to present a subject, a discussion of which would not only be of considerable interest but also of practical value to every medical practitioner. Since benign tumors of the rectum are rarely diagnosed by the general practitioner, and often overlooked by the general surgeon, it will, I thought, be of interest to all of us to review this subject briefly.

Benign tumors of the rectum comprise growths which, as a rule, have a pedunculated attachment and a pendulous extremity. These growths are quite often met with in either sex and at any age, but are more common in women and children. They vary in size, shape and form, and may be single or multiple, and are usually attached by a single stem, but they may have two or more attachments. These neoplasms are also known as polyps on account of the fact that they are attached to the rectal wall by a pedicle or stalk. The pedicle consists of a fold of mucous membrane containing blood vessels which supply the growth.

The polypoid tumors found in the rectum are as follows: (1) The adenoma or glandular polypus, (2) the fibroma or fibrous polypus, (3) the villous tumor or villous polypus, (4) the myxoma or myxomatous polypus.

1. Of all these varieties the adenoma is the one most frequently met with. This tumor is very common in childhood, but extremely rare in adult life. They are soft when composed of the constituents of the mucous membrane, while those which are composed of both, the elements of the mucous membrane and submucous connective tissue, are generally hard and are spoken of clinically as a fibroadenoma. Adenomatous polyps are usually single, but sometimes two, or even more, may be encountered within the same patient. They are generally the size of a large cherry, they may, however, be a little larger. These growths have the color of the mucous membrane of the rectum, but when they protrude at the anus they have a purple red appearance. They are generally found attached to the posterior wall of the rectum and at a point within reach of the finger, but they may arise from any other part of the rectum and be attached so high up that the finger alone will not reach it. When the pedicle is long and not attached high up in the rectum the polyp will protrude during the act of defæcation and appear at the anus as a dark red roundish tumor with a bleeding surface. It usually returns spontaneously into the rectum immediately after defæcation, but sometimes it is necessary for the patient to replace it above the sphincters after each stool. A small adenoma may exist for a long time without giving rise to symptoms of its presence. A rule, however, hæmorrhage occurs from the abraded surface of the growth produced by the passage of hard scybalous masses over it, it also gives rise to a straining sensation when caught by the sphincters.

Read before the Northern Medical Association, June 1905.



The diagnosis is, comparatively speaking, easy. The passage of blood from the rectum in a child, usually under ten years of age, with or without pain on defecation, with or without straining, generally means the presence of polypus. A digital examination should now be made in order to locate the growth. The best way to accomplish this is to sweep the finger around the whole circumference of the anal canal as far as it can be reached when the growth can be felt or drawn down and sometimes brought out through the anus. Growths attached higher up in the rectum can only be located under an anæsthetic. Owing to the fact that polyps sometimes protrude at stool they are frequently mistaken for hæmorrhoids and treated for that condition. I have a record of several such cases, which have been treated for piles by the application of astringent and sedative ointments.

The treatment of polypi consists in their extirpation under the influence of an anæsthetic. The sphincters should be dilated and the growth pulled down with thumb forceps, ligated and cut off as close as possible to its point of attachment to the rectal wall. Some surgeons apply a clamp to the pedicle, sever it, and cauterize with the Paquelin cautery.

When the pedicle is long and slender and located in the upper rectum the polypus may be twisted off by simple torsion. The after treatment consists in confining the bowels for four days whence they are opened by the administration of fractional doses of calomel followed by a saline. After the removal of an adenomatous polyp in an adult having passed middle life it is necessary to examine the patient from time to time, because carcinomatous degeneration has been found to follow some cases. Spontaneous cure of polyps sometimes takes place. The reason for this is that the thin pedicle is torn through by the passage of hard feces and the growth passes out with it. Strangulation of the tumor by the sphincter muscle will occasionally cause them to slough off.

2. The next most common benign tumor found in the rectum is the fibroma, or fibrous polypus. This growth consists of fibrous tissue and has a short, tough pedicle. It is usually situated within the first two inches of the rectum and varies in size from that of a hazelnut to a walnut. These growths are mostly found in adults and are usually multiple in character. They may protrude during defecation and be mistaken for internal piles, especially when both conditions co-exist in the same case. A fibroma can readily be diagnosed by a digital examination when the finger will detect a firm, hard growth which can sometimes be drawn down the anal orifice and examined. A small fibrous polypus may exist for some time without any untoward effect, it will, however, soon bring on spasms of the sphincter and levator ani muscles which ultimately become hypertrophied, and indurated. When the pedicle of a fibromata happens to be partially torn by the passage of a hard fecal mass, the patient experiences a burning pain and a slight loss of blood. The pain, which sometimes lasts for hours after stool, is suggestive of an anal fissure. Examination, however, will soon disclose the presence of a fibrous polypus.

The treatment consists in the removal of the growth by applying a ligature to its base and cutting off the growth, or by the application of a clamp cutting it off, and cauterization of the stump.

3. One of the rarest of all the benign tumors found in the rectum is the villous tumor. This neoplasm may reach the size of an orange and has a handlike, short, fleshy pedicle. Its surface is generally lobulated, giving it a cauliflower appearance. A villous polypus is found only in adults or in old persons, who, as a rule, complain of diarrhoea on account of the watery discharge from the bowel, which makes them go to stool frequently. These patients also complain of a dull, aching pain in the rectum radiating to the sacrum. They bleed occasionally, but the hæmorrhage generally originates not from the surface of the tumor but from the co-existing piles. Patients suffering from villous growths generally lose flesh and strength and have a cachectic appearance. When completely removed this tumor seldom recurs, it may, however, become cancerous and return after extirpation. I have a case on hand now which confirms this statement:

Mrs. E. L., aged forty-five years, had a typical villous growth in the rectum which I completely removed a year ago. Seven months after the operation the patient came back to me complaining of a bearing down sensation in the rectum, straining, mucopurulent and bloody discharge at stool. She was anæmic, emaciated, and extremely nervous. A digital examination revealed a narrowing of the anal canal due to a carcinomatous infiltration of the rectum extending up the bowel for about six inches. Slight involvement of the bladder and lymphatic glands were noticeable. The patient refused another operation whence I had to resort to palliative measures. The stricture, however, grew so rapidly that a passage by the rectum was impossible and she consented to have a left inguinal colostomy performed. This operation will probably prolong her life by relieving her temporarily of distressing symptoms of obstruction.

It is evident that an early diagnosis is imperative in the cure of these cases. The only procedure necessary to establish a correct diagnosis is a digital exploration of the rectum. Careful manipulation of the finger will detect a growth attached to some part of the bowel by a broad pedicle. In the majority of cases, however, this tumor will be found attached to the posterior wall of the rectum. The growth rarely protrudes from the anus, and still more rarely do we find more than one growth in the same case. The treatment of a villous tumor consists in an early removal of it by operation. Under the influence of an anæsthetic the sphincters are dilated and the growth brought down through the anal orifice. A clamp is then applied on the pedicle which is transfixed and ligatured in one or more places near its origin from the rectal wall and is then divided. If there is no distinct pedicle the growth must be extirpated by resecting the portion of the bowel to which it is attached, and the resulting wound brought together by sutures.

The after treatment consists in rest in bed and keeping the bowels confined for a few days. On the fifth day the bowels are made to act by the administration of a cathartic. On account of the occasional recurrence of this tumor at the site of the scar of the previous operation it is advisable to ask the patient to call for a rectal examination every three months after the operation has been performed.

4. The myxoma or myxomatous polypus consists of pure mucous tissue. This growth is very rarely



encountered with, and there is only one case reported by Gant.

There are other forms of rectal neoplasms, namely, the myoma and lipoma. These, however, are so rarely met with that they are considered pathological curiosities. A description of these would be of no practical value.

926 NORTH FRANKLIN STREET.

#### COLORIMETRIC ANALYSIS OF THE SALIVA, WITH THE CLINICAL SIGNIFICANCE.

By BERNARD R. LE ROY, M. D.,  
Athens, Ohio.

The study of the saliva from a pathological standpoint has been neglected and has not received the attention it deserves, but from the studies of the few eminent observers who have given it much thought, much, very much indeed, may be gathered that is of interest to the clinician, and if made use of in diagnostics and therapeutics will result in rapid advancement in the eyes of the profession, as well as in the thoughts of the laity, for when applied intelligently the results more than repay the trouble taken in the examination.

That all practitioners are not in a position to carry out the necessary laboratory studies is conceded, yet from the instructions given below any one can be able, after a few trials, to carry out the laboratory work with ease.

The resulting exactness of the examination will indicate to the physician the lead or direction in which he must look and prescribe for the existing wrong or diseased condition. This will enable him to prescribe with more exactness and with less of the "shotgun hit or miss" method, and when once started the fascinating attraction of the work makes it intensely interesting and adds zest to one's study of disease.

As stated, the literature on the subject is meagre, and with the exception of Fenwick, Kyle, Kirk, and a few writers, who only incidentally touch upon the subject, nothing in the nature of an exact investigation of the saliva pathologically has been done.

The method of examination is colorimetric and qualitative in character, and the reagents are to be used in the smallest quantities compatible with color reaction, the commonest error being the use of too large a quantity of the test solutions.

All test solutions are to be made of 5 per cent. strength, unless otherwise stated, and are to be made up with distilled water; other materials needed are litmus paper and the finest quality of filter paper, a porcelain tablet with twelve discs, and several small test tubes.

After securing the saliva note the color, odor, whether viscid or fluid, note the nature of the sediment, reaction, and make note of the quantity secreted daily.

Place a good sized drop of saliva in each of the discs of the porcelain tablet, and should the operator be in normal health he should examine his own saliva at the same time by placing it in the discs at the bottom of the plate and testing each in turn. This will be good practice and will enable him to compare diseased saliva with the normal.

**Sulphocyanides.**—In the first disc in which you have placed a large drop of saliva add one small drop of a slightly acidified solution of ferric chloride; if the sulphocyanides are present in normal quantities there will be a faint pink coloration or aura, which will spread throughout the saliva, starting from the dark brick red where the reagent is still unmixed with the saliva. This faint yet decided pink coloration stands for normality in the sulphocyanides and will not be seen in cases where they are absent; in cases where they are increased the color will be deepened into all shades up to a nearly dark blood red, which is very intense and quickly prevails throughout the saliva being tested, representing the varying amounts of the sulphocyanides that may be present. Or, to the saliva add one drop of solution of cupric sulphate, then add one drop of a freshly prepared tincture of guaiac, when a blue color will indicate the presence of the sulphocyanides, but upon the other hand, should the color be green, then it is due to ammonia; in case the color is green with a few streaks of a dark blue through it, then it indicates that the sulphocyanides are present in small quantities with an increased content of ammonia.

**Ammonia.**—In the centre of the next drop place a tiny drop of Nessler's reagent, when, if ammonia is present, a reddish yellow color and precipitate will result, while around throughout the saliva will be noticed a faint pinkish color or aura encircling the reagent. The color will depend upon the amount of ammonia present and will be shaded accordingly.

**Chlorides.**—Add a small drop of a solution of potassium chromate in centre of saliva, then add a very minute drop of a solution of silver nitrate, and should the chlorides be present the reddish silver chromate, being soluble, will dissolve in proportion to the amount of chlorides present; add another drop of silver nitrate and so on until no more is dissolved, and thus estimate the amount of chlorides present.

**Oxalic acid.**—Add a drop of full strength acetic acid, then one drop of a solution of calcium chloride; a precipitate of oxalate of lime takes place if oxalic acid is present, and the precipitate should be carefully examined under a high power microscope for the crystals of the oxalate of lime.

**Urea.**—Take several c.c. of saliva and evaporate slowly over water bath to one fifth or less, add alcohol, shake well, filter, and evaporate to dryness, dissolve residue in distilled water and treat with nitric acid, set aside to cool, when nitrate of urea will separate after a time in characteristic rhombic or hexagonal plates.

**Formaldehyde.**—Add a drop of Nessler's reagent and a reddish yellow, then black coloration takes place rapidly with a blackish precipitate at the end of reaction; this is not, as some writers have stated, one of "yellow precipitation," but is very distinct from the reaction received with ammonia, and is given here for two reasons, the one just given and because of the common use of formaldehyde.

**Acetone.**—Add one drop of an alkaline solution of sodium nitroprusside so dilute as to have only a slight red color; should acetone be present a ruby red color is produced, which changes to yellow; add acid and boil, when a greenish blue or violet color will result. Or add a drop of solution of iodo-

potassium iodide; then add a drop of caustic potash (U. S. P.), let stand; if no more than a trace of acetone is present iodoform will be precipitated.

**Sodium.**—To find the base salt of the saliva, the saliva is placed in a small test tube and a drop of a solution of potassium pyroantimonate is added; if sodium is present a faint or slight crystalline precipitate will take place.

**Potassium.**—Place saliva in a test tube and add an equal amount of alcohol; this prevents the sodium present from taking part in the reaction, and add one drop of a solution of hydrochloroplatinic acid when a slight precipitate indicates potassium.

**Calcium.**—Place a quantity of saliva in a test tube and add twice the quantity of distilled water, shake well and add a quantity of solution of ammonium oxalate (U. S. P.), when if calcium is present a white precipitate falls which is insoluble in acetic acid, but is soluble in hydrochloric or nitric acid.

**Silicates.**—No known method of producing color reaction is known to the writer; the qualitative method, being rather difficult, will not be given here.

**Nitrites.**—Take and mix the following: Phenol, one part; sulphuric acid, four parts; water, two parts; and add small quantity of a potassium hydroxide solution. Place a small quantity of this in a small test tube, then add an equal quantity of saliva, being careful to not mix them, the saliva being the upper layer; let stand for several minutes, and if nitrites are present a deep red colored band will be present at the line of union of saliva and reagent, depth of color depending upon the amount of nitrites present; or the following may be used: Place a quantity of saliva in a small test tube, add a few drops of Ilasvay's reagent, and gently heat, when if nitrites are present a red color will develop.

**Lactic acid.**—To a test tube of water add a few drops of a solution of iron sesquichloride; shake, pour half into another tube, and use this as a control; to the first tube add a number of drops of saliva, when in the presence of lactic acid the test solution will turn a distinct yellow color, which appears marked when compared with the control tube. This test is delicate. (Simon's modification of Kelling's.)

**Opium.**—The same test is used in opium eaters' saliva as in the sulphocyanides, producing the same reaction; now add a drop of a solution of corrosive sublimate, and if iron meconate is present the color remains unchanged, but will disappear if due to the sulphocyanides.

**Morphine.** Add one drop of a neutral solution of ferric alum to the saliva of morphine eaters, and you will get a dirty green color, which is intensified by heating the tablet and adding one drop more of the reagent. Or you may substitute for the alum a neutral solution of ferric chloride, producing the same results, but more delicate in action.

These tests are very clever in detecting patients addicted to the habit of eating these drugs.

**The rosolic acid test paper for testing for acids or alkalis.**—Soak strips of extra fine grade of filter paper in an alcoholic solution of rosolic acid of such strength as to color the paper a delicate salmon pink when dry. Now place a drop of saliva on the paper, and if acid the paper will not be affected, unless the saliva is greatly acid, when it will turn an orange yellow; but if the saliva is alkaline the paper

will turn or change from a faint pink to a bright brilliant red, according to the degree of alkalinity present, making a beautiful contrast to the delicate salmon pink of the test paper.

**Proteids.**—Saliva from the submaxillary gland contains proteids, a nucleoproteid; place a quantity of saliva in a small test tube and add a few drops of a solution of cupric sulphate, mix, and note the color; if it has turned towards a blue color it indicates the presence of ammonia, but if it is a pale green then add a few drops of ammonia, when in the presence of nucleoproteids it will turn a deep blue.

The solids of the saliva are the phosphate and carbonate of lime and silica; all are concerned in the formation of tartar and sordes, and always in an alkaline saliva. The lime salts have been studied, but whence comes the silica? From studies along this line the writer is of the opinion that silica is of fundamental use in the life history of the living cell, always found in extremely small quantities and therefore overlooked in the summing up.

**Clinical significance.**—Fenwick states that the sulphocyanides bear a relationship to the amount of sulphur in the bile, and that when the bile is diverted from the alimentary canal the sulphocyanides disappear from the saliva.

The sulphocyanides and ammonia in normal saliva are in about equal proportions and in very small amounts.

When the sulphocyanides disappear from the saliva we have a condition that needs our careful attention, and if ammonia is increased in quantity we have a grave condition, indeed, to combat; this is an hypoacid condition and accompanies all the graver forms of disease; for instance, this is the state of affairs in all diseases of the nervous system, i. e., absence of the sulphocyanides with ammonia present in large quantities, the larger the amounts of the latter the more grave the condition. This is true of epilepsy, paralysis, dementia præcox, and all forms of nervous diseases resulting from lues. And when I have been able to detect the sulphocyanides in these cases I always felt sure of a period of improved state of health, and upon the disappearance of the sulphocyanides from the saliva I was just as certain that the old attacks would return. We also have this state of affairs in all forms of fevers, exemplified in its extreme in the typhoid state. Here, too, we will notice the appearance of the sulphocyanides in the saliva in advance of returning health; indeed, this holds good in all cases of recovery from any and all forms of disease.

Upon the other hand, when we have an excess of the sulphocyanides in the saliva, giving a deep dark blood red reaction, and it continues so for a space of time, I look for a lesion in the brain, heart, or in the kidney, and I pay special attention to these organs.

When we have a hypoacid condition the patient cannot tolerate acids nor iron—that is, these remedies will not agree with the patient; but change the ammonia base to potassium and the patient will ask for acid drinks! Sodium base will cause the same changes to take place in the smaller forms of acidity.

When the saliva is exceedingly acid exciting the mouth for microorganisms which may produce car-

tic acid, then examine the saliva for oxalic acid; in these cases the saliva upon standing turns a dark yellowish brown, and the enzyme ptyalin will always be absent, no doubt having some connection with the stomach troubles which accompany this state of affairs. With lactic and oxalic acid present in small quantities we have caries of the teeth.

When urea is present or combined with the sodium phosphate to form the acid sodium phosphate we have a very irritated condition of the mucous membrane of the throat and mouth, causing the parts to become sensitive, the secretions to become acrid and burning in character, producing rhinitis and catarrhs. (Kyle.)

When ammonia is in excess there is a diminished amount of both oxygen and carbonic acid in the saliva, with a rapid tendency to decompose; this state of affairs is present in all states of sepsis, and with acetone present we have a condition of auto-infection of the system, with indican in the urine.

In all cases of exhaustive discharges from the body we find the sulphocyanides absent from the saliva, and in case of recovery their reappearance again heralding a return of health or a period of improvement.

When we have sulphureted hydrogen, noticed in the breath, or the patient complains of a rotten egg taste, the sulphocyanides are absent from the saliva, and when the proper attention is given the stomach the sulphocyanides reappear in the saliva, and the sulphureted odor and taste disappear. In all these cases where we have the so called rotten egg taste I have found that it is not altogether due to sulphureted hydrogen, but is in a great measure due to nitrogen, and that upon carefully analyzing the odor I have found that it more closely resembles the odor of burnt feathers than sulphureted hydrogen, the stench causing one to take snap judgment.

In cases where the reaction for the sulphocyanides gives a dark brown color instead of the brick red to a dark blood red color, and this reaction is obtained time and again in the same case, you may notify the friends of a fatal issue unless you can produce a decided change, and that within a short space of time.

Fenwick states that in old people where he perceived the reaction indicating an excess of the sulphocyanides with a steady persistence that the case would develop fatal symptoms.

In heart disease, for instance mitral disease with dilatation, wherein there is developed a back pressure and the sulphocyanides are absent, the case will terminate fatally; but if they are present and increase in amount the patient will improve or recover.

In rheumatism, if the sulphocyanides are present and an increase is noticed, recovery will be rapid; but if present in excessive amounts then recovery will be protracted.

In most of the chronic skin diseases the sulphocyanides are found in excessive amounts.

When we have the smell of hydrogen sulphide in the breath and ammonia in the saliva, with absence of the sulphocyanides, we can with a certain degree of positiveness diagnose dilation of the stomach with albuminous putrefaction in the small intestines; also that it is from benign causes and that this condition is never present with carcinoma of the stomach, nor is it present when lactic acid is found in content of the stomach.

There is in nephritis an increased amount of urea in the saliva.

As I have stated before, the color indicating the normal amount of the sulphocyanides in the saliva is a faint yet decided pink color; this fact I have arrived at from several thousand examinations and cannot agree with Fenwick when he states that the normal color is one of a medium dark blood red. This last color I found to be normal with children and young people undergoing a somewhat rapid growth, but not an average for all cases of normal health irrespective of age.

When the patient complains of a soapy or sappy taste, look for ammonia in greater or less quantities in the saliva; when of a salty taste, look for sodium as the predominating base; when of an acid taste, look for lactic or oxalic acid, should the disease be in the neck or head; but if the disease is in the body or limbs, look for urea with a sodium base; if taste is of a putrid, horrible nature, look for ammonia with one or more of the other abnormal contents found in the saliva.

In looking over the record of several thousand examinations, several prominent points stand out in bold relief: First, that the sulphocyanides, as first noticed by Fenwick, vary in amount in different diseases and in different stages of the same disease.

That an excess of the sulphocyanides, or an excess of urea with a sodium base, will produce an exceedingly irritative condition of the mucous membranes of the throat, nose, and mouth, as mentioned by Kyle.

That in all cases of disease the constant presence of ammonia in greater or smaller amounts, far above the normal content, is always to be found; the greater the amount, the more serious the condition of the patient.

That in all diseases of the nervous system the content of ammonia is in excessive amounts; and in epilepsy it is greater just before, during, and immediately after the attacks; in cases where the spells come at some interval the sulphocyanides will reappear in the saliva during the free period, to disappear before the next attack, to be replaced by ammonia in excess.

That in convalescence the base salt of the saliva should be one of potassium.

That nitrogen, and not altogether sulphureted hydrogen, is the gas that arises from benign diseases of the stomach and intestinal fermentation, and that these gases are not present in malignant forms of diseases of these organs.

As the saliva contains more oxygen than does the blood plasma, and a very large amount of carbon dioxide, it would be interesting to learn the reason of this and to know why this is the normal condition. Whence comes the normal as well as the abnormal content of the saliva?

In conclusion, permit me to speak of morphine and opium in this method of diagnosing: Morphine, no matter how administered, may be detected in the saliva within three minutes! Opium, no matter how given, may be detected in the saliva from within a few minutes to several hours, and in opium eaters it may be found in the saliva days after taking the last dose. Chloral may be found in the saliva as chloral or as formates, and thus be detected.



## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXI.—How do you treat gallstone colic? (Closed February 15, 1908.)

LXXII.—How do you treat fracture of the patella? (Answers due not later than March 16, 1908.)

LXXIII.—How do you treat seasickness? (Answers due not later than April 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXX has been awarded to Dr. Beverley R. Tucker, of Richmond, Va., whose article appeared on page 493.

### PRIZE QUESTION NO. LXX.

(Continued from page 407.)

Dr. Joseph J. Rowan, of Philadelphia, writes:

Alcoholism, according to Dr. Tyson, is "the effect on the human economy of the intemperate use of alcohol in some one of the forms in which it is used as a beverage."

Ordinarily, garrulosity, flushing of the face, and an excited mien precede the incoherent speech, staggering gait, and final stupor. If seen in any stage prior to the stupor, the diagnosis is apparent, but when seen for the first time after the stupor supervenes a distinctive diagnosis must be made between the following conditions: (a) Alcoholic stupor, (b) apoplexy without fracture of the skull, (c) apoplexy with fracture of the skull, (d) opium poisoning, (e) uræmic coma, (f) unconsciousness preceding acute mania, and (g) unconsciousness in Menière's disease.

(a) In ordinary drunkenness the patient lies in a heavy sleep, from which he can be aroused by shaking or pinching. He may mumble a few incoherent words, but immediately falls back again into the same heavy sleep. On examining the pupils of the eyes they will usually be found dilated, and the odor of alcohol can be detected on the breath.

(b) and (c) In apoplexy without fracture of the skull the patient lies in a heavy sleep, from which he can be aroused by shaking or pinching. He may mumble a few incoherent words, but immediately falls back again into the same heavy sleep. On examining the pupils of the eyes they will usually be found dilated, and the odor of alcohol can be detected on the breath. (b) and (c) In apoplexy without fracture of the skull the patient lies in a heavy sleep, from which he can be aroused by shaking or pinching. He may mumble a few incoherent words, but immediately falls back again into the same heavy sleep. On examining the pupils of the eyes they will usually be found dilated, and the odor of alcohol can be detected on the breath.

ing thud, while the sound side fell with more resistance and more easily.

(d) Uræmic coma may also be confounded with alcoholic stupor. In this condition the odor of alcohol on the breath is missing, while that of urine may be present. In the absence of symptoms above mentioned as characteristic of these states, the catheter must be passed, and the urine thus obtained examined for the presence of albumin and casts. If found in any quantity, and the symptoms of other conditions lacking, the diagnosis of uræmic coma is justifiable. The pupils, in uræmia, give us no material aid, for they are variable, being sometimes dilated and sometimes contracted.

(e) In opium poisoning the pupils are invariably equally contracted, even to the size of a pin point, and the face is commonly pale. A pin point pupil always indicates the presence of opium.

(f) The condition of stupor which sometimes precedes acute mania I mention because while a resident physician at St. Mary's I was confronted with a case of this kind. The pupils were equal, neither dilated nor contracted, the urine contained no albumin or sugar, there was no paralysis, and the patient could not be aroused. The breathing was not stertorous, nor was the breath alcoholic.

(g) Menière's disease, or labyrinthine vertigo, must also be considered. The vertigo, staggering gait, nausea, and even unconsciousness being sufficiently similar to alcoholism to demand consideration in arriving at a diagnosis.

A final word as to the presence of alcohol on the breath. Too much reliance must not be placed upon its presence. The laity are prone to pour alcohol in some form or other down the throat of every person suddenly taken ill, and a person stricken with an apoplectic stroke or otherwise made unconscious is very likely to be dosed with alcohol before the arrival of a physician.

Dr. J. J. O'Sullivan, of Pittsburgh, Pa., states:

The conditions which may stimulate and with which alcoholic stupor is apt to be confounded are:

Opium poisoning, strychnine poisoning, belladonna poisoning, chronic plumbism, sunstroke, the coma of pernicious malarial fever, cerebrospinal fever, pneumonia, cerebral compression, diabetic coma, uræmic coma, epileptic coma, apoplectic coma, disseminated sclerosis, paralysis agitans, tabes dorsalis, parietic dementia, and hysteria.

In many of these conditions it is almost impossible at first to diagnose them from alcoholism on account of the close similarity in symptomatology, and a history of the case if obtainable may materially aid us in arriving at a diagnosis.

Very often the alcoholic condition is concurrent with some other distinct pathological process. An individual may be intoxicated and have either pneumonia, sunstroke, cerebral compression, diabetes, or serious renal trouble. Acute or chronic alcoholism may be the exciting cause of rupture of a cerebral bloodvessel. The strain on diseased renal organs incident to an *Arabis diabanthensis* food in the condition of uræmia. Thus it will be seen that alcoholism may be the exciting cause of a number of diseased conditions, from which it may be difficult or impossible to distinguish it.

It is assumed in this article that the alcoholic condition is independent of any other pathological state

which may exist coincidentally in the same individual. The distinctive diagnostic features only are considered. For convenience of description and the sake of brevity, the distinctive diagnosis in each case is outlined in tabulated form.

#### *Alcoholic Stupor.*

1. Skin cool and clammy.
2. Respirations normal or slightly accelerated.
3. Pulse rapid and feeble.
4. Pupils dilated or equally contracted.
5. Stupor may be supplemented by intervals of wakefulness and is not so pronounced as in opium poisoning.
6. Presence of von Wedekind's sign, viz., strong pressure on the supraorbital notches may bring an alcoholic to his senses.

#### *Alcoholic Stupor.*

1. Muscles are relaxed.
2. There are no convulsive movements.

3. Respirations normal or slightly accelerated.

4. Pupils equally contracted or dilated.
5. Examination of urine may not reveal anything abnormal.

6. The features are of a bloated appearance.

#### *Alcoholic Stupor.*

1. No paralysis.

2. Tremors are confined to the head and arms and occur chiefly in morning.
3. Face has usually a bloated appearance.

4. There is no bloated appearance. There is probably a history of an alcoholic debauch.

#### *Alcoholic Stupor.*

1. Face cool and moist.

2. Respirations normal or slightly accelerated. Gurgling may be heard.

3. Absence of distinct convulsive movements.

4. Examination of the urine may not reveal anything abnormal.

5. Face may present only slight tenancy and a bloated appearance.

#### *Alcoholic Stupor.*

1. Pulse rapid and bounding.

2. Respirations shallow.

3. Pupils equally contracted or dilated.

4. Temperature may be normal.

5. There may be no frothing at mouth.

#### *Alcoholic Stupor.*

1. Muscles relaxed.

2. Tremors confined to head and arms and may be removed by giving a dose of alcohol.

3. Speech usually of a brusque character.

4. No incontinence.

#### *Alcoholic Stupor.*

1. Muscles relaxed.

2. Tremors confined to head and arms and may be removed by giving a dose of alcohol.

3. Speech usually of a brusque character.

#### *Opium Poisoning.*

1. Skin dry and warm.
2. Respirations slow, deep, and full.
3. Pulse slow, strong, and full.
4. Pupils extremely small and contracted (pin point).
5. There is profound coma and it may be impossible to awaken patient before death supervenes.

6. Absent in opium poisoning.

#### *Strychnine Poisoning.*

1. Muscles in a state of tetanic rigidity.
2. There are tonic convulsions of the entire body, which may be in a condition of orthopnea, apnoea, or rarely emprosthotonus.

3. Respirations scarcely audible on account of spasm of respiratory muscles.

4. Eyes open and fixed, pupils greatly dilated.

5. Examination of urine may reveal presence of strychnine.

6. There is a clonic grin, so called risus sardonius.

#### *Chronic Lead Poisoning.*

1. There may be paralysis of certain groups of muscles, the brachial, carpal (wrist drop), and sometimes the peroneal muscles.

2. Tremors more diffuse and not limited to morning.

3. Face presents an intense anemia, so called saturnine cachexia.

4. Blue line at margin of gums.

5. The knowledge of the individual's occupation usually leads to the diagnosis of plumbism.

#### *Belladonna Poisoning.*

1. Face, flushed and dry, sometimes presents an erythematous rash.

2. Respirations extremely depressed.

3. There is usually a rise in temperature.

4. Presence of convulsive seizures.

5. Examination of the urine may show presence of belladonna.

6. There are distinct lines of malar rash extending from malar bones to angles of jaw, giving malar-malar expression.

#### *Stupor.*

1. Pulse rapid and full.

2. Respirations labored and deep.

3. Pupils extremely contracted.

4. Temperature range is usually very high.

5. In severe cases, there is profound coma lasting from half an hour to twelve or twenty-four hours, and followed by either death or recovery.

6. Skin is flushed and hot.

#### *Fever.*

1. Temperature high.

2. There is a history of exposure to twenty-four hours, and if the patient is not recovered, it is a case of malarial fever.

3. There is a history of exposure to twenty-four hours, and if the patient is not recovered, it is a case of malarial fever.

4. There is a history of exposure to twenty-four hours, and if the patient is not recovered, it is a case of malarial fever.

5. There is a history of exposure to twenty-four hours, and if the patient is not recovered, it is a case of malarial fever.

6. There is a history of exposure to twenty-four hours, and if the patient is not recovered, it is a case of malarial fever.

7. There is a history of exposure to twenty-four hours, and if the patient is not recovered, it is a case of malarial fever.

4. Temperature normal.

5. No strabismus.

6. *Alcoholic Stupor.*

1. Pulse rapid and feeble.

2. Respirations normal or slightly accelerated.

3. Temperature usually normal.

4. Face moist and cool.

5. Lungs may be normal.

6. Eyes dull and apathetic.

7. *Alcoholic Stupor.*

1. Pupils equally contracted, unless patient is aroused.

2. No paralysis.

3. There may be no head injury present.

4. Unconsciousness incomplete.

5. *Alcoholic Stupor.*

1. Skin cool and moist.

2. Temperature may be normal.

3. Pulse strong at first, finally feeble.

4. Alcoholic odor in breath.

5. Patient may be of strong and robust constitution.

6. Stupor not preceded usually by any special symptoms.

7. Sugar may be absent from urine.

8. *Alcoholic Stupor.*

1. Pulse rapid and feeble.

2. Respirations may be normal.

3. Pupils equally contracted, unless patient is aroused.

4. Ophthalmoscopic examination may not show anything abnormal.

5. Examination of the urine may not disclose any abnormality of the renal organs.

6. Only the strong odor of liquor may be detected in breath.

7. Presence of urea in blood.

8. Dropsy may be absent.

9. Coma not so pronounced and may be followed by intervals of consciousness.

10. No paralysis.

11. Temperature may be normal.

12. *Alcoholic Stupor.*

1. Face shows slight pallor and is moist and cool.

2. Respirations nearly normal.

3. Examination of the urine may not disclose any abnormality of renal function.

4. There may be no convulsive seizures.

5. Unconsciousness incomplete.

6. There may be no frothing at mouth.

7. Attacks are of longer duration.

8. *Alcoholic Stupor.*

1. Pulse rapid, compressible, and weak.

2. Skin cold and clammy.

3. Respirations normal or slightly lowered.

4. Pupils equally contracted.

5. Respirations normal or suppressed.

6. Unconsciousness incomplete.

7. No facial paralysis.

8. No incontinence.

9. *Alcoholic Stupor.*

1. Muscles relaxed.

2. Tremors confined to head and arms and may be removed by giving a dose of alcohol.

3. Speech usually of a brusque character.

4. No incontinence.

5. *Alcoholic Stupor.*

1. Muscles relaxed.

2. Tremors confined to head and arms and may be removed by giving a dose of alcohol.

3. Speech usually of a brusque character.

4. No incontinence.

5. *Alcoholic Stupor.*

1. Muscles relaxed.

2. Tremors confined to head and arms and may be removed by giving a dose of alcohol.

3. Speech usually of a brusque character.

4. No incontinence.

4. High temperature.

5. Strabismus.

6. *Alcoholic Stupor.*

1. Pulse full and bounding.

2. Respirations greatly accelerated.

3. Temperature high.

4. Face warm and flushed.

5. Well marked physical signs of consolidation may be detected.

6. Eyes bright.

7. *Cerebral Compression.*

1. Pupils dilated and fixed, or unequal.

2. Paralysis.

3. Fracture of some part of cranial vault may be detected.

4. Unconsciousness complete.

5. *Diabetic Coma.*

1. Skin hot and harsh.

2. Temperature usually abnormal.

3. Pulse rapid and thready and greatly lowered tension.

4. Peculiar sweetish acetone odor to breath.

5. Extreme emaciation of patient.

6. Diabetic coma is usually preceded by extreme dyspnea, syncope, nausea, vomiting, and headache.

7. Sugar is present in large quantities in urine also acetonuria, and acetonemia.

8. *Uraemic Coma.*

1. Pulse rapid and full, and minus tension.

2. Respirations greatly accelerated.

3. Pupils irregular.

4. Examination of the eye ground usually determines the presence of albuminuric retinitis.

5. Examination of the urine demonstrates the presence of nephritis.

6. Heavy, fetid, urea like odor in breath.

7. Presence of urea in blood.

8. Presence of dropsy.

9. Coma is profound.

10. There may be a monoplegia or hemiplegia.

11. Temperature usually elevated.

12. *Epileptic Coma.*

1. Face, at first pallid, rapidly develops a dusky or livid hue, and there is profuse perspiration.

2. Respirations suppressed and scarcely audible.

3. Albumin may or may not be present. There is often excess of indican in urine.

4. The body assumes a position of tetanic rigidity, followed by clonic convulsions which are succeeded by coma.

5. Unconsciousness complete.

6. There is a frothy saliva which may be blood stained, due to patient having bitten his tongue.

7. Attack is usually of short duration, and patient returns to consciousness immediately.

8. *Apoplectic Coma.*

1. Pulse full, strong, and bounding.

2. Skin hot and dry.

3. Bodily temperature greatly increased.

4. Pupils unequal.

5. Respirations stertorous and one sided in inspiration.

6. Complete unconsciousness.

7. Facial paralysis.

8. Hemiplegia.

9. *Unconsciousness.*

1. Muscles stiff and presence of contractures.

2. Tremors more diffuse and subside when muscles are at rest, so called voluntary tremor.

3. Scanning speech.

4. No incontinence.

5. *Paralytic Coma.*

1. All four extremities equally involved, and head is not usually involved.

2. Tremors removed by giving alcohol.

3. Muscles are usually flaccid.

4. Face presents a dull and beset appearance.  
*Alcoholic Stupor.*

1. No ptosis or strabismus.  
2. No Argyl Robertson pupil.  
3. Reflexes normal or exaggerated.

4. Waddling gait.  
5. No hemiplegia.

*Alcoholic Stupor.*

1. Delirium is of a restless, noisy character, and is characteristic.

2. Tremors confined to head and arms.

3. Tremors allayed or removed by giving alcohol.

4. Attacks of shorter duration, and are separated by intervals of sanity.

5. Pupils equally contracted.

6. Mental condition temporarily improved by dose of alcohol.

1. Pulse rapid and feeble.  
2. Respirations normal or suppressed.

3. Patients are usually males.  
4. Unconsciousness more complete, and return to consciousness is slower than in hysteria.

5. No paralysis.  
6. No contractures.  
7. No monocular diplopia.

8. Convulsions uncommon.

2. Tremors cease during sleep and persist when aroused at rest.

3. There is rigidity of all the muscles of the body.

4. Face is expressionless and mask like.

1. Ptoxis and strabismus.  
2. Argyl Robertson pupil.  
3. Loss of knee jerk.

4. Stepping gait.  
5. There may be hemiplegia.

1. Delirium of grandeur or exaltation more marked.

2. Tremors more diffuse.

3. Tremors increased and made worse by alcohol.

4. Attacks of longer duration.

5. Pupils irregular and presence of Argyl Robertson pupil.

6. Mental symptoms made worse by alcohol.

1. Pulse strong and full.  
2. Respirations extremely rapid.

3. Patients are usually females.  
4. Unconsciousness is only apparent, and return to consciousness is rapid.

5. There may be paralysis.  
6. Contractures present.

7. Monocular diplopia is pathognomonic in absence of structural defect.

8. There may be tonic or clonic convulsive seizures.

teria, or sunstroke; it must be gradual; it may attend any of the acute infections. It is also symptomatic of narcotic poisoning, diabetes, uræmia, the organic brain lesions, and meningitis.

In particular, uncomplicated alcoholic stupor is seldom difficult of diagnosis. We are all familiar with the classic picture of alcoholic stupor—the cold, clammy skin, the feeble, rapid pulse, the heavy stertorous breathing, the great muscular relaxation, moderately dilated pupils, subnormal temperature, oftentimes the alcoholic breath, the staggering gait, and incoherent muttering.

From this we must distinguish:

Apoplexia.—We may obtain the history of a former attack; we are guided by its usual association with arteriosclerosis; the characteristic full, bounding pulse; a unilateral paralysis, or aphasia; contracted pupils; slow, stertorous breathing; cyanotic mucous membranes; occasional loss of the organic sphincter control; a valuable negative sign is the absence of any external trauma.

Thrombosis.—Arteriosclerosis, as a rule; slow onset; characteristic weak pulse; paralysis depending on area involved.

Embolism.—Usually in second or third decade of life; associated with valvular cardiac disease; onset sudden; course afebrile; paralysis, as in thrombosis.

Concussion.—History is important as to fall, etc.; pupils equally contracted and responsive to light; no paralysis; weak and rapid pulse; immediate onset of stupor.

Compression.—Usually evidence of fractured skull; slow onset of stupor; paralysis, local or general; pupils irregular, without light reaction.

Uremia.—Local or general edema; cyanosis; miosis; blood pressure high; no sign of trauma or paralysis; muscular twitchings or convulsions; microscopic and gross examination of urine is final.

Hysteria.—Usually young female; stupor may alternate with hysterical crying; examine for presence of hysterical stigmata paresis or paralysis, anæsthesia, or hyperæsthesia, globus hystericus, etc.; tonic or clonic spasms; catalepsy.

Epilepsy.—History of former seizures; bitten tongue; frothy mouth; urinal discharges; injury from a fall; pupil, normal and reactive.

Diabetes.—Suspect this if case is a young person; usually "air hunger," preceded by nausea or vomiting; sweetish breath; examine urine for sugar and acetone.

Sunstroke.—Flushed, pungent skin; rapid pulse; hyperpyrexia; dyspnea.

Heat exhaustion.—Cool skin; feeble pulse; no fever; mild dyspnea.

Opium.—Extremely slow respirations, four to the minute; characteristic "pin point" contracted pupils; pallor; muscular relaxation; feeble pulse.

Chloral.—Pallor; cold, clammy perspiration; thready pulse; slow, labored respiration; muscular relaxation; subnormal temperature.

Ptomaine.—History of case is valuable; onset fairly sudden; gastrointestinal symptoms leading to collapse.

Meningitis.—History is important; Kernig's sign or Babinski's sign along with the evidence from fundus bar puncture; paralysis (especially eye); opisthotonos; exaggerated reflexes; severe headache.

Dr. William A. L. Styles, of Montreal, Can., observes.

Stupor is a partial loss of consciousness, a profound slumber from which it is possible to awaken the patient only with great difficulty and by importunate solicitations (Butler).

It occurs in many conditions and presents various concomitant symptoms depending on the etiological factor. Alcoholic stupor is to be distinguished from several conditions closely resembling it; the diagnosis of this condition *per se* seldom presenting untoward difficulties, but occasionally mistaken diagnoses result, as sometimes upon it is superadded a much graver condition.

In considering any case of stupor it is well to follow a certain routine in our method of examination. The physician should look to the (a) skin for cutaneous temperature, eruptions, etc.; (b) head for evidences of trauma, depressions, etc.; (c) face for unilateral facial paralysis indicating some unilateral cerebral lesion (hemorrhage, embolism, etc.); (d) eyes for bilateral myosis, nonresponsive on shading the pupil (as, in cerebral lesions or narcotic poisoning); if on endeavoring to upraise the lids there results a quivering muscular resistance and the eyeballs are directed upwards, suspect hysteria; (e) mouth and tongue for bites or froth (epilepsy) and odor; (f) extremities; look for spastic, or flaccid, paralysis; it may happen that on superficial examination all the extremities are apparently paralyzed, but closer investigation reveals a greater amount of relaxation (i. e., "limp") on one side.

The history of the case, if procurable, and, at times, the character of the surroundings in which the patient is found, will materially assist in the diagnosis.

In general, we may say that suddenly occurring stupor is indicative of epidemic cerebrale disease.



Dr. F. H. Smith, of Leesburg, W. Va., has prepared the following table, which he entitles:  
*Recognition of Alcoholic Stupor.*

	ALCOHOLISM	OPIMUM POISONING	POISONING BY SOME MEMBER OF THE ALKALOID GROUP	COCAINE POISONING	CHLORAL POISONING	URÆMIA
1. Manner of Onset, Degree, and Character of Stupor	It is almost impossible to arouse patient, heavy sleep, can be who protests incoherently, to drop off full back into many again into stupor. Patient comes deeper and Police apply ready to deeper, until finally hand test, tapping on forehead, coma en- tect with bill of fingers, from which he aroused, man is only cannot be aroused, drunk	This group rarely produces extreme stu- por, though he is un- conscious of anything about him.	More like the bella- donna group than al- cohol, so far as stupor is a symptom. Rarer than stupor, though syncope and convul- sion may appear, more often incoherence.	At first normal to deep sleep; finally deep coma.	At times, a convul- sion precedes, after which a coma ensues suddenly, and is pro- found. Or the stupor may develop without convul- sion gradually, usually becoming pro- found.	
2. Delirium, and Hallucinations	Incoherence of speech, or even active period of pleasant delirium and hal- lucinations of speech and before the deep- aearing, common com- of delirium symptoms. A little of these symptoms intensi- fied in delirium tremens; and in extreme alcoholism more or less permanent delu- sions, etc., are com- mon.	There may be gar- rulous, incoher- ent, uncontrollable laughter or weeping, busy delirium, even mania, with hallucina- tions and delusions, these are common symp- toms.	Many patients be- come garrulous and incoherent. In chronic poisoning, the mental failure, delusions and hallucinations of a disagreeable nature are much like those of chronic alcoholism.	May be present.		
3. The Face	Usually flushed, often slightly cyan- otic; sometimes (ex- treme cases) pallid. Fullness of vessels of face and neck. Usually evidence of habit from "bloated" ap- pearance. No sign of facial paralysis.	Suffused and dusky- dened; then red- scarlatinoform erup- tion and cyanotic, cyanosis progressing as coma and finally pale and livid	Face flushed, often scarlatinoform erup- tion	White and livid.	May present swollen, "doughy," trans- lucent pallor of renal disease, especially about the eyelids.	
4. The Pulse	In the earlier stages a moderate degrees, rather rapid, full, strong; later, rapid, small, feeble.	Slow and full; ter- minal stages of pro- found poisoning; rap- id, small and feeble.	Markedly quick- ened.	Quickened, and in- collapse or stupor en- sues, very much en- feebled.	Perhaps, a little slowed at first, though soon rapid, thrifty, shuttle like, or lost at wrist.	Usually very slow, apt to be of high ten- sion; artery hard and unyielding and heart may be hypertrophied.
5. The Respiration	Normal frequency, deep, at times some- what irregular.	Slow, 12 to 4 a minute, at first deep and stertorous; later, shallow.	Slow and full, be- coming quicker and later, shallower, and finally even dyspnoic.	Quickened; if cool labored, later shallow and feeble.	At first, slow and deep, later shallow and feeble.	Nearly always very deep, sometimes quickened, at times hissing. Cheyne- Stokes' type not rare, at times, difficult (uræmic asthma).
6. The Temperature	Usually subnormal.	Normal or subnor- mal.	More or less ele- vated.	Usually subnormal.	Subnormal.	Nonconvulsive type, subnormal. (91° to 95° F.). Convulsive type, very high, at times 108° F. May be chills followed by fever and collapse.
7. The Skin	Usually cool and moist.	Warm and dry, un- til sweat of approach- ing death.	Dry and hot, scar- lat eruption may be present.	In collapse, skin cold, cyanotic, clammy.	Body, especially forehead and hands, covered with a cold sweat.	General pallor, skin dry. Edema may be general, or confined to face and limbs.
8. The Pupils	Constricted, or equal of normal size, or slightly dilated.	Pupils equally con- tracted to pin point size.	Conjunctivæ inject ed, lids reddened and itching; pupils equal, extreme dilatation.	Pupils dilated.	Pupils, for a short while, contracted soon, widely dilated.	Eye examinals should be examined (albuminuric retinitis).
9. The Odor of the Breath	Not other ingested or broken down of alcohol and the sour smell of "drunkard's stomach." (It is to be remembered that a strong hint be the ex- isting cause of some more serious trouble, this rather, than the odor of alcohol, which is usually given the strict- est attention by stander, and hence, the odor of alcohol, which is usually given the strict- est attention by stander.)	Odor of opium, or some of its prepara- tions, though not re- covered when an opium is used.	The odor of the drug may be recog- nized (unless its alkalo- id was used). Ex- treme dryness of mouth, tongue and throat, an early sym- tom.	Mouth and throat dry.		Tongue and lips may have been in- jured by teeth, if convulsive. Urinous or ammonia like odor, which is strongly sug- gestive.



ALCOHOLISM	OPIMUM POISONING	POISONING BY SOME MEMBER OF THE BELLADONNA GROUP.	COCAINE POISONING	CHLORAL POISONING	URÆMIA
May show some slight injury—a cut or a bruise—such as may have been gotten in a fall or scuffle.					May have struck head in a convulsion.
10. The Head					
Abstinent.					At times, a pseudo-hemiplegia, transient and inexplicable.
11. Paralysis					
	Infrequent, though some muscular twitching is common.	Rare	Tremors and slight convulsive movements common. Later, powerful tonic or clonic convulsions may supervene.		Initiate one type of uræmia, the convulsive type, and may recur irregularly during the coma.
12. Convulsions					
13. The Urine and Bladder	In a complicated case, urine apt to be concentrated. Bladder liable to be distended by retention of urine, or bladder may act involuntarily.	Frequently urine is voided at early period, afterward constant desire to micturate and inability to do so.		Eliminated with urine as chloral and urochloralic acid, giving the reaction for sugar with Fehling's test.	Urine usually much diminished, or even suppressed. Shows considerable albumin and casts. Urea elimination low.
14. The Head	DEEPER COMA	APOPLECTY	GRAND MAL TYPE OF EPILEPSY	SUNSTROKE	"CONCUSSION," OR LACERATION OF THE BRAIN
			May have been injured by fall at onset of convulsion, or several old scars of injuries of former attacks. Or, on the other hand, the cause of the epileptic attack may be discovered as an old depressed fracture.	Usually an injury or face will usually show sign of injury, ecchymosis, cut area of edema, though stunning force may have been indirectly received	COMPRESSION OF THE BRAIN, BY (1) DEPRESSOR FRACTURE; (2) MENINGEAL HAEMORRHAGE; (3) ABSCESS; (4) TUMOR
15. The Head		Usually hemiplegia, as demonstrated by one side being tossed about, other remaining motionless; or by flitting limb, when it there may, however, will fall more flaccid than the other.	Several facts are to be noted: (1) Uncomplicated idiopathic epilepsy is not attended by true paralysis; (2) Hitting limb, when it there may, however, will fall more flaccid than the other.	Usually an injury or face will usually show sign of injury, ecchymosis, cut area of edema, though stunning force may have been indirectly received	Usually an injury to head discoverable in the first two causes of compression mentioned, though injury to skull may be basal and not appear on the surface.
16. The Head		Violent delirium may be a part of the picture, rarely com-	Convulsions rare, although there may be convulsive movements of some parts at onset.	There may be repeated convulsions	Occasionally, though by no means the rule
17. The Head			Convulsions, preceded by clonic spasms, whether they be general or local.		
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## Therapeutical Notes.

**Aphrodisiacs and Antaphrodisiacs.**—From Pron's *Formulaire synthétique de médecine* (Paris: J. Rousset) we take the following prescriptions for aphrodisiac and antaphrodisiac preparations:

### Aphrodisiacs:

A warning is given against the use of preparations of cantharides, which are irritating to the digestive tract and the genitourinary organs.

R Tincture of benzoïn, {  
Tincture of canella, { .....āā 5i.  
Tincture of vanilla, }  
M. Sig.: Twenty drops to one teaspoonful three times a day.

R Compound spirit of ether {  
Tincture of canella, { .....āā 3i;  
Tincture of nux vomica, }  
Tincture of vanilla, } .....M̄ xv.  
M. Sig.: Eight to ten drops three times a day.

R Phosphoric acid, {  
Pulverized cinchona bark, { .....āā gr. xv;  
Pulverized camphor, .....gr. ivss;  
Extract of cascarrilla, .....q. s.  
M. ft. pil. No. xxiv.  
Sig.: One to three pills four times a day.

R Zinc phosphide, .....gr. iss.  
Ft. pil. No. xii.  
Sig.: One to two pills three times a day.

R Yohimbine (or yohimbine hydrochloride), ...gr. ⅞;  
Distilled water, .....3iiss;  
Dissolve.

For hypodermic injection. Five to fifteen minims to be injected at night in the region of the thigh. After a few days the treatment should be suspended for one or two days.

R Solution of yohimbine hydrochloride (1 per cent), .....3ii.  
Sig.: Five to ten drops three times a day

(This drug is said to lose its effect after a few weeks of use.)

R Extract of cannabis indica, {  
Extract of nux vomica, { .....āā gr. iv;  
Extract of aloes, .....gr. xii.  
M. ft. pil. No. xii.  
Sig.: One three times a day.

### Antaphrodisiacs:

R Monobromated camphor, .....gr. iv.  
Ft. capsula No. i  
Sig.: One capsule three or four times a day.

R Monobromated camphor, .....3iiss;  
Alcohol, .....3iiss;  
Glycerin, .....3iiss;  
M. Sig.: One teaspoonful once or thrice daily.

R Aqueous extract of hyoscyamus, .....gr. xii  
M. ft. pil. No. xii.  
Sig.: One pill three or four times a day.

R Lupulin, .....gr. xii.  
Ft. capsules No. xii.

R Potassium bromide, .....3v;  
Distilled water, .....adde 3v.  
Sig.: One table spoonful morning and evening.

**Calcium Chloride in Albuminuria.**—Renon, in a communication to the Société de Thérapeutique de Paris (*Journal of the American Medical Association*, February 20, 1908), says that calcium chloride has proved efficacious in arresting albuminuria of various origins, without any supplementary measures or repose. He gives one and one half grains for five or six days, gradually increasing the dose if necessary to seven and one half grains, and keeping

up the treatment for a month if the albuminuria persists. A number of patients were cured by this means after the complete failure of dietetic measures and prolonged repose. In half the cases treated the albuminuria vanished entirely. In another fourth no effect was apparent, or the albuminuria became aggravated, which occurred in a few instances.

**The Treatment of Erythematous Eczema.**—Shoemaker (*Medical Bulletin*, February, 1908) recommends as a local application for erythematous eczema the following ointment:

R Salicylic acid, .....3ss;  
Resorcin, .....3ss;  
Compound tincture of benzoïn, .....3ii;  
Zinc ointment, .....3i;  
Ointment of rose water, .....3i.

Misce, ft. unguentum.

Sig.: Apply locally twice daily.

Internally the following pill is directed to be taken for its alterative effect on the glands and as a digestive corrigent:

R Silver nitrate, {  
Extract of hyoscyamus, { .....āā gr. 14.  
M. ft. pillula No. i.

Sig.: One pill to be taken half an hour before each meal.

**Nervous Palpitation.**—As a sedative Lemoine and Gérard (*Le progrès médical Belge*, January 1, 1908) recommend quinine valerianate to be given in a cachet every morning in combination with sodium bicarbonate, or camphor, in the following combination:

R Quinine valerianate, .....gr. iiiss;  
Sodium bicarbonate, .....gr. vii.

M.  
R Quinine valerianate, .....gr. iiiss;  
Camphor, .....gr. vii;  
Pulverized valerian, .....gr. iii.

M.

**Corrosive Sublimate in Pill Form for Syphilis.**

—In the treatment of syphilis Guiard (*Journal de médecine de Paris*) gives corrosive sublimate in pills of the following composition:

R Extract of opium, .....3ss;  
Glycerin, .....3iil xv;  
Pulverized gluten, .....3iv;  
Corrosive sublimate, .....gr. xv;  
Sodium chloride, .....gr. xv;  
Water, .....3iiss.

Dissolve the extract in the glycerin, add the gluten, followed by the corrosive sublimate previously dissolved in the water with the aid of the sodium chloride, and make 200 pills.

Sig.: One pill four times a day.

**Medicinal Treatment of Graves's Disease.**—

Thomson (*American Journal of the Medical Sciences*, March, 1908) favors the medicinal treatment of Graves's disease. He recommends to every patient thirty grains of sodium phosphate, to be taken at the beginning of each meal, and a blue pill or other mercurial laxative to be taken twice a week. A course of intestinal antiseptics is then recommended, to be kept up for months at a time. He usually begins with sodium salicylate and sodium benzoate, of each ten grains, an hour after each meal. He prescribes for administration at bedtime a capsule containing naphthalene three grains and sodium benzoate six grains. After a time he substitutes a capsule containing phenol bisulphite and sodium benzoate with five grains of which two should be taken an hour after meals. The principle

of these remedies as intestinal antiseptics being understood, every physician can, Dr. Thomson says, vary the prescription as he finds best.

**Lord Lister's Formula for Chromic Catgut.**—The following directions for preparing what is known as chromic catgut were communicated by Lord Lister to the *Lancet* for January 10th:

"The preparing liquid must be twenty times the weight of the catgut. So for forty grains of catgut 800 grains of preparing liquid are required. It is made by mixing two liquids—namely, the chromium sulphate liquid and the sublimate liquid.

"The sublimate liquid is:

Corrosive sublimate, ..... 2 grains;  
Distilled water, ..... 320 grains.

"The sublimate may be dissolved by heat, but the solution must be used cold.

"The chromium sulphate liquid is prepared thus:

Chromic acid, ..... 4 grains;  
Distilled water, ..... 240 grains.

"Add to this as much sulphurous acid (P.B. solution)<sup>1</sup> as gives a green color. If more is added, the color becomes blue, which shows that rather too much sulphurous acid has been used. It is well to reserve a few drops of the chromic acid solution, to be added after the blue color has just appeared and restore it to green. Then enough distilled water is added to bring the green liquid up to 480 grains. Then add the sublimate liquid.

"The catgut is kept for twenty-four hours in the preparing liquid and is then dried on the stretch. (N. B.—It is essential that the chromic acid and sulphurous acid solutions be mixed before the sublimate solution is added).

"Catgut prepared in this way remains actively antiseptic in its substance for an indefinite period, as was shown by the following experiment: Some slender hanks prepared three years previously, weighing 207 grains, chopped into short segments, were placed in a small mortar and treated with enough distilled water to cover them, 2,000 grains being required for the purpose. The gut was then pressed firmly with a pestle and the same was afterwards done three times at intervals of about three hours. The gut and water were then transferred to a stoppered bottle for seventeen hours, when the liquid was poured off and filtered, being clear and almost colorless. The germicidal property of the infusion was carefully tested by the late Dr. Allan Macfadyen. In spite of the large amount of water used in preparing it, he found that it destroyed the *Streptococcus pyogenes* in a quarter of an hour; when diminished to half its bulk by evaporation *in vacuo* it killed *Staphylococcus pyogenes aureus* in half an hour; and when further reduced by one half it deprived the resisting spores of anthrax of vitality in two hours, although the amount of the liquid was still about twice that of the catgut to which it was applied.

**Harrington's Solution.**—This solution, which originated with Dr. Francis B. Harrington, of Boston, is regarded by surgeons (*New York Medical Journal*, February 15, 1908) as one of the best and most destructive antiseptic fluids for suppurating

wounds, and for general use in the operating room. Summers (*loc. citat.*) says it has been proved experimentally and clinically that it kills all the common germs met in surgical practice in from twenty seconds to a minute, and it is not caustic. Besides its antiseptic property it possesses the power, when applied to a raw surface, to produce a copious discharge of serum, thus aiding the washing away of noxious elements from the wound. The formula for the solution is as follows:

B Corrosive sublimate, ..... gr. xv;  
Hydrochloric acid, ..... fl. ʒiiss;  
Water, ..... fl. ʒxii ʒvi;  
Alcohol, ..... fl. ʒxxvii.

Solve.

Sig.: Harrington's Solution.

**Mixtures for Bronchial Asthma.**—Rossbach (*Therapeutische Rundschau*) recommends the following mixtures as being efficacious in the treatment of bronchial asthma, and acute and subacute laryngitis:

I.

B Apomorphine hydrochloride, ..... gr. ʒ4;  
Codeine phosphate, ..... gr. i to gr. ii;  
Hydrochloric acid, ..... fl. ʒviii;  
Simple syrup, ..... ʒv;  
Distilled water, ..... ad ʒvi.  
M. et Sig.: One tablespoonful every three hours.

II.

B Apomorphine hydrochloride, ..... gr. iiii;  
Codeine phosphate, ..... gr. viii;  
Hydrochloric acid, ..... gtt. i;  
Hot distilled water, ..... ad ʒv.  
Dissolve. Sig.: Ten drops every two hours.

**Tannic Acid in the Treatment of Dermatitis Venenata and Eczema Vesiculosum.**—The drug which in the hands of Kinnaman (*American Journal of Dermatology*, February, 1908) has given most uniform success in allaying the inflammation of the skin and checking the serous discharge from the ruptured vesicles or blebs in cases of dermatitis venenata and eczema vesiculosum is tannic acid. It may be used in either of three ways, i. e., as a dusting powder, as a lotion in aqueous solution, and incorporated with a base as a salve. If the case is seen early and only a few of the vesicles have ruptured he uses one or other of the following combinations:

I.

B Tannic acid, ..... ʒi;  
Talc, ..... ʒii.  
M. Sig.: As dusting powder.

II.

B Tannic acid, ..... ʒi;  
Thymol iodide, ..... aa ʒii.  
M. Sig.: As dusting powder.

The parts are to be protected with cotton and bandages.

When there is a moderate degree of serous discharge the following applications have proved most efficient:

I.

B Tannic acid, ..... ʒss to ʒi;  
Zinc oxide, ..... ʒi;  
Ointment of rose water, ..... ʒi.

M

II.

B Tannic acid, ..... ʒss;  
Thymol iodide, ..... aa ʒss;  
Zinc oxide, ..... ʒss;  
Ointment of rose water, ..... ʒi.

M

<sup>1</sup> The following is the formula for the preparation of this solution: It is identical with the one given by Rossbach.

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## THE PUBLIC HEALTH AND MARINE HOSPITAL SERVICE.

We have received the *Annual Report of the Surgeon General of the Public Health and Marine Hospital Service of the United States for the Fiscal Year 1907*. It is an octavo volume of 146 pages. For five years now the bureau, formerly the Marine Hospital Service simply, has been charged with the great additional duties incident to its prominent participation in the general sanitary work of the nation. These duties have been well performed, and the surgeon general is justified in saying that "Congress has established a public health bureau with a broad foundation." The work, as is well known, extends not only to our outlying possessions, but also to the foreign countries from which our immigrants are derived. Typhoid fever has been profitably investigated in the District of Columbia, in Savannah, Ga., and in Charlotte, N. C., and some months ago the bureau published a voluminous and useful report on this subject. In conjunction with the Bureau of Animal Industry and the Bureau of Chemistry of the Department of Agriculture and the health department of the District of Columbia, the bureau has made a minute investigation of the milk industry, and we are informed that its report will soon be published. Surgeon General Wynman assures us that, as a result of the bureau's supervision of vaccines and curative serums, the tetanus antitoxine now produced is worthy of complete confi-

dence, both as to purity and as to potency, though before it was weak and variable. An account of the plague investigation in San Francisco is to be included in the next annual report.

The other activities of the bureau have been connected with the Jamestown Exposition, making provision for the investigation of leprosy in the Territory of Hawaii, the national quarantine, the medical inspection of immigrants (1,285,349 inspections), sanitary conferences with State boards of health, and, of course, the operation of the marine hospitals. It will be seen that the bureau's work is onerous, and it is gratifying to find, as we do in this report, abundant evidence that it is performed efficiently.

## ALBUMINURIA AND THE ITCH.

Of course, we long ago gave up the old notion of the "repercussion" of skin diseases and the dire results of such an occurrence, but it is interesting to note that it lingered rather late in the nineteenth century, as we are reminded in an article by Dr. J. Nicolas, clinical professor, and Dr. A. Jambon, chief of clinic, of the Antiquaille Clinic for Cutaneous and Venereal Diseases of the University of Lyons, published in the February number of the *Annales de dermatologie et de syphiligraphie*. But this is not all that our authors do; they confirm the observations of a number of modern clinicians to the effect that albuminuria is a frequent accompaniment of scabies, and they discuss in a very illuminating way the relations of the renal disorder to the skin disease.

They show that the connection between scabies and albuminuria is not merely that of coincidence, that it is not to be explained by the assumption that the subjects were already affected with renal disease and the itch was simply a casual acquisition, though they admit that persons who have been subjected to the ordinary causes of nephritis are more likely than others to be attacked with it in the course of scabies. They do not approve of the theory that the kidney disturbance is due to interference with the cutaneous functions, whereby undue work is forced upon the kidneys, as when the skin is extensively burned or covered with some impermeable material, for they have found that albuminuria occurs in many instances in which the scabies is not widely diffused over the skin.

The theory that the renal affection is due to the penetration of pyogenic organisms into the blood, with the production of toxæmia, does not seem to the authors adequate to account for what takes place, because in a large proportion of the cases observed by them the lesions were not pustular.



they do, however, admit the possibility of such a mode of production in pustular cases. They look with favor, too, upon the hypothesis that the cutaneous irritation may of itself give rise to the kidney trouble through the mediation of the nervous system. There would, however, be nothing peculiar to scabies in that; many cutaneous affections are accompanied by an amount of irritation equal to that of the itch, and involving as great an extent of skin. The authors do not altogether reject the idea that the sarcoptes itself may generate a poison that gains entrance into the blood. They regard the question of the manner in which scabies gives rise to albuminuria as by no means satisfactorily settled. They announce their intention of continuing their investigation and of communicating a further article on the subject, which is well worthy of study.

### UNCINARIASIS IN PUERTO RICO.

The third report of the men engaged in the attempt to reduce or to eradicate infection with *Necator americanus* in Puerto Rico shows that the infection is most common in persons from fifteen to twenty-nine years of age, and that all classes of the population are hosts of the parasite. The infection is often acquired by cultivating flower gardens.

As in former reports, the commission includes the results of scientific study of the disease and its pathology. Dr. Gutiérrez, the chairman of the commission, has succeeded in showing that *Ankylostoma duodenale* is present in Puerto Rico, as well as *Necator americanus*. The opinion is again put forth that infection takes place through the skin, the passage of the larvæ through the skin producing a papulopustular dermatitis, called *mazamorra* by the peasants.

The commission advances the theory that the anæmia of uncinariasis is due to hæmolysis, and not to hæmorrhage, as was formerly believed. Their reasons for this belief are the facts that bloody stools are extremely rare and that the intestine of the parasite contains principally epithelium and very few red blood cells. They have made no studies of the stools for occult blood, dismissing the subject with the statement that should occult blood be found, it would not explain the severe anæmia, on account of the small quantity of blood indicated by that test.

We would point out that the test for occult blood is not a quantitative, but a qualitative test. It is quite possible that a considerable amount of capillary hæmorrhage, enough when continued for long periods of time to produce severe anæmia, may occur high in the jejunum and in the duodenum,

and that by the time the fæces are passed the blood would be so altered as to be demonstrable only by the test for its hæmoglobin derivatives. Also it is conceivable that blood taken into the intestine of the parasite would undergo alterations sooner than epithelial cells, and so distinct erythrocytes be unrecognizable with the microscope.

The commission has studied the condition of the urine in twenty-four cases. Albumin with casts is found to be common. This is considered to be indicative of a degenerative change in the kidneys and not of an inflammation. The albumin is present in very small quantities, requiring the application of the acetic acid and potassium ferrocyanide test for its demonstration. It is well known that this test will give a positive reaction with mucin and with fibrinogen. In order to infer the presence of degenerative or inflammatory changes in the kidney we believe that serum albumin in sufficient quantities to be detected by the beat and nitric acid tests, or by the cold nitric acid test, should be present. It appears to us that the condition present is one of renal irritation only, which is sometimes made worse by the administration of thymol or beta naphthol. There is much interesting matter in the report, including an admirable photomicrograph of the parasite *in situ*, made by Dr. W. M. Gray, of the Army Medical Museum.

### A NEW NEW YORK STATE COLONY.

The march toward organized and comprehensive care of the dependents in New York State has gone steadily forward. The State care of the insane and the gradual coordination of the State hospitals marked one of the greatest epochs in the history of such movements in the State. Its great success, if judged alone from the standpoint of those cared for, admits of little question, even if a host of economic considerations press forward and demand a hearing if not an intelligent readjustment.

It must be acknowledged that defects exist, that backsliding is not infrequent, that organization carries in its train evils of no small moment, that small malefactors may remain undisturbed for years hidden in the meshes of a large system, that laziness and incompetence may be overlooked in their minor exhibition in order that greater good may not be hampered. These we feel are but flies in the pot of ointment that honest and efficient government and highminded officials—and the State service has had a number of such—can remove, and the good work can go on.

The establishment of the Craig Colony for Epileptics marked another milepost in this State, and the

work that the State Board of Charities, the board of managers, and Dr. W. P. Spratling have done has been a credit to our institutions, and the medical profession has shown itself here, as in the State Lunacy Commission, capable, conscientious, honorable, and highly progressive. It is only the mind of small outlook that can think carping criticism of the management of our insane and our epileptics, from the economic, humanitarian, and scientific sides, as exemplified in these two enterprises.

In the State care of its idiots and imbeciles a like progressive spirit has marked the administration of the State Board of Charities, and it is with pleasure that we note the announcement that new and increased facilities for the care of the defective and epileptic are to be offered in a new colony now recommended, to be called the Haverstraw State Colony, to replace the old and cumbersome title of the Eastern New York Custodial Asylum.

The report of the commissioners, an able and thorough document, in recommending to the State the purchase of a large farm at Shiel, lying just outside of Haverstraw, for development into a colony of the type of Craig Colony, should be received and, we believe, acted upon favorably. There is need for such a colony nearer New York, where defectives, idiots, imbeciles, and epileptics may receive the kind of care which the State is abundantly able to provide, and which will reflect credit upon its administrators. The institutions already devoted to this work are well and favorably known. Craig Colony has served as a model for philanthropic enterprises far and near, and a new one along such progressive lines should receive the enthusiastic support of all physicians.

In one matter alone do we feel inclined to offer one word of suggestion, and that concerns the naming of such institutions. We should like to see the names of our philanthropists and workers for the betterment of the diseased and afflicted perpetuated in an appropriate and honorable manner. No one has worked more for these ends than Josiah P. Letchworth, for many years president of the State Board of Charities. The Letchworth State Colony, we submit, is, from this point of view, more appropriate than the name recommended; or, if as physicians, we would turn to do honor to one in our ranks who first inaugurated the movement for the training of defectives, such as are to be cared for in this new colony, the late Dr. Edward Seguin would immediately occur to our minds. Let our State institutions of this nature receive the names of our foremost citizens, and so may the community never forget those who have been their founders, and after coming generations be stimulated to the doing of good work.

## THE ROYAL SOCIETY OF MEDICINE.

The Royal Society of Medicine was formed in June, 1907, by the amalgamation of the following London medical societies: The Royal Medical and Chirurgical Society, the Pathological Society, the Epidemiological Society, the Odontological Society of Great Britain, the Obstetrical Society, the Clinical Society, the Dermatological Society, the British Gynecological Society, the Neurological Society, the British Laryngological, Rhinological and Otolological Association, the Laryngological Society, the Dermatological Society of Great Britain and Ireland, the Otolological Society of the United Kingdom, the British Electrotherapeutical Society, and the Therapeutical Society.

These societies now form sections of the new organization, the publication of which is to be known as the *Proceedings of the Royal Society of Medicine*. It is to be issued monthly from November to July. The first number has recently been received at this office. It is an octavo journal, in which the proceedings of the various sections are separately paged, evidently for future distinct binding. The articles in the initial number are chiefly clinical reports of cases and the addresses of the presidents of the various sections. There are a number of excellent illustrations.

## THE PASSING OF THE FERRY BOAT.

With the subaqueous passages already established for the conveyance of passengers to and from the borough of Manhattan and the prospect of the opening of other tubes within a short period, it seems probable that the ferry boats that have so long plied on the Hudson River and the East River will practically disappear. For some other than sentimental reasons, this state of things may not be altogether a subject for congratulation. The ferries are so accessible that they have afforded to many a poor mother a ready means of giving her sick child a reviving breath of fresh air. Of course there are longer sails that may still be taken for that purpose, and it is to be expected that some of the ferries will survive, but the reduction of their number will act as a restriction upon a cheap and readily available means of moderating infant mortality in the hot months.

## THE TEMPERATURE OF THE SUBWAY.

No New Yorker needs to be told of the oppressive heat of the subway trains in summer, a heat that persists in spite of the devices that have thus far been resorted to for its moderation, and few of them, we imagine, have yet failed to observe that

during the past winter the cars have been uncomfortably cold. It seems to us that they have been colder than in the preceding winters, colder and more pervaded by draughts, and it is the draughts especially that tend to chill a passenger. Though much less forcible, they are worse in this respect than the winds outside the tunnel, intensified as they are by our ever multiplying "sky scrapers." It is not the passengers who suffer chiefly, for their exposure is of comparatively short duration; the train hands must often sustain real injury, one would think. It is clear that better means should be taken to make the temperature of the subway comfortable at all times.

### News Items.

**Changes of Address.**—Dr. F. Ward Langstroth, to 156 West Ninety-seventh street, New York.

**A New Nurses' Registry.**—We are informed that a new registry for graduate nurses of the New York City Hospital Training School has been opened at 1185 Lexington avenue, New York.

**Wills Hospital Ophthalmic Society, Philadelphia.**—The following officers were recently elected to serve during 1908: Chairman, Dr. Samuel D. Risley; vice chairman, Dr. William Campbell Posey; secretary, Dr. Burton Chance.

**Resolutions on the Death of Dr. Probasco.**—A special meeting of the Union County, N. J., Medical Society was held in Plainfield on Thursday afternoon, February 27th, at which resolutions were adopted expressive of regret at the death of Dr. John B. Probasco.

**The Philadelphia Academy of Surgery** has elected the following officers for the year 1908: President, Dr. William J. Taylor; vice presidents, Dr. Robert G. Le Conte and Dr. G. G. Davis; secretary, Dr. John H. Gibbon; treasurer, Dr. James P. Hutchinson; and recorder, Dr. John H. Jopson.

**The Harvey Lectures.**—Professor Ross G. Harrison, of Yale University, will deliver the eighth lecture in this course at the New York Academy of Medicine on Saturday, March 7th, at 8:30 p. m. The subject of the lecture is Embryonic Transplantation and the Development of the Nervous System.

**College of Physicians of Philadelphia.**—At a meeting held on Wednesday evening, March 4th, Dr. Joel E. Goldthwait, of Boston, read a paper entitled *Our Present Understanding of the Nontuberculous (Rheumatic) Diseases of the Joints*. Dr. James C. Wilson, Dr. G. G. Davis, and Dr. Charles H. Frazier took part in the discussion.

**Nova Scotia's Children's Hospital.**—We learn from *Charities and the Commons* that a children's hospital is to be established in Halifax, N. S., in order to care for the children of the province. The sum of \$25,000 has been collected toward a building fund, and the committee will proceed at once with the plans for the new institution.

**Cincinnati Academy of Medicine.**—At the annual election, which was held on March 2d, the following officers were elected to serve for the ensuing year: President, Dr. William Gillespie; first vice president, Dr. R. B. Hall; second vice president, Dr. Stephen C. Cone; secretary, Dr. Mary Keyte Isham; treasurer, Dr. A. G. Drury; and librarian, Dr. A. I. Carson.

**Medical Society of the College of Physicians and Surgeons, Baltimore.**—At a meeting of this society, which was held on Thursday evening, February 20th, Dr. Hans Reitzke, of the Virchow Hospital, Berlin, delivered a lecture on a New Cure for Gout and Rheumatism. Dr. A. M. Forster, of the Eudowood Sanatorium, spoke on the Sanatorium Treatment of Tuberculosis, and Dr. H. S. Beck and Dr. J. J. O'Malley read papers which dealt with the

**Obstetrical Society of Philadelphia.**—At a meeting of this society, which was held on March 5th, the following papers were read: *Synctoma Malignum of the Placenta*, by Dr. E. P. Davis; *Sarcoma of the Round Ligament*, and *Fibroid Tumor of the Anterior Abdominal Wall*, by Dr. Wilmer Kumor; *Adenoma of the Cervix Associated with Fibroma of the Uterus*, by Dr. George Erety Shoemaker.

**Syracuse, N. Y., Academy of Medicine.**—A regular meeting of this academy was held on Tuesday, March 3d. Diabetes was the general topic for discussion, and papers were read as follows: *The Skin in Diabetes*, by Dr. H. C. Baum; *The Surgical Aspect of Diabetes*, by Dr. Nathan Jacobson; and *The Treatment of Diabetes*, by Dr. J. L. Heffron. The discussion was opened by Dr. F. F. Knowlton.

**Rochester, N. Y., Academy of Medicine.**—The Section in General Medicine, which includes neurology, psychiatry, materia medica, and therapeutics, held a regular meeting on Wednesday evening, March 4th. The programme included a paper on *Acute Anterior Poliomyelitis*, which was read by Dr. Robert G. Cook, and the presentation of a case of *Tuberculous Hip Disease Occurring in the Aged*, by Dr. L. A. Whitney.

**Elmira, N. Y., Academy of Medicine.**—At a meeting of this academy, which was held on Wednesday evening, March 4th, the following papers were read: *Some Points in Hygiene Well to Remember*, by Dr. H. D. Wey, of Elmira; *An Odd Case in Obstetrics*, by Dr. J. C. O'Brien, of Elmira; *Chronic Interstitial Nephritis*, by Dr. O. J. Bowman, of Horseheads; *The Diagnosis and Clinical Significance of Peritonitis*, by Dr. H. B. Smith, of Corning.

**National Congress of Mothers.**—Preliminary announcements have been sent out by this organization for a conference to be held in Washington, D. C., on March 10th to 16th. The announcement states that the members of the congress have studied the needs of children for a number of years, and at these conferences, which are annual, interesting discussions are held on the question of the best methods to adopt to bring about the highest development of the coming race.

**The Health of Pittsburgh.**—During the week ending February 15, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Smallpox, 1 case, 0 deaths; chickenpox, 9 cases, 0 deaths; typhoid fever, 41 cases, 12 deaths; scarlet fever, 25 cases, 0 deaths; diphtheria, 18 cases, 2 deaths; measles, 317 cases, 11 deaths; whooping cough, 20 cases, 2 deaths; pulmonary tuberculosis, 17 cases, 17 deaths. The total deaths for the week numbered 244, corresponding to an annual death rate of 31.46 in 1,000 of population.

**New York Academy of Medicine.**—The following papers will be read at a stated meeting of the academy, which is to be held in Hosack Hall on Thursday, March 19th, at 8:30 p. m.: *The Physiological Mechanism of Vasoconstriction and Vasodilation*, by Dr. George B. Wallace; *The Therapeutics of Vasoconstriction and Vasodilation*, by Dr. Egbert Le Fevre; *The Present Status of Experimental Arterial Disease*, by Dr. I. Adler; and *Toxic Arteritis*, with Report of a Case of Prolonged Use of Adrenalin, by Dr. Harlow Brooks and Dr. D. M. Kaplan.

**Scientific Society Meetings in Philadelphia for the Week Ending March 14, 1908.**—*Monday, March 9th*, Section in General Medicine. *College of Physicians*; *Wills Hospital Ophthalmic Society*. *Tuesday, March 10th*, Philadelphia Paediatric Society; Botanical Section, Academy of Natural Sciences. *Wednesday, March 11th*, Philadelphia County Medical Society. *Thursday, March 12th*, Pathological Society; Section Meeting, Franklin Institute. *Friday, March 13th*, Northern Medical Association; West Branch, Philadelphia County Medical Society.

**Conference on the Congestion of Population.**—At the opening session of this conference, Monday evening, March 9th, at the American Museum of Natural History, Dr. John H. Finley, president of the College of the City of New York, will preside. Among those who will make addresses are Governor Hughes, Commissioner Darlington, Commissioner Hebbard, Mrs. Vladimir G. Sinkhovitch, and His Excellency Baron Mayor des Planches, the Italian Ambassador to the United States. Reserved seats for this meeting may be obtained by addressing the committee, 105 East Twenty-second street. Three sessions will be held on Tuesday, two on Wednesday, and two on Thursday.



**The Medical Society of the Missouri Valley** will meet in Lincoln, Neb., on March 19th and 20th, on the invitation of the Lancaster County Medical Society. The address of welcome will be made by Dr. Frank Brown, mayor of Lincoln, to which Dr. R. C. McDonald, of Fremont, Neb., will respond. Dr. Charles H. Hughes, of St. Louis, will deliver the oration in medicine, and Dr. William Jepson, of Iowa, will deliver the oration in surgery. Programmes may be obtained from the secretary of the society, Dr. Charles Wood Fassett, of St. Joseph, Mo.

**Buffalo Academy of Medicine.**—The Section in Surgery held a regular meeting on Tuesday evening, March 3d. Dr. F. Whitehill Hinkel gave a demonstration of direct bronchoscopy and esophagoscopy. Dr. Marshall Clinton and Dr. Herman Hayd reported cases of echinococcus cyst of the liver. Dr. Prescott Le Breton read a paper entitled Spinal Sprain: Its Complications and Consequences, with Report of Twenty-six Cases, and Dr. Roland Meisenbach read a paper on Flat Foot. Dr. James A. Gardner is chairman of the section and Dr. Lawrence Hendee is the secretary.

**The Mortality of Minneapolis.**—We learn from the report of the Department of Health for the month of January, 1908, that during the month there were 325 deaths from all causes, corresponding to an annual death rate of 8.46 in 1,000 of population. Of the total number of deaths, 81 were from pneumonia, 33 from tuberculosis, 31 from heart diseases, 17 from Bright's disease, 9 from diarrhoea and enteritis, 5 from typhoid fever, 14 from cancer, 6 from suicide, and 13 from accidents. There were 69 deaths in public institutions. There were 464 births during the month—238 males and 226 females.

**Philadelphia County Medical Society.**—At a meeting of the Central Branch of this society, which was held on Wednesday, February 26th, the following papers were read: Ether Anesthesia, by Dr. Colin Foulkrod; Congenital Absence of the Ulna, by Dr. Francis D. Patterson; The Frequent Necessity of Multiple and Consecutive Operations for Renal Calculi, by Dr. W. Wayne Babcock. Dr. Ross H. Skillern gave a lantern slide demonstration of the Anatomy of the Accessory Sinuses of the Nose, with Especial Reference to Their Suppuration, and Dr. John J. Gilbride exhibited a specimen of hour glass contraction of the stomach.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending February 22d, there were during the week 616 deaths from all causes, as compared with 707 for the corresponding week in 1907. The annual death rate was 14.83 in 1,000 of population. The principal causes of death were: Apoplexy, 8; Bright's disease, 47; bronchitis, 25; consumption, 63; cancer, 26; convulsions, 6; diphtheria, 10; heart diseases, 42; influenza, 23; intestinal diseases, acute, 37; measles, 3; nervous diseases, 21; pneumonia, 117; scarlet fever, 10; suicide, 8; typhoid fever, 2; violence, other than suicide, 22; whooping cough, 1; all other causes, 149.

**Opportunity for a Bacteriologist in Savannah.**—The Board of Sanitary Commissioners of Savannah, Ga., announce that an examination to fill the position of City Bacteriologist will be held simultaneously at the Research Laboratory of the Department of Health, New York; the U. S. Marine Hospital, Chicago; the Hygienic Laboratory, Washington, D. C.; the U. S. Marine Hospital Service Office, New Orleans; and the City Hall, Savannah. The term of office will be two years and the salary \$3,000 per annum. Further particulars regarding the examination are published in our advertisements pages, or may be obtained from Dr. W. F. Brunner, City Hall, Savannah, Ga.

**Association of Seaboard Air Line Railway Surgeons.** At the sixth annual meeting of this association, held last week in Tampa, Fla., February 18th, 19th, and 20th, the following officers were elected: President, Dr. J. S. Oppenheimer, of Tampa, Fla.; first vice president, Dr. J. G. Dean, of Durham, Ga.; second vice president, Dr. H. M. Wilder, of Charlotte, N. C.; third vice president, Dr. J. H. Torrey, of Richmond, Va.; treasurer, Dr. J. W. Palmer, of Atlanta, Ga.; and the executive committee is composed of Dr. James R. Rogers, of New York, N. Y.; Dr. Southgate Leigh, of Norfolk, Va.; Dr. W. C. Gault, of Camden, S. C.; Dr. J. M. Blair, of Miami, N. C.; and Dr. John W. Miller, of Carroll, S. C.

**A Dinner in Honor of Dr. Ostrander.**—The Brooklyn Medical Society gave a dinner on the evening of Saturday, February 29th, in honor of Dr. George A. Ostrander, to celebrate his completion of fifty years practice of medicine in Brooklyn. About seventy-five of the leading physicians and surgeons of Brooklyn were present, among whom were four physicians who also had completed fifty years in the profession. They were Dr. A. N. Bell, Dr. J. T. Burdick, Dr. William McCollom, and Dr. J. S. Prout. Addresses were made by each of these physicians, the subject of Dr. Ostrander's talk being the progress of medical science during the past fifty years.

**The Medical and Chirurgical Faculty of Baltimore Purchase Building Site.**—A lot, having a frontage of sixty feet on both Maryland Avenue and Cathedral street, just south of Preston street, Baltimore, has been purchased by the Medical and Chirurgical Faculty of Baltimore on which will be erected the new building which is intended to furnish quarters for a medical library, the State Board of Health, the State Board of Medical Examiners, and the local association of pharmacists, the tuberculosis commission and the State veterinary board. A building fund of \$200,000 is to be collected, of which some \$50,000 has already been pledged. The legislature will be asked to appropriate \$100,000 towards the library.

**Charitable Bequests.**—The will of Charles E. Wood provides for the establishment of a sanatorium at Atlantic City, N. J., at a cost of about \$300,000.

By the will of Elizabeth Kuntz the Wernie Orphans' Home, of Richmond, Ind., receives \$2,000. The Society to Protect Children from Cruelty, the Lutheran Home and Asylum for the Aged and Infirm, and the Home for Crippled Children are reversionary legatees.

By the will of Thomas P. Dillon the Little Sisters of the Poor, Philadelphia, receive \$500.

By the will of Cyrus Detre the Samaritan Hospital, Philadelphia, receives \$500.

By the will of Mrs. Mary E. Ives the General Hospital Society of Connecticut receives \$5,000 for the establishment of a free bed in memory of Mr. Hoadley B. Ives, and Grace Hospital, New Haven, receives \$5,000 for a free bed in memory of Mrs. Mary E. Ives.

**Infectious Diseases in Pittsburgh.**—The following cases of transmissible diseases have been reported to the Bureau of Health of Pittsburgh:

Week ending,	Jan. 4	Jan. 11	Jan. 18	Jan. 25	Feb. 1	Feb. 8
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Chickenpox	12	3	12	3	14	3
Diphtheria	20	22	11	24	11	20
Scarlet fever	10	10	10	4	20	1
Dysentery	2	2	2	3	2	1
Typhoid fever	2	2	2	3	2	4
Whooping cough	1	1	1	1	1	1
Measles	1	1	1	1	1	1
Smallpox	1	1	1	1	1	1
Infantile paralysis	1	1	1	1	1	1
Polio	1	1	1	1	1	1
Unlabeled	1	1	1	1	1	1
Total deaths	58	68	50	64	54	64
Annual death rate in 1,000 of population	12.8	14.8	14.8	14.8	14.8	14.8
Estimated population	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

**The Health of Philadelphia.** During the week ending February 8, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Typhoid fever, 114 cases, 18 deaths; scarlet fever, 55 cases, 4 deaths; chickenpox, 44 cases, 0 deaths; diphtheria, 88 cases, 11 deaths; whooping cough, 1 case, 0 deaths; measles, 125 cases, 3 deaths; whooping cough, 33 cases, 5 deaths; pneumonia, 117 cases, 22 deaths; influenza, 23 cases, 30 deaths; typhoid fever, 2 cases, 1 death; tetanus, 2 cases, 1 death; puerperal fever, 2 cases, 4 deaths; smallpox, 1 case, 0 deaths; scarlet fever, 1 case, 0 deaths.

The following deaths were reported during the week ending February 8, 1908: Typhoid fever, 18 deaths; scarlet fever, 4 deaths; chickenpox, 0 deaths; diphtheria, 11 deaths; whooping cough, 1 death; measles, 3 deaths; whooping cough, 3 deaths; pneumonia, 22 deaths; influenza, 3 deaths; typhoid fever, 1 death; tetanus, 1 death; puerperal fever, 4 deaths; smallpox, 0 deaths; scarlet fever, 0 deaths; chickenpox, 0 deaths; diphtheria, 0 deaths; whooping cough, 0 deaths; measles, 0 deaths; whooping cough, 0 deaths; pneumonia, 0 deaths; influenza, 0 deaths; typhoid fever, 0 deaths; tetanus, 0 deaths; puerperal fever, 0 deaths; smallpox, 0 deaths; scarlet fever, 0 deaths; chickenpox, 0 deaths; diphtheria, 0 deaths; whooping cough, 0 deaths; measles, 0 deaths; whooping cough, 0 deaths; pneumonia, 0 deaths; influenza, 0 deaths; typhoid fever, 0 deaths; tetanus, 0 deaths; puerperal fever, 0 deaths; smallpox, 0 deaths; scarlet fever, 0 deaths; chickenpox, 0 deaths; diphtheria, 0 deaths; whooping cough, 0 deaths; 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### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending February 29, 1908:

	—February 22—		—February 29—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	388	241	451	234
Diphtheria	371	45	373	44
Measles	1,252	20	1,554	39
Scarlet fever	707	39	924	39
Smallpox	—	—	—	—
Varicella	133	—	186	—
Typhoid fever	33	4	45	9
Whooping cough	9	1	20	1
Cerebrospinal meningitis	13	9	16	8
Totals	2,993	325	3,593	344

**Personal.**—Dr. Walter E. Whitney, of Waterville, Me., and Dr. Frank J. Vankirk, of Bellingham, Wash., are registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

Dr. Jacob Frank, of Chicago, has received from Count Matsukato, president of the Red Cross Society of Japan, a medal made from weapons actually used on the battlefield, in recognition of the service rendered by him during the Russo-Japanese War.

Dr. Mortimer J. Lampson has been appointed superintendent of the Jersey City Hospital.

We learn from the *Canadian Journal of Medicine and Surgery* that Dr. George Elliott, of Toronto, has been appointed provincial medical examiner for the Royal Arcanum in Ontario.

Dr. Charles D. Aaron, of Detroit, has been appointed a member of the Committee of One Hundred on National Health.

Dr. William H. Taylor, of Cincinnati, was tendered a dinner at the Queen City Club on the evening of March 2d, in honor of the fiftieth anniversary of his graduation in medicine.

Dr. Elizabeth Blackwell, of Hastings, England, who is the first woman to take a medical degree, was eighty-six years old on February 3d.

**The Grand Legion of the Red Cross** is the name given to a trained volunteer army of first aid, which is being organized by the American National Red Cross. The Grand Legion is made up of four or more legions, each legion has four relief columns, each column four detachments, and each detachment four squads. The first relief columns were formally organized on January 22, 1908, in Brooklyn, under the direction of Dr. Glentworth Butler, who was assisted by Major Charles Lynch, of the Medical Department of the U. S. Army, who has been specially detailed by the Surgeon General to aid in the work. The members of the Legion will be taught to give first aid under all conditions, and will be prepared to serve as a body in time of need. They will not be obliged to serve in the Army hospital corps in time of war, but may do so if they wish. The chief work of the Legion will be, both directly and indirectly, a crusade against preventable accidents, and it is estimated that about two thirds of the 10,000,000 accidents a year in the United States are preventable. The Grand Legion will not be composed of men alone; each relief column will eventually have attached to it a relief corps of women trained in first aid and home nursing. Further information concerning this work may be obtained at the New York State Branch of the American National Red Cross, 500 Fifth avenue, New York.

**Philadelphia Bureau of Health Statistics.**—During the month of December, 1907, in the Division of Medical Inspection 3,952 inspections were made, excluding schools; 715 fumigations were ordered; 64 cases were referred for special diagnosis; 4,624 visits were made to schools; 556 children were excluded from school; 418 cultures were taken; 132 injections of antitoxine were given; and 208 persons were vaccinated. In the Division of Vital Statistics 2,143 deaths, 2,600 births, and 196 marriages were reported. In the Division of Milk Inspection 8,304 inspections were made of 190,172 quarts of milk, of which 984 quarts were condemned. Thirteen specimens were examined chemically and 989 microscopically. In the Division of Meat and Cattle Inspection 3,897 inspections were made; 286 were found unsanitary; 207 condemnations were ordered. Fifty-nine post mortem examinations were made,

of which 8 were condemned. In the Division of Disinfection 271 fumigations were done for scarlet fever, 501 for diphtheria, 91 for typhoid fever, 173 for tuberculosis, 290 for miscellaneous diseases, and 36 schools were fumigated. In the Bacteriological Laboratory 1,714 cultures were examined for the bacillus diphtheriae; 416 specimens of blood were examined for the serum diagnosis of typhoid fever; 973 specimens of milk were examined; 156 specimens of sputum were examined; 3 disinfection tests were made; and 3,716,400 units of antitoxine were distributed. In the Chemical Laboratory 119 analyses were made.

### Society Meetings for the Coming Week:

**MONDAY, March 9th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, March 10th.**—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Newburgh Bay, N. Y.; Medical Society; Medical Society of the County of Schenectady, N. Y.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine); Practitioners' Club of Jersey City.

**WEDNESDAY, March 11th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx, New York; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond, N. Y.

**THURSDAY, March 12th.**—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.

**FRIDAY, March 13th.**—New York Academy of Medicine (Section in Otolaryngology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

**SATURDAY, March 14th.**—Therapeutic Club, New York.

**Meetings of Sections of the New York Academy of Medicine.**—The Section in Pediatrics will meet on Thursday evening, March 12th, at 8:15 o'clock. The meeting will be devoted to the presentation of patients and a discussion by members of the section.

The Section in Otolaryngology will hold a meeting on Friday evening, March 13th, at 8:15 o'clock. Dr. G. H. Cocks will present a patient showing recurrent keloid of the scalp and lobule of the ear, and Dr. Frederick Whiting will read a paper entitled *The Toxæmia of Latent Erysipelas in Its Relation to Otitic Serous Meningitis*.

A meeting of the Section in Public Health will be held on Tuesday evening, March 10th, at 8:15 o'clock. Dr. Simon Baruch will read a paper on *Public Baths, Their Need and Usefulness*, and a paper on *Public Comfort Stations* will be read by Frederick L. Lord, City Engineer, Hartford, Conn. The discussion will be opened by Dr. S. A. Knopf.

A meeting of the Section in Surgery was held on Friday evening, March 6th, which was devoted to a general discussion on aneurysm. Papers on the subject were read as follows: *The Treatment of Popliteal Aneurysm by the Reconstructive Method*, by Dr. J. F. Binnie, of Kansas City; *Personal Experience with the Modern Treatment of Aneurysm*, by Dr. Robert Abbe; *A Report of Two Cases of Aneurysm*, by Dr. Joseph A. Blake; *The Serous Coat of Blood Vessels Compared with the Peritonæum*, by Dr. Robert T. Morris.

On Monday evening, March 9th, the Section in Neurology and Psychiatry will hold a meeting, for which the following programme has been arranged: Dr. William B. Pritchard will present two patients showing progressive muscular dystrophy; Dr. John Hartwell will report two cases of suture of the ulnar and median nerves, and a general discussion on the subject will follow; Dr. Charles N. Dowd will report cases of tendon transfer for paralytic deformities of the foot; Dr. John A. Bodine will read a paper entitled *Injection of Alcohol for the Cure of Trigeminal Neuralgia*; and Dr. R. H. Dawbarn will read a paper entitled *The Shortening of All Sensory Nerves an Essential Step in All Amputations*.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

February 27, 1908.

1. The Bennett Fracture of the First Metacarpal Bone, Diagnosis and Treatment. By SAMUEL ROBINSON.
2. The Treatment of Trophic Nerve Lesions: A Study Based on a Case of Mal Perforans of Ischemic Paralysis, and of Erythromelalgia, By WILLIAM C. QUINBY.
3. Pulmonary Embolus Following Operative Interferences, By CHARLES GREENE CUMSTON.
4. Psychology in Medicine, By ARTHUR H. BING.

1. **Bennett Fracture of the First Metacarpal Bone.**—Robinson remarks that the first and fifth metacarpal bones are most frequently fractured. Sixty-four per cent. of fractures of the first metacarpal are of a less obstinate transverse type. Twenty-eight per cent. are oblique fractures into the joint, with or without subluxation of the metacarpal (Bennett type). Certain forms of the Bennett lesion are difficult of treatment and render all injuries to the base of the thumb worthy of a skiagraph for their early detection. For transverse fractures without much deformity any simple immobilization splint is sufficient to produce union. Such methods of fixation have also proved adequate in certain oblique fractures into the joint where subluxation had not already occurred, and owing to ligamentous support remained in position until maintained by bony or cartilaginous union of the fragment to the shaft. For the Bennett fracture with fracture and subluxation, different methods have been employed. Our author regards the method of Miles, Struthers, and Bennett inadequate. He describes his method as follows: Two narrow strips of adhesive plaster are first applied to the lateral surfaces of the thumb with free ends about six inches long. These strips are held in position by circular turns of the adhesive. In preparation for the spica, the thumb, metacarpal region, and wrist are bandaged with cotton sheet wadding. To provide space between the thumb and plaster spica in which the thumb may be later extended, two narrow pieces of splint wood, such as are used as tongue depressors, are laid laterally against the cotton. They should extend an inch beyond the tip of the thumb in order that the circular turns of the plaster spica may continue the extension cylinder beyond the tip. With the thumb well abducted a plaster of Paris bandage, cut to width of two inches, is then firmly applied as spica from the wrist. As the plaster hardens, extension should be maintained with traction on the adhesive plaster strips. At the same time pressure should be applied over the proximal end of the subluxated fragment. A second layer of plaster bandage should then be applied for added support and for the incorporation, if so desired, of two buckles. The splint wood is then withdrawn through open end of cylinder. Traction is exerted on the adhesive extension strips which are turned backward over the now firm edge of the extension trough, and held in position by the buckles, or, if the latter are not available, a circular turn of adhesive around the hand outside the spica will answer the purpose. The following day the pull on the extension strips should be increased to make up

for stretch in material, for yielding in the grip of the strips on the thumb and for muscle relaxation. This should be repeated every two days for at least a week. Four or even five weeks is none too long a time for the maintenance of this apparatus. At the end of three weeks to make up for reduced swelling the spica may be carefully removed and a new plaster spica restored with the same moulding over the seat of fracture but without the extension apparatus.

#### 2. The Treatment of Trophic Nerve Lesions.

—Quinby remarks that the so called trophic nerve lesions of the skin, bones, and joints are due to a break in the neurovascular mechanism of the part involved. This break may be situated centrally or on the neural side, or on the vascular side. Hence, rational treatment of such conditions will be directed toward modification of the blood supply; or the nerve function of the part. For modification of the blood supply, we have active and passive hyperæmia increasing it, and positive pressure by bandaging, pneumatic cabinet, or the immersion in mercury, decreasing it, while for modification of the nerve function, we have nerve stretching, neurolysis and nerve disassociation, and electricity. Nerve stretching is probably to be condemned, similar results being obtainable by the simpler passive hyperæmia.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

February 20, 1908

1. Intestinal Tuberculosis: Tuberculous Intestinal Neoplasms and Tuberculous Ileocecal Tumor, By JOHN C. HEMMETER.
2. Some Studies of the Endogenous Uric Acid Moiety in Pathological Conditions, By ROBERT E. PECK and FRANK W. THOMPSON.
3. Operative Procedure as a Therapeutic Measure in the Cure of Epilepsy, By MATTHEW WOODS.
4. Psychasthenia: Its Semiology and Nosologic Status Among Mental Disorders, By J. W. COURTNEY.
5. The Relations of the Diaphragm as Revealed by the Röntgen Ray, By SIDNEY LANGE.
6. The Choice of a Vasodilator and the Indications for Vasodilation, By HENRY WIREMAN COOK.
7. Prostatic Calculi. With the Report of Two Cases, By G. L. ROHDENBURG.
8. The Heart's Action Preceding an Epileptic Seizure, By J. F. MUNSON.
9. Sterile Hands Secured by Abstinence from Infection: the Essential Factor in Successful Surgery, By J. H. CARSTENS.
10. Tuberculosis and the Medical Schools, By DAVID R. LYMAN.

#### 2. Some Studies of the Endogenous Uric Acid Moiety in Pathological Conditions.

—Peck and Thompson summarize their investigation as follows: A certain number of patients showing nervous and other symptoms are suffering from disturbances of metabolism of such nature as to lead to an abnormally low output of endogenous urinary purins. Just what these metabolic abnormalities are the authors can not at present state, because of ignorance of the exact physiological processes concerned in the formation of the endogenous moiety, but that they are, in a measure at least, responsible for some of the symptoms is shown by the relief of these same symptoms on increasing the elimination of the urinary purins. The best method of bringing about this result is not by trying to dissolve the uric acid, as has been our endeavor in the past, but to increase the activity of the metabolic processes. This latter



accomplishment is best attained by exposing the naked body to the direct rays of incandescent electric lights.

**5. The Relations of the Diaphragm as Revealed by the Röntgen Ray.**—Lange remarks that the diaphragm functionates in an analogous manner to the other muscles of the body. Its excursion is greatest when its points of origin and insertion are most widely separated, and it acts more forcibly against resistance than when acting unopposed. The practical application of the study of the diaphragm by means of the x ray will be possible perhaps only in the larger hospitals where the Röntgen equipment is complete. But its importance as a routine method of examination is not an inconsiderable one. In feeble patients where auscultation is difficult because the breathing is weak and suppressed and percussion is unsatisfactory because of the inadvisability of turning and lifting the patient, this method is especially valuable, for the examination may be conducted in the recumbent position without in any way disturbing the patient. The high convex position of the diaphragm is dependent on the combined action of two forces. When either fails the dome drops downward. One factor is the elasticity of the lungs, maintaining a constant suction in the pleural sac. The other is the pressure of the abdominal contents. This abdominal pressure is of a hydrostatic nature, in that it is equally distributed over the entire lower surface of the diaphragm. This pressure is due, in the upright posture, to the compression exerted by the abdominal musculature on the abdominal viscera, while in the recumbent position the abdominal contents influence the diaphragm by gravitating against it. That these forces support the diaphragm is shown in phrenic paralysis where the diaphragm stands at a high level and rises during inspiration and sinks during expiration, although its own tonus is lost. That there is an upward suction and an upward pressure on the diaphragm is shown in phrenic hernia where the stomach enters the thorax through a rent in the diaphragm. When the elastic suction of the lung is removed, as in emphysema, the diaphragm stands low. Variations in the pressure from below are shown by variations in the phrenic level, depending on whether the individual is lying, standing, or sitting. The phrenic level is highest when the patient is recumbent, in which position the abdominal contents, acted on by gravity, push against the diaphragm. When standing the diaphragm is slightly lower than when lying down. The force here is the rigidity of the abdominal walls exerting pressure on the viscera, which force is partly counteracted by gravity pulling the abdominal contents away from the diaphragm. In the sitting position the diaphragm is lowest, for in this attitude the abdominal musculature is partly relaxed, and the force of gravity acting on the abdominal contents less opposed sucks the diaphragm downward. But notwithstanding this pressure, its excursion is greater than the opposite unopposed half. This upper half, furthermore, acts very peculiarly. It stands comparatively low, and instead of sweeping up and down with its fellow of the lower side it remains almost motionless, swinging in a sort of pendulum fashion about a point which runs through its middle point.

In other words, its excursion is decreased because its points of origin and insertion are approximated and because its action is unopposed.

**6. The Choice of a Vasodilator.**—Cook says that sodium nitrate is the best vasodilator; it has the most enduring effects; is most stable and dependable; and gives rise to fewest unpleasant symptoms. Vasodilatation may be indicated with low or normal tension, i. e., all uncontrollable hæmorrhage, either during operative manipulation, typhoid ulceration, gastric ulcer, pulmonary phthisis, other internal hæmorrhage uncontrollable by surgical methods, aneurysm, thrombus, etc. High tension is abnormal, and is either the accompaniment of organic disease, or else presages its onset; in either case it demands treatment; first, by general hygienic measures; second, when necessary, by venesection or vasodilatation with drugs—preferably sodium nitrate.

**8. The Heart's Action Preceding an Epileptic Seizure.**—Munson has made observations on the heart's action preceding an epileptic seizure. Looking over the cases reported it will be seen that the condition common to all but one was an acceleration of the pulse preceding the seizure and lasting through the onset stage to the moment of the first recorded convulsion. This acceleration was never great. The absence of a time marker prevented exact statements, but the increases seemed to be in the several cases, from eight to nine, or from twelve to fifteen or seventeen beats. In all the cases the pulse was entirely regular. For this group of cases one can conclude definitely: Cardiac arrest does not occur; except for slight acceleration, and in one case slight slowing, the heart does not take part in the convulsion.

#### MEDICAL RECORD

February 29, 1908.

1. Chronic Sigmoiditis, By HEINRICH STERN.
2. Cardiac Hydrothorax. Report of a Case Aspirated 311 Times, By W. TRAVIS GIBB.
3. Acute Bulbar Paralysis, with an Unusual Symptom, By ALFRED GORDON.
4. Significant Features of Middle Ear Suppurations in Infancy and Childhood, By S. J. KOPETZKY.
5. Dangers Attending Operative Intervention in Gonorrhœal Salpingitis. Report of a Case, By J. S. PRICE.
6. Ether Anæsthesia, By DEAN LOREE.

**1. Chronic Sigmoiditis.**—Stern reports eight cases of chronic sigmoiditis, forming about the sixth part of all the cases of that affection which have come under his observation. Naturally, extent and intensity of the inflammatory processes were of manifold degree in the various instances. That an inflammatory condition may be limited to the sigmoid flexure there is no question. That such an inflammatory condition may be idiopathic, at least in a proportion of cases, we have to assume on logical grounds. However, we will not be far out of the way when we maintain that a goodly number of the pertaining instances are deuteropathic in character; that they are, in other words, the consequence of a preexisting condition. The direct local condition predisposing to inflammation of the sigmoidal mucosa is habitual obstipation and long continued drug catharsis, the more mediate cause acting as predisponent for sigmoiditis being an adequate or perverse nerve impulse in the descending and especially in

the sigmoidal segments of the colon. In every instance of chronic sigmoiditis which came to his notice, there prevailed obstipation or a tendency thereto, and the characteristic lethargy of the large intestine, which is directly attributable to the customary ingestion of purgatives. Stagnation of the feces occurs mostly in the lower portion of the descending colon and in the sigmoid flexure, the peculiar anatomy of which virtually invites the retention of feculent material. Inflammatory processes of the colonic and sigmoidal mucosa may thus be set up readily, to some extent, by mechanical injury on the part of the accumulated excrementitious substances, to some extent by chemical irritation of the products of secondary fermentation evolved from the impacted feces. Intestinal spasm, atony, or paresis, by giving occasion to obstipation, may be the more remote causes of chronic inflammatory processes of the sigmoid flexure. The great majority of all intestinal affections which are due to insufficient or perverse innervation arise in the sigmoid. An initial intestinal spasm is almost in every instance confined to the sigmoid; intestinal atony or paresis, as a rule, starts in the sigmoid; seventy per cent. of all cases of volvulus—due primarily in almost every instance to fecal impaction, and induced forced peristalsis, that is, perverse innervation—occur in the sigmoid flexure. Chronic sigmoiditis may be associated with numerous concomitants and complications. Its occurrence, in fact, favors the production of other, especially functional, disturbances of the alimentary canal. Functional disorders of the cæcum, for instance, are often due to a chronic pathological condition of the sigmoid. The synchronous occurrence of cæcal derangement and the syndrome of chronic sigmoiditis often present the clinical picture of chronic appendicitis. Again, we know that in the aetiology of appendicitis itself, chronic obstipation (and consequently sigmoidal disease) plays an important rôle. Furthermore, perisigmoiditis may be due to the same cause which gives occasion to endosigmoiditis, or it may be the direct consequence of the latter, and inflammatory processes in other parts of the peritonæum may be engendered by chronic sigmoiditis or its most frequent immediate precursor, obstipation.

4. **Significant Features of Middle Ear Suppurations in Infancy and Childhood.**—Kopetzky finds the significant features of middle ear suppuration in infancy and childhood to lie in the existence of the purulence without perforation; in the presence of a discharge from the Eustachian tube to the pharynx; in the exhibition of temperature, early facial paralysis and marked disturbance of stomach and bowel; in the advent of periosteal abscess; in the rapid progress of destructive processes in the petrous lobe; in the tendency to extensive ossifications; in the possibility of early primary bulbar thrombosis; in the existence of the characteristic of otitic pyæmia, and in the relatively serious sequelæ of certain forms of ear disease in the child, who is exposed to the danger of deafness in the loss of a special sense so intimately related to the functions of speech.

6. **Ether Anæsthesia.** Laro reports that in the past the more liberal use of ether once administered has been deemed sufficient precaution without at-

tempting a study of the possibilities of the latter. The profession seems to be awakening to the fact that proper etherization calls for experience and that, within certain limits, a maximum dosage must be established. Much is being written concerning the different forms of apparatus, and this or that method calls for much or little commendation, whereas the true test is the anæsthetist himself, and that mode of administration is superior which in his hands permits him to employ the smallest quantities of ether. The drop method has done more for ether in general than any one thing since its discovery. Averages of five ounces of ether per hour may be obtained with the Allis inhaler slightly modified. Nitrous oxide gas preceding ether is unnecessary; the former is valuable in selected cases, not only for minor but, if properly given, may be prolonged for major operations. Primary anæsthesia with ether is valuable in many short operations, viz.: extraction of teeth, incision of abscesses, urethral dilations, etc. The average amount of ether required per hour is four ounces, when complete unconsciousness must be continuous. The longer the operation is prolonged the less ether is necessary for any given period of time. The longest period of ether anæsthesia that has come under his observation was five and one half hours, in the case of a radical mastoid operation with exploration of the brain and ligation of the left common carotid; the amount of ether used was fourteen ounces. Proficiency in future will require the minimum amount of ether instead of the promiscuous "soaking" of the past. When this is made obligatory, vomiting is the exception, not the rule; the excitement stage is wanting; the intense irritation of bronchial mucous membrane is never experienced, and the capillary circulation is as good, sometimes better, than before administration.

#### BRITISH MEDICAL JOURNAL

February 15, 1908

1. Chorea of Aggravated Type with Certain Unusual Phenomena, By R. W. PHILIP.
2. Chronic Bronchitis, By A. G. AULD.
3. Surgical Aspects of Subphrenic Abscess, By H. L. BARNARD.
4. Preliminary Notes on the Incidence of an Acute Tuberculous Fever in India Which Has Been Confounded with Continuous and Remittent Fevers, By J. R. KILLICK AND P. R. BANERJEE.
5. On the Spread and Prevention of Tuberculous Disease in Pondoland, South Africa, By J. G. MILLAR.
6. The Prevention of Tuberculosis: A Suggestion, By A. R. GUNN.
7. The Treatment of Epidemic Cerebrospinal Fever by Intraspinal Injections of Flexner and Jobling's Antimeningitis Serum, By A. G. ROHR.

1. **Chorea.**—Philip reports a case of chorea of an aggravated type occurring in a youth aged eighteen years, and which ended fatally. Among the unusual phenomena observed was the condition of hipso, i. e., the point of the toes was abnormally rigid and contracted in extraordinarily rapid fashion. The age of the patient was unusual, in that the great majority of cases occur between the ages of five and fifteen years. The family history in cases of chorea often traces a hereditary tendency to rheumatism to a remote generation. The ultimate causation of chorea is still a mystery. The serious character of the symptoms and their extreme violence in some

cases are much in favor of the disease being due to irritation. In particular, various toxins are admitted as irritants, especially that associated with rheumatism. The disease follows other infective conditions besides rheumatism—scarlet fever, measles, small pox, diphtheria, typhoid fever, and many other conditions. Shock, fright, etc., are probably merely predisposing influences which determine the direction in which the effects of intoxication may show themselves. Up to the present there is no certain, constant post mortem appearance which can be predicated as the anatomical basis of the disease. The prognosis is grave in the severer types. The patient should be on a water bed, and his larger joints wrapped in cotton wool. Of drugs the most serviceable are the bromides and chloral.

2. **Chronic Bronchitis.**—Auld discusses the causation and treatment of chronic bronchitis. Three drugs have a specific action on the epithelial and glandular tissues; they are potassium iodide, balsam of Peru, and turpentine. Of these the balsam of Peru is the most efficacious and the most generally applicable. When the expectoration is already free, begin at once with the balsam in doses of ten to twenty minims, given disguised in an emulsion. If the expectoration is scanty and difficult to expel, begin with five to eight grains of potassium iodide, and, having obtained a free expectoration, follow up with the balsam of Peru.

4. **Acute Tuberculous Fever.**—Roberts and Bhandarkar call attention to the existence of an acute fever, due to the tubercle bacillus, and which is often confounded with typhoid and malarial fever. The fever is of a remittent or intermittent type, lasting from a week to four weeks; the liver is often enlarged, the spleen not so. Vomiting and nausea are marked, but not continuous. The most distinguishing feature is pain and tenderness in the epigastrium, on which stress is laid in diagnosis. Some cases have acute exacerbations of pain, others only tenderness, which, if it is associated with hepatic enlargement, makes the diagnosis from liver abscess very difficult; but the detection of tubercle bacilli in the urine clears up all doubt. The mind is clear, generally remarkably so. The tongue is furred, but not coated as in typhoid fever. This fever is completely recoverable from, but it marks the launching of the patient on a tuberculous career—the beginning of a long period of ill health of an indefinite kind. This general malaise is not continuous. Another set of cases develop obvious tuberculosis—tubercle of the lungs, kidneys, etc. The initial acute tuberculous fever has been by that time completely forgotten. In this fever the abdominal symptoms point to probable invasion through the alimentary canal. It is not to be confounded with tuberculous peritonitis. The mortality is low, and the condition does not drift into acute miliary tuberculosis. The direct evidence is supplied by the detection of the tubercle bacillus in the urine. The technique is that given in the books; attention is called to the importance of a good centrifuge, the washing of the deposit in distilled water once or twice to insure fixation, and the use of egg albumin to facilitate this. The Ziehl carbol fuchsin method of staining was the one used. The writers are convinced that there exists a tuberculous cachexia, not only as the

sequela of acute tuberculous fever, but coming on gradually, and manifesting itself by indefinite malaise. Its detection depends on the examination for tubercle bacilli in the urine. This stage is probably the precursor of an evident tuberculous disease, such as affections of the lungs, kidneys, bones, or abdominal organs. This cachexia exists along with a low opsonic index, and it is important to raise this to effect a cure.

6. **Prevention of Tuberculosis.**—Gunn suggests that the problem of tubercle free milk can be solved by taking those members of the herd of cattle which are immune to tuberculosis, and breeding from them and them alone.

7. **Serum Treatment of Cerebrospinal Meningitis.**—Robb reports a series of thirty cases of cerebrospinal meningitis treated with Flexner and Jobling's antimeningitis serum. Eight patients died, a mortality of 26.6 per cent. Of thirty-four cases treated at the same time without the serum, twenty-nine patients died, a mortality of 85.2 per cent. The general mortality in Belfast of the disease was 72.3 per cent. These results are encouraging. Three cases were of the fulminant type, four of the ordinary type, and one was already "chronic."

LANCET.

February 15, 1908.

1. Ovarian Teratomata (Erasmus Wilson Lecture).  
By S. G. SHATTOCK.
2. The Treatment of Tuberculosis by Different Kinds of Tuberculin.  
By N. RAW.
3. On a Case of Acute Poliomyelitis Associated with a Diplococcal Infection of the Spinal Sac,  
By W. PASTEUR, A. G. R. FOULERTON, and H. MAC-CORMAC.
4. The Therapeutic Uses of Normal Serum,  
By E. C. HORT.
5. Plastic Bronchitis in a Girl, Aged Eleven Years, the Seventh Attack in Four Years, the First Occurring at the Age of Seven Years: Extreme Displacement of the Heart and Mediastinum, Produced by Collapse of the Lung, Disappearing with Expectoration of the Cast, but Recurring as Each Fresh Cast Formed.  
By S. WEST.
6. An Artificial "Airway" for Use During Anaesthetization,  
By F. W. HEWITT.
7. The "Early" Operation in Acute Appendicitis: The Indications for Its Performance and Its Advantages,  
By F. A. SOUTHAM.

2. **Tuberculin Treatment.**—Raw holds that human and bovine tubercle bacilli are divisible into two distinct types of a common species, (1) *typus humanus*; and (2) *typus bovinus*. Man, from feeding for centuries upon cattle products—milk, cheese, etc.—has become tolerant to the bovine bacilli. Tubercle bacilli of the *typus humanus* produce phthisis pulmonalis, ulceration of the intestines, and tuberculous laryngitis; and tubercle bacilli of the *typus bovinus* produce tuberculous peritonitis, tuberculosis of the lymphatic glands, tuberculous joints, meningitis (probably), and lupus. Acute miliary tuberculosis is probably also of bovine origin. In the author's experience, Koch's tuberculin R. has little or no healing effect in phthisis pulmonalis. He has therefore prepared from bovine sources a special tuberculin for the treatment of pulmonary tuberculosis, the results from which have been most excellent. Working on corresponding lines, he has treated over seventy cases of surgical or bovine tuberculosis with Koch's tuberculin R. The results



have been beyond anticipation: enlarged glands, joints, and lupus have been immensely improved, while discharging sinuses have cleared up, and the symptoms of meningitis have disappeared (in two cases).

3. **Acute Poliomyelitis.**—Pasteur, Foulerton, and MacCormac report that after having identified a micrococcus in the spinal fluid withdrawn during life from a boy with symptoms of acute poliomyelitis, they succeeded in producing an ascending motor paralysis in a rabbit, after a prolonged period of incubation, by inoculating this fluid into the subdural space. On the death of the rabbit a micrococcus could be demonstrated in the cerebrospinal fluid similar to that seen in the fluid from the human case; and by similarly inoculating another rabbit with an emulsion of cerebrospinal substance and fluid from the first experimental animal they again succeeded in producing a motor paralysis again associated with the presence of the micrococcus in the spinal fluid. The evidence is bacteriologically incomplete, however, as it was not possible to cultivate the organism on artificial media. The writers hold that the investigations of Geirsvold and others have established beyond question the existence of a specific infective disease of which acute poliomyelitis is a frequent and prominent, but not essential, feature. This specific disease has apparently no clearly distinctive primary features to enable one to distinguish it by its clinical symptoms from many other febrile conditions of probably infective origin. And so while the serious complications of acute poliomyelitis when it has occurred has been at once recognized, the primary disease has not been distinguished hitherto, but has in fact usually been altogether overlooked. But there is not sufficient reason for assuming that acute poliomyelitis is always a result of this particular diplococcal infection. The symptoms by which acute poliomyelitis is recognized are the consequences of a constitutional alteration of certain cells of the central nervous system, which causes an impairment of their functional efficiency. It is probable that these cell changes may be caused also by the toxins produced in other infective processes.

4. **Therapeutics of Normal Serum.**—Hort has treated with the most encouraging results a number of morbid conditions by the administration of normal blood serum. Among the diseases treated in this way are gastric and duodenal ulcer, with and without hemorrhage, chlorosis, and other forms of anemia, hæmophilia, purpura hæmorrhagica, tuberculous peritonitis, hæmoptysis, ulcerations of all kinds, pulmonary oedema, pneumonia, etc. Whatever value normal serum therapy may prove to have, it does not seem obviously connected with supplying fibrin ferment. It is conceivable that the administration of normal serum may effect the production of autoimmunity, or in some unknown way correct a disturbance of the regulating mechanism. It is not impossible that in all the conditions mentioned there is a common basis of auto-intoxication characterized by destruction of epithelial, endothelial, leucocytes, or other cells, which autolysis can be inhibited by normal serum.

7. **"Early" Operation in Appendicitis.**—South-

pendicitis. The temperature and pulse rate bear no constant relation to the severity of the attack. A rapid pulse is also suggestive of serious mischief and points to a probable termination in suppuration. The same applies to a high temperature. A subnormal temperature, especially if the fall has been sudden, often indicates perforation. A high temperature and a slow pulse, or *vice versa*, are always unfavorable, the same being true of an initial rigor, urgent vomiting, acute pain, and painful rigidity of the abdominal wall. Another important early symptom, pointing to the onset or the presence of the destructive form of appendicitis, is the absence of abdominal respiration, the breathing being mainly or entirely thoracic. The advantages of surgical interference in the early stage of acute appendicitis are as follows: 1. The infective centre, i. e., the appendix, can be removed in many cases before suppuration has taken place, and if it has not perforated or become gangrenous the operation is practically an aseptic one. 2. If pus has formed, even though not encysted and surrounded by a barrier of lymph, it will usually be found to be localized as yet to the neighborhood of the appendix and small in quantity. In these circumstances, its evacuation, together with the removal of the appendix, if followed by free drainage, will usually check the spread of the suppuration which otherwise so often tends to become general. 3. The operation being performed before the onset of general toxæmia (the common cause of death in fatal cases) is usually well borne by the patient. 4. The risks of the later complications of acute appendicitis, viz., subphrenic and hepatic abscess, empyema, parotitis, and phlebitis, and infections in other parts of the body, are greatly minimized. 5. In the early stage the appendix—unless bound down by adhesions the result of a previous attack—lies quite free, and is therefore easily removable. In the later stages, especially in the less acute cases, it is often surrounded and imbedded in a deposit of lymph, which may form part of the wall of an abscess when the pus is encysted. Under these circumstances it is often not easy to recognize the appendix, and its removal is frequently difficult or impossible without breaking down this barrier of lymph, and thus running the risk of infecting the general peritoneal cavity.

#### LA PRESSE MEDICALE

February 8, 1908

Opening Lecture.

By PROFESSOR BARR.

February 8, 1908

1. Infantile Splenic Infection. By the Lecturer, Professor Barr. In Relation to Kala Azar and Infanile Splenic Anæmia. By C. NICOLLE and E. CASSUTO.
2. Cancer and the X Rays. By MALAY.
3. Aspects of Conjugal Diseases. By R. RUMME.

1. **Infantile Splenic Infection.**—Nicolle and Cassuto state that under the name Kala Azar, tropical splenomegaly, dum dum fever, etc., the physicians of India describe an infection which is distinct from paludism, with which it is sometimes confounded, and characterized by irregular fever, progressive anemia, extreme emaciation, digestive troubles, great hypertrophy of the spleen, some hypertrophy of the liver, transient edemas, possible eruptions bounding at the skin, rheumatic pains, and

an always fatal termination. The infection is by the bodies, discovered by Leishmann and also by Donovan in 1903 and described by them in the *British Medical Journal*. Nicolle and Cassuto describe a case which came under their observation in a child of French parentage born in Tunis in 1905, together with the findings at autopsy. Several other cases have been observed which go to show that this disease is to be met with about the Mediterranean as well as in India.

February 12, 1908.

1. Diagnostic and Therapeutic Value of Œsophagoscopy. Study Based on 300 Personal Observations, By GUISEZ.
2. Disinfection of the Uterine Cavity in Puerperal Infection, By A. SCHWAB.

1. **Diagnostic and Therapeutic Value of Œsophagoscopy.**—Guisez urges the invaluable aid afforded in diseases of the œsophagus by œsophagoscopy as well as in the case of application of rational treatment. Particularly he insists that the method is not dangerous or painful. Injury is possible to the walls, which are sometimes very friable, as in cases of cancer and ulcer, or an aneurysm of the arch or of the thoracic aorta may possibly be ruptured, but nevertheless harm is not done in this way, and since its introduction it has been possible to treat successfully certain lesions previously incurable, such as spasms, idiopathic dilatations, cicatricial strictures, and congenital obstructions.

#### LA SEMAINE MEDICALE.

February 12, 1908

Ambulatory Treatment of Patients on Whom Laparotomy Has Been Performed, By PROFESSOR R. DE BOVIS.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

February 11, 1908.

1. The Electric Treatment of Cancer, By CZERNY.
2. Immunization by Mouth, By WOLF.
3. Concerning Polycythæmia, By LÖMML.
4. Experimental Contributions to the Explanation of the Manner of Working of Bier's Stasis, By VON GRAFF.
5. Serum Studies in Thyreoid Cases, By HOFFMANN.
6. Lysol and Keesol Soap, By SCHOTTELUS.
7. Is There a Specific Precipitate Reaction in Syphilis and Paralysis? By FORNET and SCHERESCHESKY.
8. The Separation of Cholesteroline in the Bile and Its Significance in the Pathogenesis of Gallstones (Continued), By BACHMEISTER.
9. Further Studies Regarding Electricity and Magnetism of the Skin in Man (Concluded), By HARNACK.
10. Obituary of Adelbert von Tobold, By FRANCK.

1. **The Electric Treatment of Cancer.**—Czerny speaks very highly of the method of treatment which he calls fulguration, the application of the high frequency current and of fulguropuncture, in the treatment of cancer. The detailed results certainly seem to be excellent.

2. **Immunization by Mouth.**—Wolf has shown by his experiments that it is not difficult to immunize white mice against mouse typhus by means of a kind of paratyphus given by mouth. Whether it is possible that immunization may be obtained in this way in man against any disease the primary seat of which is in the intestinal canal is not certain, but the numerous mishaps and the impossibility of an exact dosage render it improbable.

3. **Polycythæmia.**—Lömmel reports a case of

America, and discusses at length the clinical picture of the disease, its pathology, pathogenesis, and treatment.

4. **Manner of Action of Bier's Stasis.**—Von Graff has arrived at the following conclusions as the result of his experiments: 1, The component of the stasis which is fatal to bacteria does not depend on a pure humoral action of blood serum and œdema; 2, an antidotal action against poisoning with strychnine or the toxines of tetanus and diphtheria is not proved; and, 3, the œdema, although it possesses in itself only a slight and inconstant bactericidal power, accelerates phagocytosis very markedly.

9. **Electricity and Magnetism of the Skin.**—Harnack has established the following results by his observations: 1, By stroking a nonconductor with the finger tips a person becomes charged with static electricity, and in some individuals with a markedly strong tension after a comparatively very slight exertion of force; 2, with such persons iron and steel objects which they carry with them and frequently take in their hands become to a fairly high degree permanently magnetic; 3, the unrudd skin may exert an effect upon the magnetic needle and other easily movable objects to which it is approached in which the finger behaves neither exactly like a rubbed varnished object, nor exactly like an iron magnet; the signs of this change rapidly; 4, the influences of the living skin in different individuals are of different strengths and are independent, in any individual, of the physiological conditions at the time, i. e., of a full or empty stomach, holding of the breath, or movements. A connection with the internal vital processes is doubtless present.

#### ARCHIVES OF PÆDIATRICS.

February, 1908.

1. Pneumohydrothorax in a Boy Two Years Old. Recovery, By F. HUBER.
2. Blood Pressure in Children, By W. L. STOWELL.
3. Hysteria in Children, By G. E. PRICE.
4. The Rest Treatment in Choreia, By J. RUHRÄH.
5. Report of a Case of So Called Cyclic Vomiting with Hepatic Insufficiency, By E. W. SAUNDERS.
6. Report on the Milk Supply of New York City, with Recommendations, By L. E. HOLT and OTHERS.
7. Digital Methods of Extubation, By J. R. CLEMENS.
8. A Fatal Case of Hæmophilia Neonatorum, By H. F. LANGE-ZIEGLER.
9. An Automatic Bottle Warmer, By R. G. FREEMAN.

1. **Pneumohydrothorax.**—Huber states that the view formerly held that gas is secreted by the pleura is now considered improbable, except in rare instances, as from decomposition or the action of the gas bacilli. The almost invariable cause of this condition is perforation from disease of the chest organs, or through the thoracic wall. The most frequent cause is an ulcerative tuberculous focus beneath the pulmonary pleura. It may also be due to perforation of an empyema into a bronchus, giving way to gangrene in the lung, rupture of a pulmonary abscess or hydatid cyst, bronchial ulcerations, and rupture of subpleural emphysematous vesicle. The condition may be precipitated by coughing, vomiting, or any severe strain, or it may come on quietly, even during sleep. From without it may be produced by trauma of various kinds. It is very rare in children, and is usually followed by pleurisy. There is a serofibrinous effusion in most cases. Two

physical signs are absolutely distinctive of this condition: (1) a horizontal upper line of flatness, whatever the patient's position; (2) an immediate change of this level with every change of position.

3. **Hysteria in Children.**—Price states that, while there is no organic change in hysteria, its phenomena may result from an increase of motility in the neuroses. The condition is a very common one among children, especially after the age of six, and among females. Predisposing aetiological factors are heredity, faulty environment, and educational influences, also any condition which lowers the vitality or causes continuous irritation of the nerve centres. The symptoms in children are essentially the same as in adults. The diagnosis is more difficult than in adults, especially in hysterical convulsive seizures. The condition may also be associated with serious nervous disease. The prognosis is usually good. The treatment should consist in suggestion, remembering that there may be an underlying neuropathy, good hygiene, good food, perhaps iron and bromides. Cases are narrated illustrating hysterical tremor, hysterical joint, hysteria of the psychic type, and of the visceral type.

4. **The Rest Treatment in Chorea.**—Ruhräh states that various writers believe that drug treatment in this disease is more effective in the fifth or sixth week than at earlier periods, perhaps because the really serious part of the disease is over by that time, and because drugs are not believed to have any profound influence on the conditions which produce the disease. The author believes that a modified Weir Mitchell rest treatment is the best means now at our command, and is less likely than other measures to be followed by recurrence. The two ends to be reached are (1) rest for both body and mind, (2) increase in the body weight. Daily baths, massage, abundant milk diet, with subsequent meat diet, are the principal measures. Medicines given are castor oil, hydrochloric acid iron, and derivatives of salicyl. This plan was curative in a large number of cases in from ten to seventy-two days.

#### THE PRACTITIONER

February 1908

1. A Clinical Lecture on the Causes and Operative Treatment of Umbilical and Ventral Hernia, By A. E. BARKER.
  2. The Mode of Production of the PRESS-STEEL MOUTHPIECE in Mitral Stenosis, By E. H. COLBECK.
  3. Infantile Paralysis, By G. RANKIN.
  4. The Radical Treatment of Cancer of the Prostate, By J. W. T. WALKER.
  5. Metastatic Affection of the Pancreas in Mumps, By W. FIDEL-COMBE.
  6. Ophthalmia Neonatorum, By S. MAYOU.
  7. The Contracted White Kidney, By W. M. ROBSON.
  8. Review of Tropical Diseases, By R. T. HEWLETT.
  9. A Review of Diseases of the Blood and Blood-Forming Organs, By H. B. SHAW.
  10. The Treatment of Chilblains, By F. GARDINER.
  11. A Statistical Inquiry into the Cases of Cancer Occurring at Southampton for Twenty-one Years from 1886 to 1906, with Observations and Remarks, By J. R. LEECH.
  12. Chorea and a Convenient and Trustworthy Method of Exhibiting Arsenic Therein, By J. G. SHARP.
1. **The Causes and Operative Treatment of Umbilical and Ventral Hernia.**—Barker attrib-

utes to the great expansion of abdominal surgery the great frequency of ventral hernias. Their occurrence is due not merely to faulty closure of the wound and to suppuration, but to the inherent weakness of scar tissue, and to the unfavorable conditions in which the healing of such wounds often takes place. The cause of umbilical hernia is virtually the same as that of ventral hernia, for it is the weakness of a physiological scar. The protrusion, having once begun, exercises distending force in all directions. In operating for such conditions simple apposition of the edges of the ring will not result in permanent cure. In large hernia the contracted condition of the abdominal cavity will also militate against permanent cure. If there are large masses of omentum in the hernia they should be excised. The sac having been cut away close to the ring, the edges of the ring are united, the stitches including the cut edges of the sac. The author thinks that then a wire filigree should be introduced under the anterior layer of the sheath of the recti and secured by sutures passed through the overlying sheath: a final layer of sutures should then close the skin. A small opening at the lower angle of the wound will facilitate drainage and ensure better results in those who are obese.

3. **Infantile Paralysis.**—Rankin follows Laborde in dividing this disease into (1) an initial stage not exceeding a week; (2) a stationary stage of a week to a month; (3) a regressive stage, from one to six months; and (4) a chronic stage, with atrophy and deformities. He takes for its pathology the summary of Byrom Bramwell, as follows: 1. The lesion is acute inflammation of grey matter in the anterior horn. 2. It is usually confined to this part of the cord. 3. It involves chiefly the lumbar and cervical enlargements, some or all its segments being involved. 4. The lumbar enlargement is the more frequently involved. 5. The inflammation may be very slight or very severe and destructive to the multipolar cells. 6. The inflammation temporarily arrests or permanently destroys the function of the nerve elements, with paralysis to the muscles which they supply. 7. A destroyed nerve cell is never restored. 8. Degeneration and atrophy of the axis cylinder process in the motor nerve endings follow destruction of a nerve cell in the anterior horn, and also the muscular fibres with which the nerve endings are connected.

4. **The Radical Treatment of Cancer of the Prostate.**—Walker finds such treatment favorable from some points of view and unfavorable in others. It is favorable if used early, as the disease in this location progresses slowly. It is unfavorable from the fact that when symptoms arise the disease is usually far advanced and has invaded the bladder or rectum, or both. If an incomplete operation is done in the latter class of cases, early recurrence is almost invariably the rule. The methods which have been used are pararectal, prerectal, lateral perineal, median perineal, and suprapubic. The suprapubic and perineal routes are most frequently followed, the latter the more frequently and with less disastrous results. The most promising cases are those in which there is a precancerous adenomatous period. Unfortunately the true nature of these



growths is often not determinable until after operation, when the tumor is submitted to microscopical examination.

**5. Metastatic Affection of the Pancreas in Mumps.**—Edgcombe states that it has long been known that the pancreas may be involved in the infection of mumps. Various writers have affirmed that parotitis occurring in connection with pancreatic disease is always secondary to the latter. Müller is quoted as stating that mumps may occur in connection with the pancreas, thyroid, thymus glands, and other organs. The author records an epidemic of thirty-three cases of mumps occurring in a boys' school. The disease was mild in type, constitutional symptoms being slight or absent. Orchitis was present in two cases, both the boys having attained puberty. In five of the cases there were symptoms which pointed to metastatic involvement of the pancreas.

**6. Ophthalmia Neonatorum.**—Mayou finds the organism causing this disease occurring in the following order of frequency: (1) *Gonococcus*, (2) *pneumococcus*, (3) *Köch-Weeks bacillus*, (4) *diplobacillus of Morax-Axenfeld*, (5) *bacterium coli*, (6) *Klebs-Löffler bacillus*, (7) *pneumobacillus*, (8) common *pyococci*, (9) *streptococci*, (10) *micrococcus luteus*. There are three classes of the disease: (1) The severe, with profuse discharge and danger to the cornea; (2) the moderate, with *Köch-Weeks conjunctivitis*; (3) the mild, with very little discharge. Infection may take place: (1) Before and during the act of birth, before birth through the unruptured membranes, the eyelids being separated as early as the fifth month. During the act of birth the infectious discharge may be communicated from the cervix or vagina, or by means of the forceps, or the finger of the accoucheur. Infection from the *fœces* is rare. (2) Immediately after birth, hence the necessity of carefully wiping the eyes with bichloride solution and instilling nitrate of silver. (3) Some time after birth, through the medium of the nurse, the diapers, etc. The period of incubation is very short, and the severer the attack the shorter the incubation period.

#### THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

*February, 1908.*

1. The Functions of the Corpora Striata, with a Suggestion as to a Clinical Method of Studying Them,  
By CHARLES L. DANA.
2. General Considerations as to the Nature and Relationship of Hysteria,  
By R. C. WOODMAN.

**1. The Functions of the Corpora Striata.**—Dana remarks that the corpus striatum is an early development from the wall of the anterior vesicle, and its cells are more of the associative and sensory type than motor. It is most closely linked to the optic thalamus and the subthalamic ganglia. It is a ganglion which is present in the lowest of the vertebrate orders, and seems to have functional importance in fishes and reptiles when the pallium is nothing but a layer of epithelial cells. We may suppose it, therefore, to be an older portion of the hemispheres than the cerebral cortex of man. As the cerebral cortex grew in importance, in higher vertebrates, the corpus striatum became less important relatively, and while it, no doubt, has some functions in man, they are probably of an associa-

tive and automatic character, rather than independent and specialized. The author has the notes of four cases, from which he concludes that the corpus striatum has not any independent or specific motor function. It probably has some supplementary motor function, and especially in connection with articulation. It may have some control over the bladder (double lesions), and seems to have some control over vasomotor and trophic conditions of the skin (and lungs?). It has no thermic centre, but it may have some supplementary and associative psychic function, so that lesions affect memory or initiative. It is an organ of less importance relatively in the higher vertebrates. In severe gas poisoning there is a double softening of the lenticular nuclei due to thrombosis of "the artery of cerebral thrombosis," and there result vasomotor and gangrenous conditions of the skin, so that these conditions in connection with a history of coma from gas poisoning form a group of symptoms called "the syndrome of the corpus striatum."

#### Proceedings of Societies.

##### WESTERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Seventeenth Annual Meeting Held in St. Louis, December 30 and 31, 1907.*

The President, DR. CHARLES W. OVIATT, of Oshkosh, Wis., in the Chair.

*(Continued from page 330.)*

**Anæsthesia Fatalities in Iowa.**—Dr. L. W. LITIG, of Iowa City, Iowa, said he had sent a circular letter to 3,500 physicians practising in Iowa. Eight hundred replies had been received, many of them containing information which led to reports of fatalities by men who did not reply to his first letter. He had rejected reported chloroform fatalities occurring from two to four days after anæsthesia, because he did not think it was possible to secure anything like reliable data in this class of cases. He had rejected ether fatalities occurring at the close of a long and difficult operation; he had excluded cases in which he thought that the operation itself was of sufficient magnitude to cause death on the operating table or soon after the patient's removal from it. He had excluded obstetric fatalities in which placenta prævia or severe hæmorrhage complicated delivery. He had excluded cases in which pneumonia or other lung complications followed gallbladder or other abdominal work. The report dealt with sixty-three chloroform fatalities. Of these, ten occurred in dental practice. One fatality was due to choking during anæsthesia. There were five fatalities in confinement in which chloroform was used and in which the reporters blamed the chloroform. There was one confinement fatality in which ether was used and in which the reporter blamed the ether. There was one H. M. C., ether, chloroform sequence, and one chloroform ether sequence. There was one late chloroform fatality with jaundice.

The author concluded: 1. That chloroform was vastly more dangerous than ether, and especially in

minor work and at the beginning of the administration. The chloroform ether sequence was especially bad. 2. That in the class of work mentioned chloroform was so much more dangerous than ether that its use should be emphatically condemned, and that "the surgeon (quoting H. C. Wood, writing sixteen years ago or earlier) is not justified in using chloroform except under certain circumstances and for very definite reasons." 3. That chloroform was especially dangerous in dental work and should not be used. 4. That chloroform was not free from danger in obstetric practice.

**The Abdominal Incision.**—Dr. CLIFFORD U. COLLINS, of Peoria, Ill., read a paper on this subject in which he drew the following conclusions: 1. Abdominal incisions should be placed so they would pass through both aponeurosis and muscle. 2. The incision of the aponeurosis and the split in the muscle should run in different directions. This could be done in a large majority of abdominal operations. 3. A longitudinal incision should not be made through the linea alba or the sheath of the rectus at a right angle to the combined pull of the three side muscles when it was possible to avoid it. 4. For very large tumors, in cases where the character and situation were in doubt, the longitudinal incision was probably necessary. 5. If the longitudinal incision was necessary, the split in the rectus should not be continuous with the aponeurotic incision, but should be placed to one side and preferably extend through its inner half to avoid the intercostal nerves which entered the outer half. 6. It would take longer time and more experience to demonstrate the correctness of these conclusions.

**Arthrodesis and Tendon Transfer in Paralytic Club Feet.**—Dr. JOHN PRENTISS LORD, of Omaha, advised arthrodesis and tendon transfer in cases of paralytic club feet for the following reasons: 1. To prevent the return of the deformity, which so often occurred where braces alone were used. 2. To avoid loss of time, during which the child became confirmed in the habit of deformity. 3. Because younger children learned to walk anew much easier than those of more advanced years. Where the patient was financially unable to meet the expense of prolonged treatment with braces. 5. If a return of deformity was prevented, the parents did not fall into the habit of thinking nothing could be done. 6. It utilized to best advantage the remaining muscular power, and gave the best possible results to be obtained in these cases.

The degree of work done depended upon the amount of deformity. Ordinarily, removal of the articular surfaces from the tibioastragaloid, astragalocalcaphoid, and calcaneocuboid was done to effect arthrodesis. In addition, transfer of the tibialis anticus to the common extensor for toe-drop was done while in extreme equinovarus astragalectomy with removal of the joint surfaces from the calcaneocuboid articulation, and even suturing the tibialis anticus to the peroneum on the outer side of the cuboid, might be demanded. In some cases, even the flexor longus hallucis was brought through the interosseous membrane and sutured to the common extensors. In the rare cases requiring muscle splitting, he said, we should avoid covering the transverse nerve fibres in the body of the muscle. Dr.

Lord had used catgut sutures, except where the tension was heavy, when he used fine silk, boiled in bichloride, dried and reboiled in paraffin before the operation. In more than forty consecutive cases cigarette drainage was used to take away oozing. This was gradually removed, no suppurating taking place. Heavy casts were kept applied as long as six months, the use of the foot being gradually increased after three or four months. The results had been very gratifying, the majority of patients having been able to discard braces or crutches within a reasonable time.

**The President's Address.**—PRESIDENT OVIATT did not deal with any concrete surgical problem, but his address consisted of a few thoughts bearing on the practice of surgery that naturally came to one who had spent the most active years of his life in the work. No attempt was made to take up the history further than to show that previous to the year 1800 but few discoveries were made that marked any distinct advance. The evolution of surgery in the past century had kept pace with the development of science along other lines, wonderful as this had been. With the perfected technique of antiseptis and aseptis, it seemed that the acme of surgical science had been reached; but in the light of discoveries it would be rash to attempt to place a limit to the future of surgery.

The ambitious medical student did not usually get far into his college work before he decided to become a surgeon. This decision was brought about largely through what he saw in surgical clinics and from his observation of the position held by the surgical leaders of the profession. Young men who elected to become surgeons should make sure that they possessed the special aptitude and then be willing to devote a long period to preparation for the work.

Attention was called to the fact that there was much that passed under the name of surgery being done by incompetent and ill trained men. Some of it was honest and well intended, but much was for purely commercial ends. A spirit of "graft" had pervaded the profession that was undermining morals and ethics. A partial explanation for the existence of this condition was found in the fact that this was an age of commercialism. We were known to the world as a nation of dollar chasers. This and the overcrowding of the profession with men from inferior schools were in large part responsible for fee splitting and the commission evil. The existence of this class of medical colleges was less excusable when it was considered that the better schools ranked with the best in the world, and that they were ample to afford instruction for all who should enter the profession. Enough well prepared men of character were entering the field to insure the upholding of the lofty ideals that had characterized the profession in the past. We might, therefore, take a hopeful view of the future. Another aid in the elimination of the "graft" evil was coming from the people themselves. The public mind was especially active at this time in combating "graft" in all forms.

The normal standards set for professional men and men in public life were going to be higher in the future, and with the bluntness of public opinion.

turned upon the medical and surgical "grafter" the evil would cease to exist. Hand in hand with this reform it was hoped that an established standard of qualification would be established for those who assumed to do surgery.

**The Significance of Abdominal Tenderness in Locating Lesions of Viscera.**—Dr. T. C. WITHERSPOON, of Butte, Montana, referred to the physiology of the sensory nerves of the abdominal viscera, and discussed at length the effect of lesions of the viscera in the production of pain. The somatic areas of pain referred from the viscera and their significance in diagnosis were pointed out and expatiated upon; likewise the character of the visceral pain. He spoke of disturbance of the sensory function of the somatic nerves, with coincident disturbance of visceral function. Lastly, he called attention to those pains of central origin which were referred to the abdomen. Pott's disease, tabes, and tumors in the spinal canal illustrated this class. Usually the subjective pain was not accompanied by tenderness, at least not of any acuteness.

**The Ætiology of Epithelioma.**—Dr. ARTHUR E. HERTZLER, of Kansas City, Mo., began with the hypothesis that the limitation of epithelial cell development was set by the chemical difference in the basement membrane and epithelial cells. Experiments proved that those chemicals which united with (stained) connective tissue *in vivo* caused an atypical epithelial cell proliferation resembling closely a beginning epithelioma. The development of atypical cells was limited because the action of the chemical upon the connective tissue was limited. This resulted in constancy for stains having these characteristics. It was negative for connective tissue stains which did not stain *in vivo* or for nuclear stains. In areas in which atypical cell proliferation had been brought about by such means the fibres, after fixation, did not stain with the ordinary fibrous tissue stains, while the fibrous tissue in regions not so treated stained in the characteristic manner.

Applying facts so deduced clinically, the general statement was ventured that epitheliomas occurred in those regions where alkaline secretions were permitted to come in contact with the fibrous tissue by irritation, thus producing the resistance of the connective tissue to the invasion of epithelial cells or to some exposure to leucocytes, as in chronic inflammation, or to some overstimulation of the epithelial cells. Either of these conditions would lead to a disturbance of chemical balance and permit the invasion of the epithelium.

**Preparatory and Postoperative Treatment.**—Dr. JAMES E. MOORE, of Minneapolis, said that as a rule preparatory and postoperative treatment, aside from the sterilization of the operative field and the dressing of the wound, had more to do with the comfort of the patient than with his recovery, for emergency patients very commonly did well and surgeons frequently performed successful operations away from home and left the after treatment to a physician little skilled in the care of surgical cases. In all but exceptional cases, where some organ—the bladder, for example—had to be prepared for operative procedures, prolonged preparatory treatment was unnecessary and inadvisable. It was not in keeping with modern surgery that sur-

geons should operate upon their patients off the street, but it was sufficient to have the average patient enter the hospital on the day preceding the operation. In weak patients and where a very severe operation was to be performed, a hypodermic of 1/30 of a grain of strychnine just before the operation was helpful. The operative field should be shaved and thoroughly disinfected and a sterile dressing applied the evening before the operation. Every operating room should have an experienced anaesthetist, because it added to the patient's comfort and safety, and allowed the surgeon to give his undivided attention to the operation. He pointed out the many things pertaining to the operation itself which had a decided bearing on the after treatment. The patient always thought the stitches and bandages were too tight, and it was very important that the surgeon should know that they were not. Most stitch abscesses were caused by tight sutures, and tight bandages were the cause of untold suffering. Thirst was the greatest source of suffering after an operation, and in the management of this symptom many mistakes were made. His patients all got water after an operation, and they got well much more comfortably than those who were deprived of it. All surgeons agreed that the patient was better without food for a time after an operation, for they did not suffer from hunger, and an effort to force feeding would surely disturb the stomach. Aside from opiates and mild cathartics, medicine had very little place in postoperative treatment. His patients got it only to meet definite indications. Attention should be given to the relief of pain after an operation. The proper care of the bowels had much to do with the patient's comfort.

In every case the question naturally arose, When shall the patient get out of bed? All were agreed that old people should get up at the very earliest period possible, for reasons well understood, but there was still a great diversity of opinion as to when a younger patient should get up. Every abdominal operation was of sufficient importance to justify the patient in remaining in bed for from one to three weeks, according to circumstances, and he was usually content to do so. There was no crying need of getting the patient out of bed on the day after an abdominal operation. He was safer and more comfortable in bed for a few days at least. The author had recently operated upon a colleague for chronic appendicitis, and he made the statement that he intended to get out of bed on the day after the operation, saying that staying in bed for a week after such a simple operation was all nonsense, to all of which the speaker readily acceded, with a mental reservation. On the first day the patient quietly curled upon his side, and Dr. Moore smiled without comment. On the second day he was still in bed, and when he asked him why he was not up, he mildly suggested that he go to a warmer climate, and very emphatically stated that his viewpoint had changed.

**The Appendix in a Femoral Hernia.**—Dr. CHARLES S. JAMES, of Centerville, Iowa, reviewed the literature, after which he reported the case of a woman, aged seventy-seven years, who for four days had noticed a painful lump in the right groin. She had been in her usual health previously, but had noticed a small lump at this point for several



years. The symptoms were negative, except that the pulse was 96 and the temperature  $102^{\circ}$ . The abdomen was not distended. There was nothing noted indicating an intraabdominal lesion. There was a prominent brawny swelling, three and a half to four inches in diameter, indurated and semi-fluctuant, presenting the characteristic appearance of a suppurative gland over Poupart's ligament. There was no impulse. A diagnosis was made of a local suppurative process, with probable femoral hernia. An operation was performed at the Centerville Hospital an hour later under spinal anaesthesia, using 10 centigrammes of 10 per cent. stovain solution. The abscess cavity was dissected up with difficulty and the appendix was found to extend through the femoral hernial opening. A separate abdominal incision disclosed an incarcerated loop of ileum, gangrenous, and two perforations. He resected five inches of the intestine and resorted to end to end anastomosis with suture. The appendix was ligated, severed, and removed, with the closure of the stump in the usual manner. Both incisions were closed with continuous catgut suture. The time of the operation was an hour and a quarter. The patient was conscious, but suffered no pain throughout the operation. Convalescence was pleasant and recovery excellent. He presented photographs and the specimen.

(To be concluded.)

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Operating Room and the Patient.* By RUSSELL S. FOWLER, M. D., Professor of Surgery, Brooklyn Post-graduate Medical School, etc. Second Edition, Revised, and Enlarged. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 284. (Price, \$2.)

This book appeared for the first time a little over a year ago, when it was well received and appreciated by the medical profession. The author now places a second edition before his confrères, in which he has added a chapter on the general consideration in the after treatment and another on complications of wound infection. The book contains twelve chapters, and treats the subject in the following way: The operation room and its personnel; the instrument and supply room, giving also a full list of instruments and dressings commonly employed; anaesthesia; the patient; after treatment; aseptic wounds; infections; complications. The book can be well recommended, as it contains many useful hints and instructions.

*Faithful of Organic Chemistry for Medical Students.* By Dr. G. V. BLISSON, Professor of Physiological Chemistry in the University of Basel. Translated with Additions by R. H. ADAMS, Ph.D., D. Sc. (London), Assistant Professor of Physiological Chemistry and Fellow of University College, London. London and New York: Longmans, Green, & Co., 1907. Pp. xvi+260.

As indicated by the title, this book is intended for the equipment of medical students with a working knowledge of the science of organic chemistry. In the series of seventeen lectures which make up its contents, almost every branch of organic chemistry

that has the slightest application in physiology, pathology, pharmacology, or hygiene is included, and the author points out in which branch of medicine the selected facts of the lectures find application. The value of the book is much enhanced by the additions and transpositions which have been made by the translator, and though the subject as presented in the lectures may wear a formidable look to medical students and others who enter on the study for the first time, it is yet ideally adapted to its purpose and is well calculated to fulfill the hope of the translator that by its study organic chemistry may be brought nearer to physiological chemistry. The arrangement and general plan of the lectures are attractive and the subject matter is readable enough, but we fear that a little too much elementary knowledge of the science of organic chemistry, on the part of the average medical student, is presupposed by both author and translator.

*A Textbook of Diseases of the Nose and Throat.* By D. BRADEN KYLE, A. M., M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, etc. 219 illustrations, 26 of Them in Colors. Fourth Edition, Thoroughly Revised and Enlarged. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 797.

On its first appearance we recommended Kyle's textbook as particularly well suited to students, and called attention to the excellence of the chapters on examination, diagnosis, and anatomy. These have been revised and amplified. The whole subject of local disease and of operative methods, has been brought up to the latest standpoint, and there are a number of entirely new chapters, among which the most important are those on the surgery of the larynx, bronchoscopy, the physiology and pathology of the voice, speech defects, and the relation of the voice to hearing. Radiography has not received from the author the attention it deserves as a diagnostic measure, only cursory mention of it being made. The x ray is a valuable aid in many cases in which bronchoscopy shows nothing or cannot be employed. It should be made a routine measure where a foreign body is suspected, and in all obscure and long continuing cases, as well as invariably before operative procedures on the accessory sinuses. The curative effects of this agent might also have been mentioned, considering the results obtained by its application in rhinoscleroma, epithelioma, and other serious affections of the upper respiratory tract.

*Diseases of Children for Nurses.* Including Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene, and Nursing. By ROBERT S. MCCOMBS, M. D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia, etc. Illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 473. (Price, \$2.)

The scope of this work is well defined by its title, and a reading of it shows that the author has admirably fulfilled his purpose. It is strictly a book for nurses. Short descriptions of the various diseases of infants and children are given, and should aid in rendering a nurse intelligent regarding her cases. It is certainly desirable that a nurse should have a sufficient knowledge of disease to know what symptoms are to be expected and what complications are to be guarded against. A sufficient knowledge of treatment is also necessary to enable her

her the reasons for the measures adopted and to render her intelligent in their application. Following this section of the book is special instruction upon the nursing of various diseases or classes of diseases. The subject of infant feeding is, on the whole, very satisfactorily presented, and is well adapted to the nurse's use. The chapter on therapeutics must prove one of practical value to the nurse. The portions devoted to the methods of applying the various measures used in the treatment of children are well managed and must also prove valuable. The book, on the whole, is an excellent work for the use of nurses, and in some particulars covers a field which has not been heretofore written upon.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

The Production and Handling of Clean Milk. By Kenelm Winslow, M. D., M. D. V., B. A. S. (Harv.), Formerly Instructor in Bussey Agricultural Institute and Assistant Professor in the Veterinary School of Harvard University, etc. New York: William R. Jenkins Company, 1907. Pp. 207. (Price, \$2.50.)

Diseases of the Breast. With Special Reference to Cancer. By William L. Rodman, M. D., LL. D., Professor of Surgery in the Medicochirurgical College of Philadelphia, Professor of Surgery in the Woman's Medical College of Pennsylvania, etc. With Sixty-nine Plates, of which Twelve are Printed in Colors, and Forty-two Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1908. Pp. 385. (Price, \$4.)

Healthy Boyhood. By Arthur Trewby, M. A. With an Introduction by Sir Dyce Duckworth, M. D., LL. D., Consulting Physician to St. Bartholomew's Hospital, etc., and a Foreword by Field Marshal Earl Roberts, K. G., K. P., V. C., O. M., P. C., G. C. B., G. C. S. I., G. C. I. E., D.C.L., LL. D. New York: Longmans, Green, & Co., 1907. Pp. 63.

Practice of Medicine for Nurses. A Textbook for Nurses and Students of Domestic Science, and a Handbook for all Those Who Care for the Sick. By George Howard Hoxie, A. M., M. D., Professor of Internal Medicine in the University of Kansas, etc. With a Chapter on The Technic of Nursing, by Pearl L. Laptad, Principal of the Training School for Nurses of the University of Kansas. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 284.

Report of the Commissioner of Education for the Year Ending June 30, 1906. Volume 2. Washington: Government Printing Office, 1908. Pp. 1308.

La Lutte contre les microbes. Cancer, tuberculose, maladie du sommeil, tétanos, entérite et microbes intestinaux, varicelle et vaccine: L'Œuvre de Jenner. Par Dr. Etienne Burnet, de l'Institut Pasteur, chef du service de la vaccination de la Ville de Paris. Paris: Armand Colin, 1908. Pp. 318.

Die Entzündung: eine monographische Skizze aus dem Gebiet der pathologischen Physiologie. Von Dr. Rudolf Klemensiewicz, o. ö. Professor u. Vorstand des Instituts für allgemeine Pathologie an der Universität in Graz, etc. Festschrift der k. k. Karl-Franzens-Universität in Graz aus Anlass der Jahresfeier am 15. November 1905. Jena: Gustav Fischer, 1908. Pp. vii-120.

Klinische Semiotik. Mit besonderer Berücksichtigung der gefährdenden Symptome und deren Behandlung. Von Dr. Alois Pick a. o. Universitätsprofessor, k. u. k. Oberstabsarzt, und Dr. Adolf Hecht, Kinderarzt. Wien und Leipzig: Alfred Hölder, 1908. Pp. 960.

Hematological Atlas. With a Description of the Technic of Blood Examination. By Priv. Doz. Dr. Karl Schleich, Scientific Assistant in the Medical Clinic University of Freiburg i/B. English Adaptation of the Text by Frederic E. Sondern, M. D., Professor of Clinical Pathology, New York Postgraduate Medical School and Hospital, etc. With Seventy-one Colored Illustrations. New York: Rebman Company, 1908. Pp. 256. (Price, \$10.)

Milk and Its Relation to the Public Health. By Various Authors. Bulletin No. 41. Hygienic Laboratory, Public Health and Marine Hospital Service of the United States. Washington: Government Printing Office, 1908. Pp. 757.

## Miscellany.

**Resolution on the Death of Dr. Robert W. Taylor.**—The following obituary notice was approved at the meeting of the Dermatological Society, held on February 25, 1908:

#### ROBERT W. TAYLOR.

Born August 11, 1842. Died January 5, 1908.

Dr. Taylor was one of the founders of the New York Dermatological Society, the oldest dermatological association in existence. Since its organization in 1869, to the meeting held shortly before his death, and at which he was present, he has always been one of its most zealous members. An indefatigable student, an earnest and convincing teacher, and a brilliant and prolific writer, his death will not only be keenly felt by those who had the opportunity of working with him and profiting by the example of his energy and enthusiasm, but will be regarded as an irreparable loss to the medical profession. Among the eminent names which have been inscribed upon the muster roll of our society Dr. Taylor's name will ever rank high. No member has been more faithful in the discharge of his duties, and no one, by his professional achievements, has shed greater lustre upon its membership.

In our grief at the thought that he will meet with us no more, we feel that we have lost not only a very distinguished colleague, but a most estimable friend.

GEORGE HENRY FOX,  
HERMANN G. KLOTZ,  
EDWARD B. BRONSON,  
Committee.

**Symposium.**—Dr. A. Rose writes in a letter to the editor of the *Medical Review of Reviews*: "Will you kindly permit me to call your readers' attention to the wrong interpretation of the word 'symposium,' which we find so frequently on programs of medical writers? *Symposium* (τὸ συμπόσιον) is a banquet, a feast, and one of the features of such banquet or feast is drinking together (συμπίνειν-δύν, τινα) Συμποτής (δύν, ποτής) is one with whom we drink in company. I know very well that in English language is understood by symposium a collection of opinions or essays, but this is incorrect. Incorrectness of such kind may creep in every living language, but in all civilized countries there are men of taste—in Germany and France there are even patriotic societies—who exert themselves to eliminate from the language whatever has been found incorrect."

**Illumination of the Battlefield for the Search of Wounded.**—Dr. Willcox has translated an article of Dr. Fluteau, of the French army, which appears in *The Military Surgeon* of December, 1907. Several lights were tried and it was proved by these trials that the Blieriot acetylene-lamps produced a light fully equal to the easy discovery of the wounded, hidden as well as they could have been on the battlefield. The second lantern constructed, that gave a more brilliant light than the first, is a trifle too large, but it is a fault it would be difficult to remedy without injuring its qualities. It also presents certain defects in construction, such, for example, as the employment, for closing the ap-

paratus, of a rubber washer that can be changed in length. It will be possible, according to the maker, to replace this with a beaten out leather plate. The Brenot-Mareschal lamp is simple, light, not cumbersome, but it presents one great fault. To put it in operation it requires, as does the Paquelin thermocautery, the working of a rubber bulb by hand. There results a fatigue that does not allow it to be used sufficiently long for the purpose that it is meant for. Moreover, the inflation of the rubber bulb is a difficult task, and it is liable to alteration in spite of the precautions adopted for apparatus of this kind that form part of the sanitary service material in the field.

**The Relation of Upper Respiratory Obstruction to Oral Deformity.**—Faught observes that the ætiology of the general subject of dental irregularity, and particularly the interrelation of such deformity and chronic respiratory disturbances, is still lacking a definite basis. This matter should receive particular attention at the hands of every dentist. Dental irregularity in the vast majority of instances is associated with, if not dependent on, upper respiratory obstruction. Dental practitioners should be more familiar with the common forms of upper respiratory obstruction, their symptoms, diagnosis, and treatment. The comparative study of the changes brought about through corrective procedures should be more carefully studied, and more accurate methods of measuring and recording them devised. The rational treatment of dental irregularity should include preliminary examination and treatment of the nasal chambers and pharynx. The result of the ordinary expansion operation on nasal conditions is more dependent on vital tissue in the nasal region than on mere mechanical movement. Operations designed mechanically to increase the respiratory capacity of the nasal passages are practically valueless unless the intermaxillary suture is separated, as shown by increase of space between the central incisors. It is impossible to relieve stenosis due to adenoids or septal irregularities by expansion methods. Adenoids and deviations of the septum should receive the usual treatment at the hands of the rhinologists prior to the correction of dental irregularity. The stimulation of vital forces and renewed growth in the nasal chambers, together with the restoration of normal conditions in contiguous parts, are the chief causes of improvement following the expansion operation.—*Journal of the American Medical Association.*

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following tables of smallpox, measles, typhoid and other diseases are submitted to the Surgeon General, United States Public Health and Marine Hospital Service, during the week ending February 20, 1908.

Place.	Date.	Cases.
California—San Francisco	Feb. 18	1
Idaho—Boise	Feb. 18	1
Illinois—Chicago	Feb. 18	1
Indiana—Indianapolis	Feb. 18	1
Missouri—St. Louis	Feb. 18	1
Nebraska—Omaha	Feb. 18	1
North Dakota—Grand Forks	Feb. 18	1
South Dakota—Sioux Falls	Feb. 18	1
Texas—San Antonio	Feb. 18	1
Washington—Seattle	Feb. 18	1

Ohio—Cincinnati	Feb. 18	1
Ohio—Warren	Feb. 18	1
Oregon—Portland	Feb. 18	1
South Dakota—Sioux Falls	Feb. 18	1
Tennessee—Nashville	Feb. 18	1
Texas—San Antonio	Feb. 18	1
Washington—Spokane	Feb. 18	1

#### Smallpox—Foreign.

Cape Colony—East London	Jan. 4-11	2
Japan—Kobe	Jan. 14-18	1783
Japan—Nagasaki	Jan. 14-18	3
Japan—Yokohama	Jan. 14-18	40
Java—Batavia	Dec. 21-Jan. 18	9
Mexico—Aguas Calientes	Jan. 26-Feb. 2	1
Mexico—Mexico City	Jan. 24-1	2
Netherlands—Rotterdam	Jan. 18-25	1
Portugal—Lisbon	Jan. 18-25	2
Russia—Batoum	Jan. 18-Feb. 2	23
Russia—Libau	Feb. 1-8	1
Russia—Moscow	Jan. 4-8	57
Russia—Odessa	Jan. 21-28	12
Russia—Riga	Jan. 11-Feb. 1	19
Spain—Denia	Jan. 11-25	11
Spain—Valencia	Jan. 12-Feb. 2	56
Straits Settlements—Singapore	Dec. 8-Jan. 4	5
Venezuela—Caracas	Jan. 4-11	1
Venezuela—La Guaira	Jan. 4-Feb. 1	1

#### Yellow Fever—Foreign.

Barbados—Bridgetown	Jan. 20-22	1
Cuba—Havana	Feb. 20-22	2
Cuba—Santiago	Feb. 20-22	1

#### Cholera—Foreign.

India—Madras	Jan. 4-10	8
India—Rangoon	Jan. 4-11	1

#### Plague—Foreign.

Australia—Brisbane	Jan. 3-11	1
Australia—Sydney	Jan. 3-11	1
Chile—Valparaiso	Dec. 28-Jan. 4	2
China—Hongkong	Dec. 25-28	1
Egypt—Assiut Province	Jan. 19-22	15
Egypt—Garbich Province	Jan. 19-22	2
Egypt—Minieh Province	Jan. 19-22	15
India—General	Dec. 22-28	3,725
Peru—Callao	Dec. 28-Jan. 4	14,408
Peru—Catacaos	Jan. 18	4
Peru—Chosika	Jan. 18	1
Peru—Eten	Jan. 18	0
Peru—Tumbes	Jan. 18	1
Peru—Paita	Jan. 18	10
Peru—Piura	Jan. 18	2
Peru—San Gerónimo	Jan. 18	1
Peru—Trujillo	Jan. 18	26

#### Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending February 20, 1908.

DEGADE, J. M., Acting Assistant Surgeon. Granted two days' leave of absence on account of sickness from February 7, 1908.

HALLETT, E. B., Acting Assistant Surgeon. Granted leave of absence for thirty days, on account of sickness, from January 8, 1908, and seven days' leave of absence from February 7, 1908.

KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for seven days from February 11, 1908, under paragraph 210, Service Regulations.

ROBERTS, NORMAN, Assistant Surgeon. Granted leave of absence for three days from February 24, 1908, under paragraph 191, Service Regulations; granted leave of absence for twenty-three days from February 27, 1908.

SIMONSON, G. T., Acting Assistant Surgeon. Granted leave of absence for one day, February 21, 1908.

WALKER, T. D., Acting Assistant Surgeon. Granted leave of absence for ten days from February 25, 1908.

#### Army Intelligence:

Official list of changes in the Army for the week ending February 20, 1908.

COWLEY, H. W., First Lieutenant and Assistant Surgeon. Resignation of commission as an officer of the Army accepted, effective March 18, 1908, and granted leave of absence to and including above date.

MOORE, J. R., Major and Surgeon, 1st Reg. Cavalry. Kept with troops assigned to San Francisco, Cal.

MURPHY, J. L., Major and Surgeon, 1st Reg. Cavalry. Kept with troops assigned to San Francisco, Cal.



NELSON, KENT, Captain and Assistant Surgeon. Ordered to proceed to Fort Thomas, Ky., for duty to accompany the Fourth Infantry from that post to San Francisco, Cal.

PURNELL, H. S., Captain and Assistant Surgeon. Ordered to accompany First Battalion, Fourth Infantry, from Fort Mackenzie, Wyo., to San Francisco, Cal., and then to return to his proper station.

TALBOTT, E. M., Captain and Assistant Surgeon. Granted ten days' leave of absence.

The following named medical officers are detailed as members of boards of officers, to meet at the posts designated, on April 14, 1908, or as soon thereafter as practicable, to examine such applicants for commission in volunteer forces as may be authorized to appear before them:

ASHBURN, P. M., Captain and Assistant Surgeon. Fort Banks, Mass.

BAKER, F. C., Captain and Assistant Surgeon. Fort Oglethorpe, Cal.

BANISTER, J. M., Lieutenant Colonel and Deputy Surgeon General. Fort Riley, Kan.

DAVIS, W. B., Lieutenant Colonel and Deputy Surgeon General. Fort Crook, Neb.

DE SHON, C. D., Major and Surgeon. Fort Logan H. Roots, Ark.

EWING, C. R., Major and Surgeon. Fort Oglethorpe, Cal.

FORD, J. H., Captain and Assistant Surgeon. Fort Mackenzie, Wyo.

FREEMAN, P. L., Lieutenant Colonel and Deputy Surgeon General. Fort Riley, Kan.

GRISSINGER, J. W., Captain and Assistant Surgeon. Fort Banks, Mass.

HANSELL, H. S., Captain and Assistant Surgeon. Fort Crook, Neb.

HARVEY, P. F., Colonel and Assistant Surgeon General. Fort Sheridan, Ill.

HUNTINGTON, P. W., Captain and Assistant Surgeon. Fort Rosecrans, Cal.

KEEFER, F. R., Major and Surgeon. Fort Rosecrans, Cal.

KENDALL, W. P., Major and Surgeon. Fort Sam Houston, Texas.

KIRKPATRICK, T. J., Captain and Assistant Surgeon. Fort McPherson, Ga.

LEWIS, W. F., Captain and Assistant Surgeon. Fort Logan H. Roots, Ark.

MONCRIEF, W. H., First Lieutenant and Assistant Surgeon. Fort McPherson, Ga.

MUNSON, E. L., Major and Surgeon. Fort Sheridan, Ill.

PURNELL, H. S., Captain and Assistant Surgeon. Fort Mackenzie, Wyo.

WHALEY, A. M., First Lieutenant and Assistant Surgeon. Fort Sam Houston, Texas.

## Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending February 29, 1908:*

ALLEN, A. H., Assistant Surgeon. Will stand relieved from duty in Cuba upon arrival at Lajas, province of Santa Clara, of Passed Assistant Surgeon R. E. Riggs, and will comply with orders from the Navy Department.

BROWN, E. W., Assistant Surgeon. Ordered to the Naval Medical School, Washington, D. C.

CLIFFORD, A. B., Passed Assistant Surgeon. Detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Naval Hospital, New Fort Lyon, Colo., March 12.

DOWNER, J. O., Assistant Surgeon. Unexpired portion of leave revoked; ordered to the *Relief*.

MEANS, V. C. B., Surgeon. Retired from active service February 22, 1908, under the provisions of Section 1453, revised statutes.

MORAN, C. L., Assistant Surgeon. Appointed an assistant surgeon from February 10, 1908.

MUNSON, F. M., Passed Assistant Surgeon. Ordered to the *Barry*.

RIGGS, R. E., Passed Assistant Surgeon. Will proceed from Camp Columbia, province of Havana, to Lajas, Cuba, for duty.

STANLEY, A. C., Assistant Surgeon. Appointed an assistant surgeon from February 10, 1908.

TRIMBLE, A. C., Assistant Surgeon. Detached from the *Barry* and ordered home.

## Births, Marriages, and Deaths.

### Born.

DE WITT.—In Whipple Barracks, Arizona, on Saturday, February 15th, to Dr. Wallace De Witt, United States Army, and Mrs. De Witt, a son.

### Married.

CULLER—LOSER.—In Philadelphia, on Wednesday, February 12th, Dr. Robert M. Culler, United States Army, and Miss Anne E. Loser.

DILMORE—MINES.—In Philadelphia, on Wednesday, February 26th, Dr. George S. Dilmore and Miss Sarah Hall Mines.

FALLER—GIMBEL.—In St. Louis, Missouri, on Monday, February 24th, Dr. Albert Faller and Miss Hortense Gimbel.

FARLEY—LUMLEY.—In Philadelphia, on Wednesday, February 26th, Dr. Joseph Farley and Miss Lillian E. Lumley.

LONGMORE—DALGLEISH.—In Ottawa, Canada, on Wednesday, February 26th, Dr. John Alva Longmore, of Brooklyn, and Miss Lillian Llewellyn Dalgleish.

PRICE—FRANCIS.—In Brooklyn, on Tuesday, March 3d, Dr. William Harrison Price and Miss Anna Francis.

RINGLAND—SNEDECOR.—In Brooklyn, on Friday, February 21st, Dr. Robert Finley Ringland, of Bloomfield, New Jersey, and Miss Elizabeth Van Buskirk Snedecor.

SMITH—RESSLER.—In Philadelphia, on Saturday, February 22d, Dr. Frank W. Smith, of Passaic, New Jersey, and Miss Florence M. Ressler.

### Died.

AVERY.—In Chicago, Illinois, on Tuesday, February 18th, Dr. Samuel J. Avery, aged eighty years.

BEDEL.—In Norfolk, Nebraska, on Monday, February 17th, Dr. Marshall D. Bedel.

BOONE.—In Frederick, Maryland, on Saturday, February 22d, Dr. Jermingham Boone, aged eighty-seven years.

COVERLY.—In Brooklyn, on Monday, February 24th, Dr. John Henderson Coverly, aged sixty-five years.

DODGE.—In Tacoma, Washington, on Saturday, February 22d, Dr. Maurice M. Dodge, aged sixty-six years.

FITZGERALD.—In New York, on Thursday, February 27th, Dr. Charles F. Fitzgerald, aged thirty-five years.

HALSTED.—Newark, New Jersey, on Sunday, February 23d, Dr. Alfred T. Halsted, aged forty-five years.

INGRAM.—In Murphysboro, Illinois, on Thursday, February 20th, Dr. William T. Ingram, aged seventy-eight years.

KRAMER.—In Louisville, Kentucky, on Sunday, February 23d, Dr. William F. Kramer, aged forty years.

MCMASTER.—In Toronto, Canada, on Thursday, February 20th, Dr. John McMaster, aged forty-nine years.

MANGUM.—In New York, on Sunday, February 23d, Dr. Joseph Young Mangum.

MILLER.—In Needham, Massachusetts, on Saturday, February 22d, Dr. Vesta D. Miller.

NETTLETON.—In Rochester, New York, on Friday, February 21st, Dr. H. R. Nettleton, aged sixty years.

PROBASCO.—In Plainfield, New Jersey, on Tuesday, February 25th, Dr. John B. Probasco, aged sixty-six years.

RICE.—In Newmarket, Virginia, on Saturday, February 22d, Dr. F. E. Rice, aged seventy-four years.

ROBINSON.—In St. Augustine, Florida, on Saturday, February 22d, Dr. George A. Robinson, of Sayville, Long Island, aged fifty-seven years.

ROSS.—In Madisonville, Kentucky, on Wednesday, February 26th, Dr. W. S. Ross, aged seventy-eight years.

SAUNDERS.—In Memphis, Tennessee, on Monday, February 23d, Dr. Dudley Dunn Saunders, aged seventy-three years.

SONNENSCHMIDT.—In Washington, D. C., on Friday, February 28th, Dr. Charles W. Sonnenschmidt, aged seventy-six years.

TRIMBLE.—In Baltimore, Maryland, on Monday, February 24th, Dr. Isaac Ridgeway Trimble, aged forty-eight years.

URQUHART.—In Orange, New Jersey, on Thursday, February 20th, Dr. William Morris Urquhart, aged thirty-four years.

# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

VOL. LXXXVII, No. II.

NEW YORK, MARCH 14, 1908.

WHOLE No. 1528.

### Original Communications.

#### ACUTE FLEXURES OR ANGULATIONS OF THE SIGMOID AND COLON.

By JAMES P. TUTTLE, M. D.,  
New York.

The rôle in the production of disease which is attributed by internists at the present time to the absorption of toxins from retained, fermenting, or putrefying fecal matter, renders any study which throws light upon the causes and relief of these conditions both interesting and important. Without minimizing the importance of other factors, I would call attention to the influence of acute flexures or angulations of the colon and sigmoid in the causation of constipation and fecal retention. The term *acute* is used here in the geometrical sense as the obverse of obtuse, and not in the medical, for acute flexure or angulation is usually a chronic condition of slow origin. The term itself describes the condition, a sudden or sharp bend of the gut upon itself, such as in all hollow tubes narrows or obliterates the calibre according to its degree. These angulations are anatomical throughout the colon, and all will recognize the terms *hepatic flexure*, *splenic flexure*, *sigmoid flexure*, *rectosigmoidal flexure*. In normal conditions these flexures retard to a slight degree the fecal current, and when through displacement or any other cause the bend is exaggerated the obstruction is proportionately increased. Thus, in gastroenteroptosis the transverse colon is carried downward in the abdominal cavity and unless the ligaments give way, the normal hepatic and splenic flexures become more and more acute and obstructive as the colon descends. (Fig. 9). This accounts for the distention and tenderness over the cæcum in such cases. In many instances of this kind the right kidney and hepatic flexure descend along with the transverse colon, and then only the splenic flexure is accentuated. (Fig. 2).

#### Causes.

These two flexures are no doubt physiological, and are produced by a short mesentery and retaining band, the ligament, at the angle and a more or less long mesentery on either side of it. Now, this throws some light upon the causation of abnormal and pathological flexures elsewhere. A shortening of the mesentery by inflammation or adhesion or the fixation of the gut by adhesion may either or both together cause angulation which will narrow or even obliterate the intestinal calibre. The sigmoid flexure is so irregular in its anatomical con-

formation, and in the length and attachment of its mesentery, and it is so liable to inflammation arising in itself or extending to it from the pelvic organs with which it is in constant apposition, that it is the most frequent seat of all exaggerated flexures, both congenital and acquired. It is with these that I have had chiefly to deal, and I shall not theorize, but briefly describe only those conditions which I have seen and operated upon.

#### History.

It was before the American Proctologic Society, in 1899, that I first publicly called attention to acute flexures of the sigmoid as a frequent cause of constipation. In 1901, I described the condition, (*International Journal of Surgery*), and again in my work on *Diseases of the Anus, Rectum, and Pelvic Colon*, first edition, 1902, the subject is referred to several times and the technique of treatment is detailed. Delatour (*Annals of Surgery*, xlii, p. 678, 1905), and Laroque, (*Ibid.*, xliv, p. 678, 1906) evidently not having seen my descriptions, have published five interesting and descriptive cases, which they thought were the first recognized. Delatour even says: "Angulation of the intestinal canal at the sigmoid is a pathological condition which we believe exists, but it has not been described." Niles, (*Journal of the American Medical Association*, September 15, 1906), refers to acute and temporary angulations as the result of ulceration of the sigmoid. He reports and depicts two cases in which acute angulation of the sigmoid with the descending colon was caused by ulceration at this point; and states that the bowel walls gave way on attempts to restore them to position. Reis, (*Annals of Surgery*, 1904), in a most interesting article on Mesosigmoiditis in Its Relation to Recurrent Volvulus, relates a case which appears from his description to be one of recurrent angulation rather than volvulus. It would be splitting hairs to argue the point whether a volvulus always consists in a twist, or whether it may not be an acute angulation or flexure. The fact which he proves, viz: that inflammation in the mesosigmoid may produce a thickening and contraction which will cause such twists or angulations as will partially or completely obstruct the passage, is most interesting and instructive.

#### Ætiology.

These flexures may be congenital or acquired.

The congenital type are all, with one exception so far as I have observed, due to the turning of the rectum to the left at its upper end and thus bringing the two fixed ends of the sigmoid in such close apposition that the long loop in between is neces-

sarily acutely flexed, either when it rises up into the abdominal cavity, or drops down into the pelvis, or folds over upon itself, as is shown in Figs. 2, 3, 4. The case of congenital angulation which differed

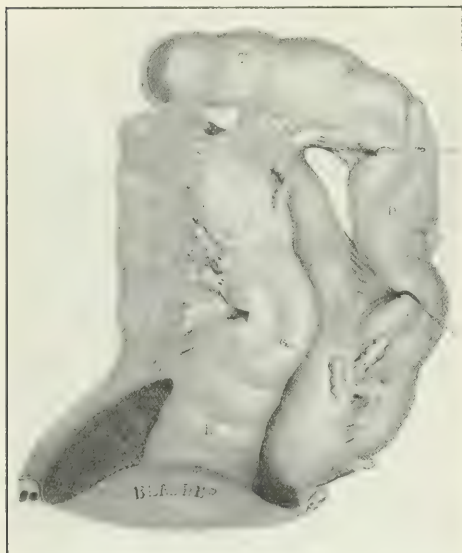


FIG. 1.—Extensive adhesions of the sigmoid to the vertebral column, transverse, and descending colon, causing acute flexures at two points.

from this, consisted in the fixation of the sigmoid on the right side of the pelvis, and its sudden turn backward along the promontory of the sacrum to join the descending colon. These malformations are, I believe, the origin of most of the cases of hypertrophied and distended sigmoid and colon so often seen in children. Sigmoiditis and perisigmoiditis are the chief causes of acquired angulation. Ulcers of the sigmoid, as has been so well described by Niles, may cause angulation either by their cicatricial contraction or by the inflammation extending to the peritonæum, and causing adhesion or fixation of the gut at some abnormal point. (Fig. 7). Perisigmoiditis may also arise from traumatism by the action of the iliacus and psoas muscles, as has been pointed out by Bryon Robinson, and in this state the gut may become adherent to almost any point in the abdomen, thus causing an acute flexure with partial or complete obstruction. Mesosigmoiditis as described by Reis may, also account for the condition through shortening of the mesentery and thus causing abnormal fixation of the gut. Inflammation of the pelvic organs, oophoritis, salpingitis, etc., may extend to the sigmoid and cause adhesions and angulations of any degree. (Fig. 9). These are, I believe, the most frequent causes, and they account for the so much greater frequency of the condition in women than in men. Local or general peritonitis of any type may bring about the condition when there is no disease in the sigmoid itself. A marked illustration of this was found by the writer in the case of a young woman. Ad-

hesions between the appendices epiploicæ may cause acute angulation with most distressing symptoms (Fig. 7). I have observed this condition twice. Chronic appendicitis, if not a cause, is at least a comparatively frequent complication of acute flexure on the right side. (Fig. 9).

#### *Symptoms.*

There is always constipation or fæcal stasis; distention and more or less tenderness over the cæcum, often leading one to suspect chronic appendicitis. The latter may be the cause, and it may have caused the angulation, (See Fig. 6); but the removal of the appendix alone will not cure the patient. The flexure must be straightened out at the same time or there will still be fecal obstruction. May this fact not account for some of the cases of fatal obstruction after appendicectomies? As to the other symptoms, they are local, constitutional, and include the whole category of reflex phenomena associated with obstructed bowel movements. In the congenital type, which the specialists rarely see in early life, there is always a history of colic, distended abdomen, constipation, and indigestion. As the child grows up it is called anæmic or chlorotic, but is really toxic from absorption of the products of retained feces. If a girl, there is usually delayed or irregular menstruation, imperfect development, and often intractable leucorrhœa. The constipation, flatulence, and colicky attacks persist.

In one such case the girl at seventeen years of age weighed only seventy-eight pounds, and though her menstruation appeared at twelve years of age and was always painful, it had never been more than a few drops. Two years after operation this function was normal, and the patient weighed 105 pounds. In this case the deformity was due to too

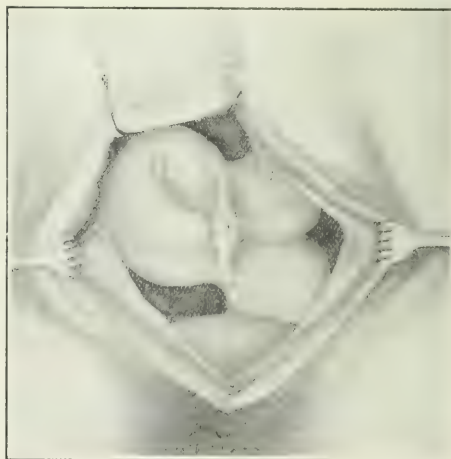


FIG. 2.—Acute flexure of the sigmoid due to adhesion of two appendices epiploicæ, causing almost complete fecal obstruction.

close approximation of the fixed ends of the sigmoid. (Fig. 2). Sigmoidoscopy here showed that the rectum turned markedly to the left at its upper end and at about eight inches from the anus the



instrument impinged upon the blank gut wall. By the aid of a long flexible bougie passed through the sigmoidoscope, I was able to pass the latter into a large distended sigmoid, which extended almost up

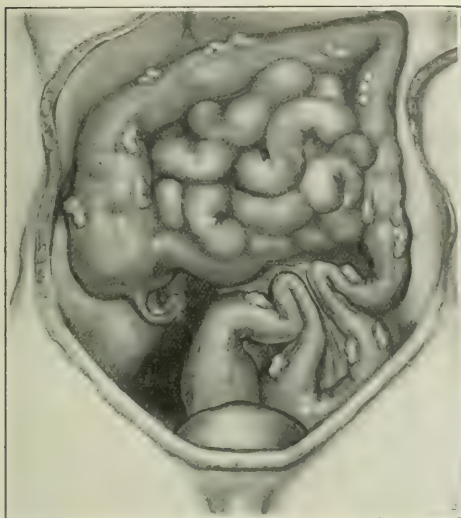


FIG. 1. Acute flexure of the sigmoid, due to too close apposition of its fixed points with long mesentery to its intervening loop, this loop protruding into the pelvis.

to the diaphragm, and contained many balls of hard, mucus coated feces.

In another supposedly congenital case the rectum turned just as markedly to the right, and I was unable to pass the sigmoidoscope beyond the flexure. Operation here revealed the sigmoid attached to the right side of the pelvis, where it is so often found in infancy, by a short mesentery and bending sharply back along the promontory of the sacrum to join the descending colon.

I do not mean to assert that all the cases with such symptoms as these are afflicted with acute flexure; but I do believe that the large majority of them owe their poor health and lack of development to fecal stasis and autotoxæmia. Procidencia, or as Gant calls it "chronic invagination," of the sigmoid into the rectum, or any other condition which prevents the bowel from emptying itself thoroughly and sufficiently often may bring them about; but the possibility of acute flexure should always be borne in mind in making the diagnosis.

In the acquired angulations there is usually, in addition to the constipation and distended cecum, a history of dysentery, typhoid, acute colitis, sigmoiditis, pelvic peritonitis, or inflammation of the pelvic organs. Following these, sometimes at long intervals, increasing constipation or irregularity of bowel movements appear with crises of colic, with nausea and vomiting, followed or not by passage of mucus; in some the symptoms are so severe that volvulus is suspected. In the majority, however, they are not so violent. The patients are constipated, muddy complexioned, have furred tongues, flatulence, bilious attacks, and pass more or less

mucus with their stools. The latter is often the most disturbing symptom. Examination may or may not show hemorrhoids, hypertrophy of Houston's folds, or other disease of the rectum; but it always shows, if there is an acute flexure, some point in the sigmoid in which the instrument instead of passing upward into the calibre of the gut comes squarely against the wall; atmospheric pressure nor pneumatic inflation neither open the gut in front of the instrument, and twist it about as we will, we cannot get the tube past this point. Sometimes by pressing as firmly as one dares to one side or the other, or downwards and forwards, we may pass the obstructing fold only to come squarely against the wall of the other leg of the flexure, or getting past, may lift up and stretch the binding adhesion or short mesentery so as to carry the instrument higher up; but this is a dangerous experiment; rupture of either the mesentery or adhesion, or of the gut wall would prove disastrous. Sometimes the mucous membrane prolapses through the narrowed calibre, looking like a prolapse, or, as Laroque says, like a sessile growth. Often there is abrasion or ulceration at the angulation. Another symptom of which many complain is incomplete evacuation. They may go to stool four or five times to pass what amounts to an ordinary stool. This does not vary between hard and soft stools. They even have to go several times to relieve themselves of a high enema. I have often made a provisional diagnosis upon this symptom occurring after an enema given in my office.

#### Treatment.

The treatment of these cases is both palliative and radical. In some instances of the acquired type I

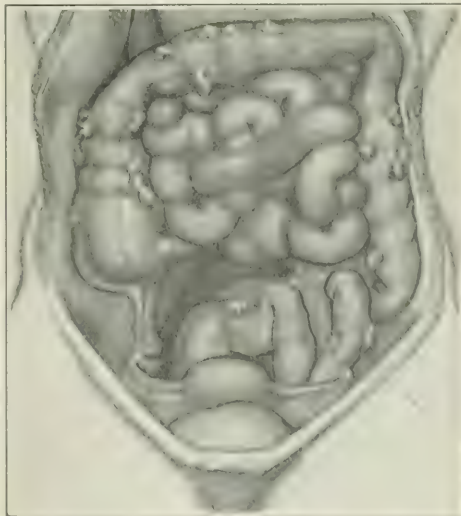


FIG. 2. Acute flexure of the sigmoid, due to too close apposition of its fixed points with long mesentery to its intervening loop, this loop protruding into the pelvis.

have been able to give great relief and to get by pneumatic inflation, inflating long enough to pass through the flexure and leaving them inserted for fifteen to twenty minutes. The basis of this is that

the bougie in its tendency to straighten itself gradually stretches the binding tissues and thus straightens the flexure. The bougie should never be passed alone, however. The sigmoidoscope should first be

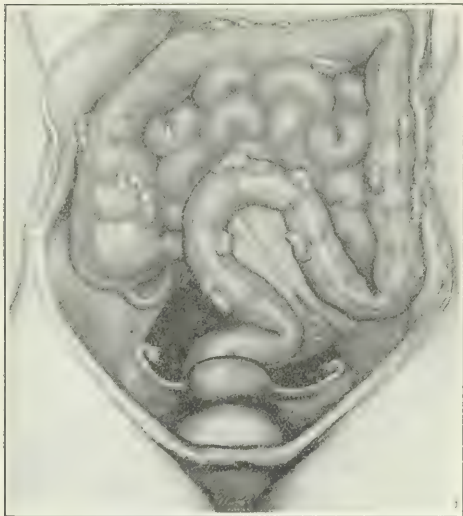


FIG. 5.—Acute flexure of the sigmoid, due to too close apposition of its fixed points with long mesentery to its intervening loop. The flexure at both its points is occasioned by accumulation of gas and lifting up of the long loop into the abdominal cavity.

passed up to the flexure, and the bougie passed up through this. Only in this way can we be sure that the flexible instrument passes beyond the angulation and does not double on itself. Before the bougie is removed there should be injected through it an oil or watery enema to wash out the bowel thoroughly. No doubt some will say that much of the relief given my patients has been due to these injections. In reply I can only say they had all tried injections and lavage before they consulted me. In some cases the inflation alone and applications to abraded or ulcerating surfaces have given relief. When such palliative measures fail, however, or where the condition is clearly due to malformations or firm fixation, operative interference should be resorted to at once. The operation, however, varies in each individual case. In some it is sufficient to break up the adhesions, cover up the raw surfaces, and turn the sigmoid loose, while in others it is necessary to fix the sigmoid to the abdominal wall and thus prevent the flexure from recurring. In general one may say *straighten out the flexures, cover in the raw surfaces, and if necessary fix the bowel so it cannot resume its old position.* How to accomplish these ends can best be shown by exhibiting the drawings and giving the details of some of my cases.

#### Case Histories.

*Case I.*—The sigmoid flexure of the sigmoid to the vertebral column; the descending and transverse colon (Fig. 6) shows a marked series of adhesions of the sigmoid, with acute flexures at its junction with the descending colon and at its adhesion to the transverse colon.

This specimen was found at an autopsy, and I could gain no history of the case. It simply shows to what extent the

sigmoid may rise and at what various points it may become adherent; it also illustrates how easily one may produce a flexure at the junction of the descending colon by suturing the sigmoid too high in the abdominal cavity.

*CASE II.*—Acute flexure of the sigmoid with obstipation from adhesions between two appendices epiploicae.

Mrs. M., age thirty-five, consulted me on November 20, 1895. Family history was negative. She had suffered from peritonitis two years previous; for some months had suffered from obstinate constipation, with crises of acute pain; abdominal distention, nausea, and vomiting; had been losing flesh and unable to eat an adequate amount of solid food; flatulence over descending colon and left iliac region, with some tenderness at this joint; decided dulness to the right of the medium line and three inches below the umbilicus. Temperature 100° F., pulse 110. Enemas had been used, only giving partial relief. The proctoscope showed nothing abnormal in the rectum, but the tube was arrested in the second loop of the sigmoid, about eight inches from the anus, by a sharp bend and apparent contraction in calibre; mucous membrane protruded through the narrowing, simulating a prolapse.

Operation was performed on November 23, 1895. Incision in medium line, peritonæum somewhat thickened; sigmoid flexure was found well up in the abdominal cavity and adherent to the abdominal peritonæum just to the right of the medium line. Dragging it out of the wound, two granulæ epiploicae were found united together by strong adhesions, thus folding the gut at a very acute angle. (Fig. 2.) The obstruction, however, did not seem to be at the flexure, but at the point of attachment of the two epiploicae. The descending colon was distended by a large amount of semi-solid fecal matter; the gut below the appendices was collapsed; the appendices were tied off at their base, some very slight adhesions between the two legs of the flexure were broken up, and then, by slight pressure, the fecal matter could be moved along into the cavity of the rectum. In the wall of the gut there were myriads of little lumps about the size of goose shot; they did not seem to protrude, however, upon the peritoneal surface; probably they were inflamed follicles; there was no evidence of diverticulae. The gut was carried back upon the left side to its normal position and the abdomen closed. Eight hours after the

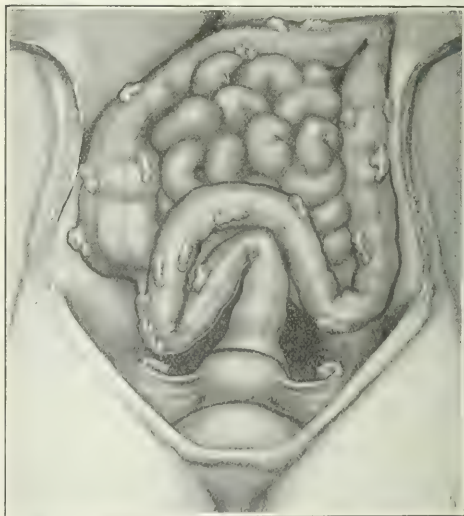


FIG. 6.—Acute flexure of the sigmoid upon the right side, with chronic appendicitis and adhesion. Short mesentery.

operation the patient had a large semisolid movement, from the rectum. Convalescence was uneventful; bowels were washed out daily with high enemas, and laxatives administered as the occasion required. The patient was seen six years later; she had gained thirty pounds in weight, and

the bowels move regularly without medicine, although she occasionally had a little mucus in the stool; she had had no more crises, and considered herself perfectly well.

CASE III.—Acute flexure with prolapse, due to too close apposition of the two fixed ends of the sigmoid, with a long mesentery of the intervening loop.

Miss F., age twenty years, consulted me on March 10,

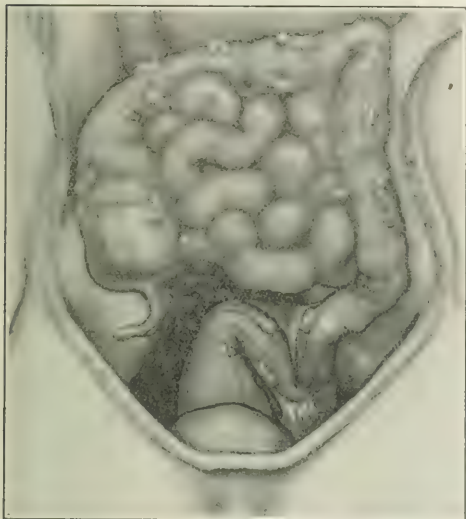


FIG. 7.—Acute flexure of the sigmoid upon the rectum, due to short mesentery and old pelvic adhesion.

1898. Family and personal history clear. German by birth. She had suffered from constipation ever since she was a child; was pale and anæmic, with periodical attacks of gripping pain, followed by diarrhœa; at times her abdomen swelled up very large and went down when gas was passed. The chief pain seemed to be in the left side and low down; during these attacks there was aching and a feeling of weight in the back; she said that sometimes when she went to stool she felt like the whole bottom of her pelvis was dropping out; there was no prolapse, but the anterior wall of the rectum bulged backward into the centre of the sacrum when lying upon her back or side. Hard fecal lumps were easily distinguished with the finger in Douglas's cul-de-sac. The lumps disappeared and the rectum ballooned easily under atmospheric pressure. The valves were highly hypertrophied, but no fecal matter rests above them. The sigmoidoscope was arrested at about the end of the first loop of the sigmoid by a valviform fold jutting out into the calibre; when this was passed to one side the instrument could be carried a little farther, where it came in contact with a large mass of hard fecal matter. Hydrogen peroxide, one half ounce, was introduced through the tube.

The patient passed some quantity of fecal matter, and some lumps since introducing peroxide. The weight in the back seemed less; no lumps could be felt by the finger in Douglas's cul-de-sac. The sigmoidoscope showed a complete circle of mucous membrane sitting through the aperture of the rectum with the sigmoid, which was bright red and congested. Under pneumatic pressure this disappeared, and with some manipulation the peritoneum could be carried upward to a distance of nine inches, although there was a decided pain in the back, and in the left side.

Diagnosis: Prolapse of the third degree, with contraction of adhesions to the anterior field of the sigmoid.

Operation was performed on March 18, 1908. Abdomen was opened to the left of the median line, through the rectus muscle. Sigmoid was found prolapsed in Douglas's cul-de-sac, the loop with the long mesocolon falling in front between the two fixed ends, and carrying two flexures, one at the distal and one at the proximal portion, as shown in Fig. 4. It could be easily lifted up, and upon doing so the

proximal flexure was obliterated; the distal, however, remained more or less acute on account of the very short mesentery and some slight adhesions to the walls of the sacrum. The adhesions were broken up, and the peritoneum of the mesentery incised so that the flexure could be straightened out. In this case it seemed almost impossible to draw the peritoneum together, and there was some raw surface left. The sigmoid was sutured to the transversalis fascia of the anterior abdominal wall to the extent of two and a half inches, running outward and upward with tension enough on the lower segment to hold the acute flexure straight; and with no tension on the proximal loop, in order to avoid a flexure at the junction with the descending colon.

Without going into detail, I may say that this patient suffered from some traumatic peritonitis, but was never in any danger of her life. She recovered in about six weeks; her bowels moved well enough after the acute inflammation had passed, and I was able to pass the sigmoidoscope to the extent of ten inches without any difficulty or pain. Practically all her symptoms disappeared, and for five years her health improved steadily; after this I lost sight of her.

CASE IV.—Another case of this type is shown in Fig. 4. This patient suffered with acute attacks of intestinal obstruction, with great pain in the left iliac region, but none in the back. The sigmoidoscope could be introduced its full length without obstruction, or any evidence of disease.

Operation here showed the same close apposition of the fixed ends with the long intervening mesentery; the sigmoid prolapsed down into the left pelvis, making a sort of twist or fold just below its junction with the descending colon. There were no adhesions and no narrowing of the gut that could be made out, and yet, when the gut was dropped back into the pelvis the twist or flexure immediately recurred. The sigmoid was fastened to the abdominal wall, nearly at the centre and almost up to the umbilicus, with more tension on the proximal loop than on the distal. There were no complications, and the crises of pain and obstruction have never recurred.

CASE V.—Mrs. M., age forty-seven, consulted me on January 1, 1905. Family history was clear. Patient had had malaria in early life; constipated since childhood; early



FIG. 4.—Acute flexure to the upper loop of the sigmoid, in part of a case of constipation, due to short mesentery and old pelvic adhesion. (Dr. Weyden, 1904.)

and irregular menstruation; complexion never clear. She complained of pain in the left iliac region, and at times of acute obstruction, but no pain in the back. The sigmoidoscope was introduced to the full length without obstruction, or any evidence of disease. Operation here showed the same close apposition of the fixed ends with the long intervening mesentery; the sigmoid prolapsed down into the left pelvis, making a sort of twist or fold just below its junction with the descending colon. There were no adhesions and no narrowing of the gut that could be made out, and yet, when the gut was dropped back into the pelvis the twist or flexure immediately recurred. The sigmoid was fastened to the abdominal wall, nearly at the centre and almost up to the umbilicus, with more tension on the proximal loop than on the distal. There were no complications, and the crises of pain and obstruction have never recurred.



region; pain on deep pressure in right inguinal region and also on taking a large enema, two or three attempts were necessary to relieve her of the fluid; a small tender mass could be felt through the vagina and abdominal wall just below the promontory of the sacrum; it did not feel like the ovary or tube; she occasionally lost blood at stool. Examination showed small internal hemorrhoid, spasmodic sphincter, and obstruction apparently due to an acute flexure at the right sacroiliac junction. No ulceration could be seen and there was no evidence of growth.

Operation was performed on January 28, 1905. An incision was made just outside the right rectus muscle, the small intestine being lifted up out of the pelvis; the sigmoid flexure at its junction with the rectum was found to bend sharply over to the right of the pelvis, where it was held by adhesions to the sacrum; the appendix passed down over the brim of the pelvis and was adherent to the convex surface of the sigmoid; it was thickened and contracted at one or two points and contained three small faecal stones; this organ being released from its adhesions was extirpated, the adhesions of the sigmoid broken up, and the gut lifted up into the abdominal cavity, thus straightening the flexure on the rectum, as well as at its first and second folds. The

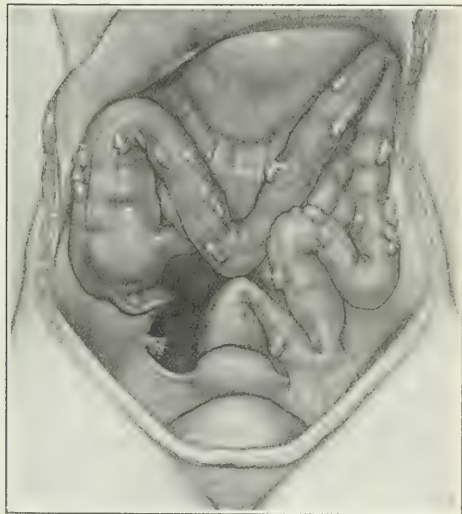


FIG. 1.—Gastroenterostomy with descent of the transverse colon, acute angulation at the splenic flexure, together with adhesion and angulation of the sigmoid flexure, due to old tubal and ovarian inflammation.

sigmoid was sutured to the abdominal wall, the suture embracing one inch above and one inch below the point of flexure, thus holding this part of the gut straight out against the abdominal wall. The abdomen was then closed, hemorrhoids removed, and the patient removed to her room.

February 15th. Convalescence was uneventful; bowels moved without pain in the sigmoidal region by oil enemata; the usual amount of pain at the field of hemorrhoidal operation.

February 20th. Convalescence was uneventful until today. Dermatitis or erythema developed about the rectum, simulating erysipelas. So far as constipation and pain in the right side were concerned the patient never had another complaint, and is to-day having regular movements of the bowels without laxatives; her digestion is perfect. The erythema spread from the buttocks and anal region all over the body. Temperature was as high as 105° F. and never below 102° F. for three weeks. Numerous consultations with specialists revealed no actual cause or pathology for the same; blood examination showed no streptococcus and no marked increase in leucocytes. We were forced to con-

tent ourselves with an uncertain diagnosis of obscure toxæmia, which gradually wore itself out or was cured through diet and intestinal antiseptics.

CASE VI.—Acute flexure due to shortened mesosigmoid.

Miss D., age seventeen, consulted me on October 25, 1902. Patient was pale, anæmic, of dull complexion; had suffered all her life from constipation and dyspepsia; menstruation irregular; she had never grown as other children, weight only seventy-eight pounds. Abdomen was rather distended; marked tympanic notes over cæcum; dulness over left iliac region; on palpation one could feel a nodule mass extending from the median line out to the crest of the ilium. Rectal examination showed nothing abnormal; the sigmoidoscope was arrested just beyond the rectosigmoidal junction, the cavity of the gut could be seen dipping down forward into Douglas's cul-de-sac; but the sigmoid could not be inflated or lifted up so as to introduce the tube. A long soft rectal tube was introduced through the sigmoidoscope, and by the aid of a stream of water this was carried up into the sigmoid. It was covered with faecal matter and mucus when withdrawn; this examination and injection was followed by a large discharge of faecal matter. The bowel was again washed out in the same manner as before, and with a large return of faecal material. Examination afterward showed practically normal resonance over the left iliac region; palpation, however, showed a thickened sausage shaped tumor extending from the median line over to the sacroiliac junction.

Diagnosis: Congenital stricture or malformation of the sigmoid, with possible neoplasm.

Operation was performed on October 27, 1902. Abdomen was opened to the left of the rectus muscle; sigmoid found in the upper pelvis, very thick and inelastic, but not adherent at this point; it dipped down into Douglas's cul-de-sac, and just at the left of the rectum it was found by a mesentery which held it almost against the sacral wall, thus causing an acute flexure with the rectum and also with the loop above. Any dragging upon the upper loop of the sigmoid increased the flexure; it was impossible to lift this up without increasing the flexure. The danger of cutting the bloodvessels and destroying circulation by incising the mesentery through and through was apparent. In order to overcome the flexure and stricture I made a longitudinal incision in the peritonæum extending about one inch to either side of the flexure; this was done on the right and left, the cellular tissue not being involved. I was then able to lift the gut up and unfold the flexure, breaking up the adhesions between the first loop of the sigmoid and the rectum. The peritoneal wound was sutured transversely, thus lengthening the mesentery, so that the flexure was almost obliterated. The second loop of the sigmoid was then drawn up and attached to the abdominal wall, thus straightening out the flexure and holding it in this position. The abdominal wound was closed.

November 10, 1903. The patient suffered from severe dragging pain for about a week; in the mean time, her bowels were washed out daily with 1 in 500 carbolic solution. After this time she began to improve; her digestion became much better, and her bowels acted freely with small doses of cascara. I have heard from her within the last ten days; her bowels now act without medicine, and she has gained nearly forty pounds; she is teaching school, and is a very grateful patient.

This case is very instructive, showing the futility of simply drawing the sigmoid up in such cases of acute angulation. Had the sigmoid been drawn up without loosening it at the point of angulation, the flexure would have been increased, the faecal obstruction made worse, and the patient would probably have suffered from acute obstruction of the bowels.

CASE VII.—Fæcal stasis with acute flexure of the middle loop of the sigmoid.

Mr. F., age forty-two, of pale, flabby, anæmic appearance. Family and personal history clear. Patient had suffered from constipation for five years; this came on after an attack of acute inflammation of the bowels, which followed a long bicycle ride. Tympanites over the head of the cæcum; more or less distention of the transverse and descending colon; flatulence in the left iliac region. Local examination showed the anus and rectum normal. The tube

passed readily into the sigmoid, but it had to be directed forward to the left; at about eight and a half inches it was arrested by coming squarely against the wall of the gut. Inflation did not lift up the sigmoid, but by carrying the tube as much forward as possible a glimpse of the opening through the flexure could be obtained, with a mass of hard faeces pouting through the same.

December 5, 1906. Operation revealed an acute flexure of the sigmoid, with adhesions over the left iliacus muscle low down (Fig. 7). The adhesions were incised, raw surface closed in, and the pelvis filled with saline solution. As soon as the adhesions were broken up the sigmoid rose so easily into position that it was not thought necessary to suture the gut to the abdominal wall. A long Wales bougie was passed into the rectum daily, beginning three days after the operation. The constipation and other symptoms disappeared very rapidly.

CASE VIII.—Mr. G., age forty-four, referred by Dr. John A. Wyeth, on March 24, 1906. Patient had been operated upon for hemorrhoids five years previously and had his sphincter stretched, with a view of overcoming obstinate constipation. So far as the relief of this symptom was concerned the operation was ineffectual. Constipation had been aggressive, and it was now almost impossible to obtain a movement of the bowels with any amount of laxatives; he complained of desire to go to stool, but inability to have a satisfactory movement; had a bearing down pain in the left inguinal region, extending upward to the splenic flexure; dulness over ascending colon; markedly tympanitic note over the cæcum. Proctoscope passed seven inches into the sigmoid, beyond which I was unable to advance on account of an acute flexure, with probable adhesions, as the sigmoid could not be lifted up into the abdomen.

Patient was operated upon on March 31st by Dr. Wyeth. The second loop of the sigmoid was found adherent over the iliacus muscle just above the brim of the pelvis; thus forming an acute flexure or angulation, with a mechanical constriction of the calibre (Fig. 8); there was no cicatricial narrowing of the canal. As soon as the adhesion was divided the constriction was relieved. The raw surface left by this division was closed over, both on the gut and abdominal wall, and the sigmoid lifted well up into the abdomen. No attempt was made to fix the gut, as this seemed unnecessary. The patient made an uneventful recovery, and his constipation disappeared in about three weeks.

CASE IX.—Mrs. L., age thirty-five, had suffered for years from constipation, flatulence, and hemorrhoids. Hereditary antecedents were negative. Digestive disturbance came on three or four hours after eating; bowels never moved without a large laxative; she had had an attack of pelvic peritonitis with salpingitis some six or seven years ago. Physical examination showed distended cæcum and transverse colon; stomach had prolapsed one inch below the umbilicus, and the transverse colon dipped down almost to the pubes.

Operation revealed general gastroenteroptosis with the transverse colon and omentum prolapsed into the pelvis, the omentum being adherent; there was considerable distention of the transverse colon; the sigmoid in its second loop was adherent to an old indurated tube; an acute angulation of the gut at the splenic flexure, also in the sigmoid, but not so marked as above (Fig. 9). The adhesions of the omentum to the sigmoid were incised and the raw surface of the latter closed by sutures. The stomach and transverse colon were lifted up, and the omentum sutured across the abdominal wall one inch above the umbilicus, thus relieving the angulation at the splenic flexure. The sigmoid was turned loose and lifted up into the abdomen, but not sutured. The pelvis was filled with saline solution, and the abdominal wound closed.

This patient made an uneventful recovery, improved in health and bowel movements, but some months, at which time she was in the country, and after eating a lot of green fruit and other raw food, was seized with an acute attack of enteritis, which lasted several weeks. At this time she also had a recurrence of salpingitis, and there now appeared to be a readhesion of the sigmoid in the neighborhood of the left ovary. The transverse colon, however, remained in position and there was no more of the pain in the left side and much less flatulence and digestive disturbance than formerly.

It would probably have been wise to have fixed the sigmoid to the abdominal wall at the first operation, but I was struck by the gut at so many points, that I could not attempt to fix the sigmoid in any one place.

the present time much relief, and it is possible an operation for the new adhesion may be avoided.

CASE X.—On December 6, 1904, Mrs. R., age thirty-five, consulted me. She had two children. Complexion clear, in fairly good flesh. Family history negative. Had a severe attack of dysentery at nine years of age, otherwise no serious illness. After the birth of first child she had suffered from childbed fever; following this had nervous trouble, with flashes of heat, violent headaches, and increasing constipation. Now suffered from severe constipation, hard, lumpy stools; weight and pain in the left iliac region; very slight tenderness over the appendix; much flatulence and digestive disturbance; pain in the left side was increased by stool. Examination of the rectum showed nothing abnormal; the sigmoidoscope passed into the sigmoid without difficulty; tube deflected markedly to the left, at about three inches, the upper wall of the gut impinged upon the instrument and even with pneumatic dilatation it was difficult to pass the instrument farther on account of pain in the left side, although there seemed to be no diminution of the calibre.

Diagnosis: Adhesions of the sigmoid to the left tube and ovary.

Treatment: Hot douches, introduction of a Wales

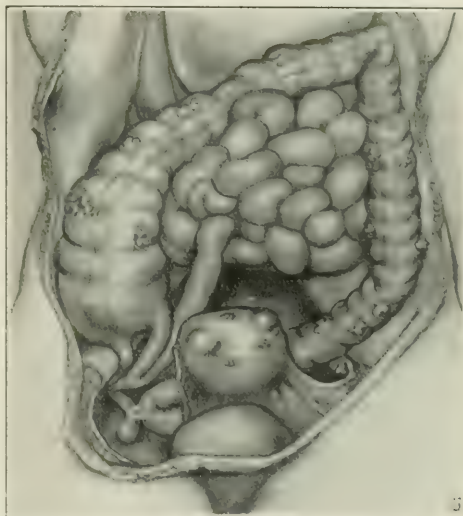


Fig. 9. Acute flexure of the sigmoid colon, chronic salpingitis and multiple fibroids of the uterus.

bougie every other day, with a hope of stretching out the adhesions and allowing the bowels to move freely. This treatment was carried out by the physician in attendance.

1905. The patient was improved by the treatment somewhat, but returned still suffering more or less from the same condition and was made so nervous by the treatment that she asked for radical relief. An operation was therefore performed in June, 1905. The abdomen opened in the median line; appendix drawn out, and being found abnormally enlarged, was removed. The sigmoid was found closely adherent to the left tube, ovary, and broad ligament, causing quite an acute flexure when the proximal loops were lifted up. The adhesions were dissected off, and the raw surface in the pelvis covered as well as possible by suturing; the sigmoid was drawn up into the abdomen, and the loop which had been adherent down below was sutured to the transversalis fascia to the extent of about two inches, thus straightening out the flexure.

The abdominal wound was then closed. There followed uneventful recovery. The patient has been healthy since, suffering with no return of the old trouble, and in the third year after the operation still well. On the 1st, 1906, patient reported herself entirely well.

CASE XI.—Miss McG., age forty-four, very thin, of



muddy complexion. Family history negative. Twelve years ago patient had had an attack of intense pain over the lower abdomen, with high temperature. Pain and irritation continued more or less all summer; after this constipation had always been present. Eight years ago she had a severe pain in the abdomen, with fainting spell, which was followed shortly by a passage of a large mucous cast. Since this time she had had periodical mucous crises, passing mucus all the time; required enemata usually to induce a movement. There was present tenderness over right iliac fossa; on deep pressure distention of the cæcum and ascending colon; anus was normal; rectum somewhat congested; sigmoid tender upon touch, turned sharply to the right and could not be lifted up, acute flexure at about six inches from the anus, thick cord like mass could be felt with the finger high up in the rectum and running upward toward the cæcum.

Diagnosis: Inflamed appendix in the pelvis.

Patient was operated upon on January 30, 1908. Appendix enlarged to the size of one's little finger, very tortuous and running down the iliosacral line almost into Douglas's cul-de-sac. The sigmoid was attached to its tip and held firmly in the pelvis, acutely flexed at the point of attachment. At the angulation of the appendix the ileum was caught and adherent, thus producing an acute flexure of this organ (Fig. 10). The sigmoid was released, as was also the ileum, and straightened out by breaking up the adhesions. The appendix was then freed and removed; the raw surface covered up as well as possible by sutures. The object to which the sigmoid had been adherent having been removed and its raw surface covered up, it was not thought necessary to suture the gut to the abdominal wall.

At the present writing, three weeks after the operation, the patient is apparently perfectly well; her bowels move without enemata; digestive symptoms have disappeared, and mucus in the stool is no longer seen.

These cases represent some types of flexure or angulation such as may be found in the sigmoid and transverse colon. The methods of dealing with them have been largely justified by the results; but no doubt some of my readers will devise different and better technic in the future. I should now with wider experience proceed differently with some myself; but working along original lines one cannot always select the most direct and smoothest paths. I have reported the cases with as little detail, but as accurately as possible, and trust they may excite a wider study of this interesting condition.

42 WEST FIFTIETH STREET.

## THE DIAGNOSIS OF DISEASES OF THE HEART.\*

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The subject which you have asked me to discuss at this meeting is a very large one; and one the elucidation of which, in the time at my disposal, will be most incomplete. Therefore, the most that can be accomplished will be a very brief consideration of a few of the most important points and questions in diagnosis that we are called upon to decide almost daily.

One of the most important points to be considered in connection with the diagnosis of cardiac affections is, how to recognize and correctly interpret the so called valvular murmurs. This is especially true in view of the fact that we have well defined murmurs, when there is no endocardial lesion of the

valves, and where at the necropsy all the valves are found to be practically normal.

In order to accurately diagnosticate these valvular affections of the heart, it is absolutely essential to understand precisely the anatomical position of the organ, and also the physiological mechanism of the action of the heart. This is especially true of those murmurs that are located at the left auriculoventricular orifice when there is no organic lesion of the valve segments.

If, as is usually the case, the anatomical position of the heart is taken from frozen sections of the body, it will appear to be located upon a lower plane than actually occurs during life, hence great errors in diagnosis are easily made unless due cognizance is taken of this fact. During life the heart cavities and the great blood vessels are distended with blood, which naturally causes the viscera to occupy a higher position in the chest than is the case when empty in death. While the individual is alive, therefore, the long axis of the heart occupies a triple oblique position in the chest cavity, or one corresponding to a line drawn from right to left, from above downward, and from behind forward—a position that has for its central axis a line represented by one transfixing the body from behind forward, starting posteriorly, at the sixth dorsal vertebra, passing through it and the cavity of the chest and emerging on the anterior surface of the thorax, through the fifth intercostal space 1.34 centimetres (3.5 inches) from the midsternal line.

The base of the heart corresponds to a line drawn obliquely across the anterior surface of the chest wall, from the first intercostal space on the left side to the second intercostal space on the right side. The apex of the heart is located just within the anterior or chest wall, behind the fifth intercostal space of the left side, at its junction with the sixth rib, 1.34 centimetres (3.5 inches) from the midsternal line.

The left heart is the most posterior; this is especially true of the left auricle, which is also the most inferior portion of the organ, as it lies deep down in the space between the vertebra and diaphragm. As a result of this posterior and inferior position of the cavity of the left auricle, the current of blood discharged from it into the left ventricle naturally flows from behind forward, from right to left, and slightly from below upward, or directly across the chest cavity, but never from above downward. The direction of this current corresponds to the line already given, as transfixing the body, and to which, many years ago, I gave the name left auriculoventricular axis. From this description it is clearly apparent that the bicuspid or mitral valve is located well to the posterior limit of this left auriculoventricular axial line. All murmurs, therefore, that occur at the mitral orifice are produced and transmitted by the current of blood flowing in one or the other direction of this axis.

When studying these conditions, we should always remember that a common law governs the seat of production and transmission of all cardiac murmurs, to wit, that the abnormal sound called a murmur is heard with greatest intensity just beyond the point of its development, and that the sound is

\*Read before the Medical Association of the Greater City of New York at a special meeting held in the Bronx, January 6, 1908.



transmitted from the point of its production forward or backward in the direction of the current of blood which, together with the valvular defect, is the cause of the murmur.

Where there is an organic narrowing of the bi-

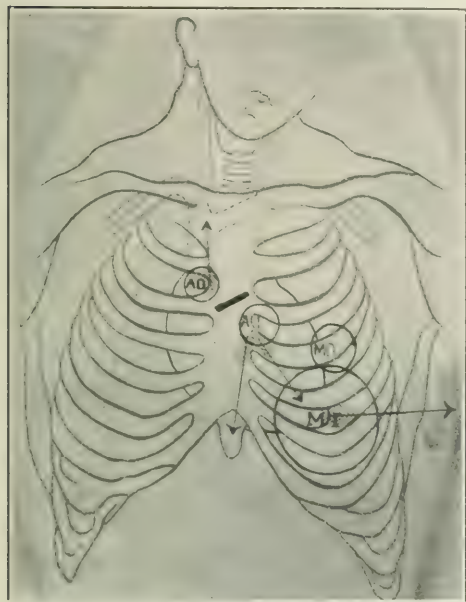


FIG. 1.—Professor Porter's skeleton scheme, showing position of the heart in the chest cavity; also circular areas at which points the different murmurs can be heard with greatest intensity. The arrows indicate the direction in which the murmurs are transmitted. Ring MD, a mitral, direct, aortic, stenotic, or presystolic murmur at the mitral orifice. Ring AD, an aortic, direct, stenotic, or systolic murmur at the base of the heart. Ring AI, an aortic, indirect, regurgitant, or diastolic murmur at the base of the heart.

cuspid orifice an abnormal sound is produced in the line of this left auriculoventricular axis, by an obstruction to the normal incoming current of blood from the left auricle to the left ventricle. This murmur has often been called presystolic, which is true so far as the ventricle is concerned, but in reality it is a systolic murmur of the left auricle. It occurs at the height of or just at the end of the auricular contraction and just as the ventricle is beginning to contract. If, for any reason, the auricular and ventricular power becomes enfeebled, so that there is no counter resistance in the currents of blood, the murmur often entirely disappears; the same is true if the auricle alone becomes very much enfeebled. In both instances with a resumption of muscular power the murmur will be reestablished.

A mitral direct murmur is heard with greatest intensity just in front of and over the left ventricle, at a point where the left auriculoventricular axis strikes the anterior surface of the chest wall, over the insertion of the fourth rib and its adjoining costal cartilage, or within the ring marked MD, in Figs. 1 and 2. This murmur is, as a rule, high pitched, of short duration, and limited in area. The intensity of the murmur will vary with the degree

of obstruction and the strength of the auricular contraction.

An obstructive murmur, located at the left auriculoventricular orifice, without alteration in the structure of the segments of the mitral valve, is not unfrequently heard in connection with considerable leakage at the aortic orifice. The explanation for this murmur is that the rapidly regurgitated blood from the aorta into the left ventricle fills the apical portion of the left ventricular cavity, and by so doing crowds one segment or the other of the bicuspid valve quickly against the incoming current of blood from the left auricle and thus, for the time being, produces an obstruction to the incoming current of blood. This undue pressure of the segments of the valve toward the auricular cavity at the height of the auricular contraction gives rise to a short but quick, sharp, and decided obstructive murmur. This murmur is distinguished from one due to positive organic narrowing at this orifice by its frequent disappearance when the physiological action of the heart, acting as a mechanical pump, is improved, so that the regurgitation of blood from the aorta back into the left ventricle becomes very much less, so much so that the valve is not pushed up against the incoming current of blood from the auricle.

When there is an organic incompetency at the left auriculoventricular orifice, the abnormal sound or murmur is produced by the blood being forced back into the auricle by the contraction of the left ventricle at the time of its systole, the blood being forced into the auricle against the incoming current of blood; the murmur in all probability being produced by the opposing currents having an unequal pressure against each other. The murmur is produced by the current of blood that is running from left to right, from before backward, and slightly from above downward. This murmur is distinctly heard at the apex region or within the circle lettered MI in Figs. 1 and 3. It is transmitted to the left and is, as a rule, lost at the anterior axillary line, but it is heard posteriorly with equal intensity at a point midway between the inferior angle of the scapula and the eighth dorsal vertebra on the left side. According to the ordinary law governing the production and transmission of cardiac murmurs already given, this mitral indirect murmur should only be heard posteriorly; but occurring, as it does, at the same time of and as the result of the ventricular contraction, or when the heart becomes, as it were, a solid body, and impinges against the anterior bony chest wall, which is also a dense body, they together obey the general physical law of transmission of sound by dense bodies, and thus bring the abnormal sound or mitral indirect murmur distinctly to the anterior surface of the chest, so that it is heard most distinctly within the circle lettered MI in Figs. 1 and 3.

When I was a student in medicine it was commonly taught that a systolic murmur heard at the apex region, within the circle marked in the figures MI, and transmitted from this point to the left as far as the anterior axillary border, and heard behind, as already noted, always indicated an organic lesion of the mitral valve. This assertion, in the light of our ever advancing knowledge, is frequently found to be incorrect at the present day, and still more frequently it proves to be false at the bedside.

Therefore, a different interpretation has to be placed upon the murmur in many instances.

This regurgitation at the mitral orifice, without organic changes in the valve segments, unquestionably produces a mitral indirect murmur, and one which is of the greatest importance. *First*, because of its frequency; *second*, because it is so often mistaken for a sound due to positive organic changes in the valve segments. From this it is readily seen that it is not the leakage that is questioned, but the interpretation put upon the murmur. If we stop and consider for a moment the anatomicophysiological mechanism of the heart, acting as a pump, the explanation and diagnosis in this class of cases are quite simple. The ventricular wall of the heart is composed of seven distinct anatomical layers of muscle fibres, or for simplicity they may be considered as four. There are connected with these layers, in the left ventricle two sets of papillary muscles, one springing from the anterior and the other from the posterior wall of the ventricle. To these papil-

fect action just described, one set of muscles contracts more forcibly or more quickly than the other, and as a result one papillary muscle shortens more than the other. As a natural sequence, one segment of the valve is pulled a little too far into the ventricle, while the other segment of the valve floats too far out into the auricle, thus preventing complete closure of the mitral orifice and permitting an escape of blood from the ventricle to auricle. In this manner a complete gap is produced, the same as if there was an organic lesion. This is well illustrated in the schematic drawing as seen in Fig. 2, b.

Through this opening, which has resulted from the incomplete coaptation of the two segments, there is a positive escape of blood and one that gives rise to all the physical signs of an organic insufficiency with regurgitation. The temporary results are the same as if there existed positive and irreparable defects. The physical signs are the same in both instances.

This condition is very frequently diagnosed

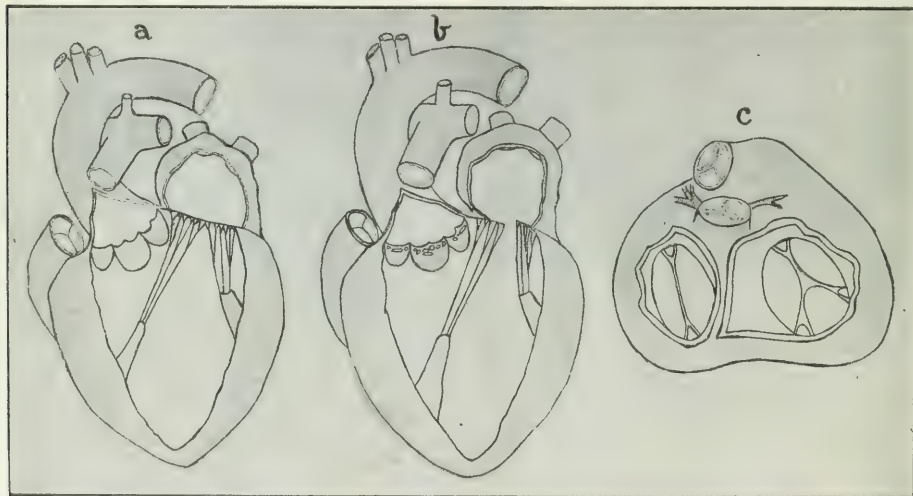


FIG. 2. (a) Normal heart, showing perfect closure of the mitral valve, and normal aortic and pulmonary semilunar valve segments. (b) Functional diagram, showing imperfect closure of mitral valve, but without organic changes in the valve segments; also congenital perforations in the aortic semilunar segments. (c) Diagram illustrating the congenital perforations in the aortic and pulmonary semilunar segments.

lary muscles the segments of the bicuspid valve are attached by the corda tendineæ.

When everything is working in unison, the two segments of the bicuspid valve which are in the ventricular cavity float outward toward the auricular cavity. At the height of the ventricular contraction, the margins of the bicuspid segments are approximated at just the right point, and held there by the equal and synchronous contraction of the two sets of papillary muscles and their attached chordæ tendinæ (Fig. 2, a). By this peculiar mechanism the auriculoventricular orifice is perfectly closed, and regurgitation from the left ventricle to the auricle is prevented. When for any reason the innervation of the heart is unequally distributed to the different papillary muscles or the muscular layers become unequally nourished, the unity of contraction is apt to be disturbed, and, instead of this per-

fect action just described, one set of muscles contracts more forcibly or more quickly than the other, and as a result one papillary muscle shortens more than the other. As a natural sequence, one segment of the valve is pulled a little too far into the ventricle, while the other segment of the valve floats too far out into the auricle, thus preventing complete closure of the mitral orifice and permitting an escape of blood from the ventricle to auricle. In this manner a complete gap is produced, the same as if there was an organic lesion. This is well illustrated in the schematic drawing as seen in Fig. 2, b. Through this opening, which has resulted from the incomplete coaptation of the two segments, there is a positive escape of blood and one that gives rise to all the physical signs of an organic insufficiency with regurgitation. The temporary results are the same as if there existed positive and irreparable defects. The physical signs are the same in both instances. This condition is very frequently diagnosed

each case, for each case must be analyzed by itself. These cases are of great interest from a practical standpoint, both to the patient and practitioner.

Organic and the so called functional insufficiency at the left auriculoventricular orifice can easily be distinguished during life, not by their rational or physical signs, however, but by an appropriate line of treatment. If the cause of the so called functional murmur be a deficient innervation, by giving such remedies as will restore the nerve power, the signs and symptoms will quickly disappear, all regurgitation be prevented, and the patient relieved from all the unpleasant symptoms.

On the other hand, when due to defective nutrition, with incomplete innervation and irregular muscular action, a building up of the cardiac muscle, as can be done with proper diet and therapeutic remedial agents, will cause the murmur to disappear.

When the physical signs are due to positive lesions in the valve segments, then the physical signs will not disappear, but will usually become more pronounced under treatment, even though the general condition is improving.

Having settled accurately which of the two classes of murmurs we have to deal with, and having decided whether they are due to organic changes or not, if one has spent considerable time in the study of necropsy findings, it is easy to determine what the nature of the lesion is. Without a large experience, however, in the post mortem field, there is absolutely nothing upon which to rest the certainty of the diagnosis made. Unfortunately, however, too many of our profession are compelled to go through their whole medical career without ever having had much opportunity to get personal and practical training in this most important branch of medical science—the combined clinical and necropsy work. The more frequently one can be placed on record as to the diagnosis, and have it confirmed or overthrown by the result of the necropsy, the greater will be the skill in diagnosis.

If now, upon auscultation of our patient, we find within the circle or mitral indirect area, which is lettered MI in Figs. 1 and 3, instead of the normal first sound of the heart, that there is an abnormal blowing sound, there is present a mitral indirect or regurgitant murmur. Further, if we find that this sound is transmitted to the left along the fifth and sixth ribs, that it is lost as we approach the anterior axillary region, and that it is heard quite distinctly posteriorly, we are positive that regurgitation is occurring at this orifice. Under these conditions we are justified in saying that there is a leakage at the bicuspid orifice. We are not, however, justified in saying that there is an organic damage to the valve structures until we have had the patient under treatment for a reasonable space of time. Then by the disappearance or intensification of the murmur a positive diagnosis can be made.

When there is also a faint abnormal sound or direct mitral murmur heard with greatest intensity within the limited area or circle MD, as indicated in Figs. 1 and 3, and this sound or murmur is of very short duration and not transmitted, there is an obstruction to the incoming current of blood to the ventricle. Therefore, some difficulty may be experienced in detecting this murmur, as it is often masked to a cer-

tain degree by the aortic and mitral indirect murmurs. But if one listens intently there will be heard a distinct abnormal sound, which is distinctly limited to the circle lettered MD. If the chest piece of the stethoscope is moved outside this limited area, the murmur is at once entirely lost, and it is observed that its character is entirely different from the transmitted sound of the aortic or mitral murmur, with which it might at first be confounded. Thus we are enabled to decide that a certain amount of obstruction is offered to the current of blood as it flows from the left auricular cavity into that of the ventricle. As before stated, a course of treatment will enable us to distinguish between true obstruction or one due to overfilling of the ventricle secondary to aortic insufficiency.

There is also a double set of murmurs to be considered at the aortic valve as well as at the mitral. The abnormal sounds developed at this aortoven-tricular orifice are best divided into three general classes: *First*, those due to organic changes in the valve segments and the aorta, or in the substance of the ventricular wall as a whole; *second*, those due to congenital perforations of the segments of the aortic and pulmonary valve, and which may be classed as functional when compared with the truly organic changes that are acquired; and *third*, the so called hæmic murmurs.

At the aortoven-tricular aperture we have an axial line upon which all murmurs are developed and transmitted similar to that for the mitral. The direction of this axis is through the centre of the aortoven-tricular outlet from below upward, from left to right, and from before backward, following

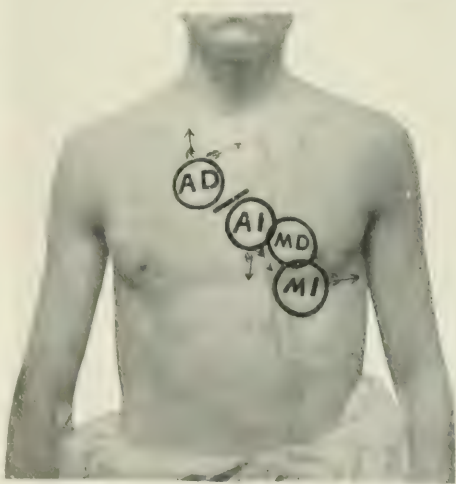


FIG. 1.—Chart of patient with regurgitant at the mitral orifice, illustrating which of the physical signs are to be heard most distinctly, and as indicating the position of transmission of abnormal sound. Reg. MI, mitral indirect or regurgitant murmur, heard at base of heart; Reg. MD, mitral direct or obstructive murmur, heard at base of heart; Reg. AI, aortic indirect or hæmic murmur, heard at base of heart; Reg. AD, aortic direct or obstructive murmur, heard at base of heart; Reg. MI, mitral indirect or regurgitant murmur, heard at base of heart; Reg. MD, mitral direct or obstructive murmur, heard at base of heart; Reg. AI, aortic indirect or hæmic murmur, heard at base of heart; Reg. AD, aortic direct or obstructive murmur, heard at base of heart.



the natural course of the blood stream. All murmurs, therefore, which originate at the aortic valve must necessarily be produced by the current of blood flowing through the now abnormal opening, either in the direction of the normal blood stream, or at a right angle to a line drawn obliquely across the sternum opposite the third costal cartilage, as shown between the rings AD and AI in Figs. 1 and 3. The position of the aortic valve being posterior to the sternum very nearly behind the oblique bar as seen in the figures referred to, all abnormal sounds developed at this outlet will be due to an obstruction to the current of blood, as it is thrown from the left ventricular cavity through the aorta, or to a failure of the aortic valve to close tightly and prevent any leakage back into the ventricle, which must of necessity follow incomplete closure.

Having developed the lesion, obeying the common law of production and transmission of cardiac sounds, if there is a stenosis or obstruction to the current of blood as it normally leaves the ventricle to reach the aorta, a murmur will be produced and heard just beyond the seat of its development, which is at the aortic aperture, or in the second intercostal space on the right side at the sternal margin, as indicated by the circle lettered AD in Figs. 1 and 3. It is transmitted along the course of the great vessels, and is heard with almost equal intensity over the subclavian, and the common carotid arteries in the neck. When it is loud at the seat of development it will also be heard posteriorly where the aorta begins to impinge against the spinal column or over the fourth and fifth dorsal vertebra. In some rare instances it will be transmitted all the way down the spinal column, being heard as low down as the sacrum. On the other hand, if there is an incomplete closure of the aortic valve, the arterial tension forces some of the blood back into the ventricle, it causes an indirect or regurgitant murmur. This abnormal sound, according to the common law of production and transmission, is heard just below and to the left of the location of the aortic valve, or at the junction of the third intercostal space of the left side with the sternum, as indicated by the circle lettered AI in Figs. 1 and 3. The natural course of the transmission of this murmur is primarily governed by the direction of the blood stream which causes its production and would be downward and forward toward the apex. This is true in part, but, developed as it is, when the ventricle is expanding against the sternum, which is a dense structure, the common physical law of transmission of sound is obeyed, and the murmur is distinctly transmitted down the sternum, and is often heard with the same intensity over the xiphoid appendix as it is at the point of origin.

In the second variety, or those due to congenital perforations in the cusps of the aortic and pulmonary valves, there are often heard the same well defined physical signs, the same as occur in a well established case of aortic insufficiency due to more positive lesions, which produce incomplete closure of the aortic valve. I have frequently diagnosed these congenital perforations and later confirmed the correctness of the diagnosis at the necropsy. Aortic regurgitation from incomplete closure of the aortic valve can be distinguished from regurgitation due

to congenital perforations by observing the following distinctive points:

Aortic regurgitation from	
acquired lesions.	congenital perforations.
1. Physical signs almost the same except masked cardiac enlargement of the heart.	Physical signs almost the same except no uniform enlargement of the heart.
2. Marked subclavian pulsation.	No subclavian pulsation.
3. Shot or bead like pulse.	Pulse normal.
4. Marked dyspnea.	No dyspnea.
5. Cardiac interstitial pneumonia.	No brown induration of the lung.
6. May have pulmonary hemorrhages.	No pulmonary hemorrhages.
7. Cough with considerable sputum.	No cough or sputum.
8. Dropsy usually marked.	No dropsy.
9. Great general discomfort.	No general discomfort.
10. Physical signs may change under treatment.	Not affected by treatment.

In consequence of these facts a positive diagnosis in cardiac lesions should only be given after several examinations and after suitable treatment has been instituted.

Third, so called hæmic murmurs are produced at the aortic and mitral orifice in very anæmic subjects; they may be of the direct or indirect variety. A direct murmur may be produced both at the mitral and aortic orifice in very anæmic cases. More frequently, however, there is an incomplete closure of the mitral valve and an indirect murmur is heard, which is due to a dilatation of the ventricle brought about as a result of the anæmia and imperfect nourishment of the muscular structures. The hæmic murmurs will be heard and transmitted in the same manner as the murmurs already described as occurring at the mitral and aortic orifices. They are distinguished from the other forms of murmurs by the associated anæmia, and the rapid disappearance of the murmur under suitable treatment.

In this discussion the right side of the heart will be largely omitted. The reason for this is, that during a period of more than twelve years of almost continuous work in the dead house, during which time I made and observed a very large number of necropsies, only one case was met with in which there was a primary lesion of the valves of the right side of the heart, and that was a case of congenital incompetency of the pulmonary valve. This statement refers to cases of a chronic nature, and not to the acute infective or malignant type. During the life of this patient just referred to, although examined very carefully by several noted and exceedingly competent diagnosticians, all regarded the case as one in which the lesion was primary in the aortic valve, with secondary changes on the right side of the heart. Whereas, the aortic valve was found at the necropsy to be perfectly normal. Pulmonary and tricuspid leakage always gives rise to marked jugular pulsation which is synchronous with the systolic action of the ventricles. When this occurs there is also an associated general venous engorgement. Therefore, it is easy to say that there is leakage on the right side, but almost impossible to say that it is primarily located on the right side, and that it is not secondary to changes of the left side.

A tricuspid direct or indirect murmur is practically an impossibility, owing to the almost negative blood pressure on both sides of the valve. A leakage may occur at the tricuspid valve as a secondary sequence to a pronounced mitral and pulmonary insufficiency, but never as a primary condition so long

as the pulmonary valve closes perfectly. We are, therefore, justified in omitting the right side of the heart from the diagnosis of primary affections of this organ, except in those cases in which there is an infective or malignant endocarditis.

The murmur, which is often described as a tricuspid regurgitation during life, is usually found at the necropsy to be due to a leakage of blood through congenitally perforated aortic and pulmonary cusps. According to the general law of development and transmission of murmurs, if a tricuspid indirect murmur is to be heard, it would be posteriorly and not anteriorly, because at the time of its production the right heart is rolling away from the anterior wall of the chest, which would tend to carry the sound back into the chest rather than to bring it forward to the anterior surface of the chest. Therefore, it seems reasonable to exclude murmurs of the right side of the heart from this discussion, for they are of little practical value to the diagnostician.

Enlargement of the heart, either as the result of hypertrophy or degeneration with dilatation, is determined by an increased area of dulness on auscultatory percussion. The hypertrophy from degeneration is determined by auscultation and a careful study of the muscular tone. If the muscular contraction is firm and strong we know that there is a hypertrophic condition of the organ. If, on the other hand, the muscular contraction is soft and feeble, we know that there is an atrophic or decided degenerative change in the muscular tunic of the heart.

A careful determination of the nutritive tone of the heart muscle is one of the most important facts to be ascertained in connection with the diagnosis of cardiac disease, because upon it depends the prognosis not only in purely cardiac affections but also in all the infectious diseases.

1674 BROADWAY.

#### INDICANURIA: ÆTIOLOGY, DIAGNOSIS, PATHOGENY, AND TREATMENT.\*

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The demonstration of blue coloring matter in the urine has been recorded as far back as the time of Hippocrates (1), but it was not until 1840 when Prout (2) discovered a blue substance in the urine, to which he gave the name of indigo, that much attention was directed to the subject. For a considerable period this substance was thought to be identical with the indigo of plant life, which, according to Bartley (3) is a glucoside, but in 1879 Baumann and Breiger (4) proved that urinary indican was a combination of a conjugate sulphur of a hydroxylated indol with an alkali.

In the last thirty years we have had many important contributions on this subject, and we now possess a fairly clear knowledge relative to the origin of indol and the formation of indican. There is, however, at present, a rather one sided argument regarding the origin of the indol which is rec-

ognized by the presence of indican in the urine. Slowtzow (5), for instance, divides indicanuria into three forms: First, that due to intestinal fermentation and putrefaction; second, that due to suppuration in some other part of the body, and, third, that due to the formation of indol in the cells of the body tissues. He terms them intestinal, septic, and metabolic, respectively. In the intestinal form he alleges that the indican reaches its maximum four or five hours after the ingestion of food, is diminished by a milk diet and by the administration of intestinal antiseptics, and increased by the drinking of alkaline waters. In the septic type the indican is increased in the evening, is not influenced by the before mentioned measures, and is relieved by removing the septic focus. In the metabolic type the indicanuria is moderate, occurs uniformly throughout the twenty-four hours, is diminished by a milk diet, but is not influenced by intestinal antiseptics, although it may be diminished by drinking alkaline waters. Confirmatory evidence tending to establish the existence of the metabolic type of indicanuria is scanty, and such evidence is considered to be very unsatisfactory. It is undoubtedly the consensus of opinion at the present moment that the indican of the urine depends exclusively upon the production and absorption of indol from the intestinal tract, excepting in those cases in which pathological processes, such as a putrid abscess, putrid bronchitis, pulmonary tuberculosis with cavity formation, the retention of a dead fetus, gangrene, etc., are associated with the formation of the base.

Owing to the fact that indol is a product of proteolytic cleavage it has been stated by Flint (6) and others, that it may be formed by the action of the tryptic ferment of the pancreatic juice upon proteid food. In fact, Flint asserts that indol may be produced in this manner outside of the body. It is, however, quite possible that the indol of these experiments was the result of an unrecognized organic ferment. In this connection Herter (7, p. 260) states that "such a phenomenon could only occur in the intestines in the presence of excessive amounts of proteid food, combined with greatly delayed absorption. Ordinary absorption occurs in the peptone and aminoacid stage of proteolytic digestion, and it is hardly conceivable that in the absence of putrefactive bacteria a rapidly proteolyzed meal should lead to the formation of indol. Furthermore, marked and persistent indicanuria has been observed in dogs from which the pancreas has been removed and also in people in whom autopsy or operation showed both the biliary and pancreatic duct to be occluded." These observations, combined with recent experiments with intestinal antiseptics, with the organized and unorganized ferments, would seem to prove beyond any reasonable doubt that indol owes its origin to the action of certain bacteria upon the proteid food in the intestines.

Regarding the action of the individual members of the intestinal flora upon the formation of indol considerable knowledge is still wanting. Extensive investigations into this perplexing problem are now being made, and although considerable light has already been shed upon the subject, other important findings undoubtedly will soon be reported. It might be stated in a general way that the colon group of

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bacteria are unable to break down native proteids, but act only upon the peptones and other products of proteolytic cleavage. On the other hand, there are certain putrefactive bacteria (probably both aerobes and anaerobes) which possess the ability to act both upon the native proteids, the peptones, and the carbohydrates. It appears that some species are able to only partly digest protein food, and the production of indol left to the action of the colon bacilli, while others continue the splitting process and form indol without the aid of the colon group; furthermore, this action under varying conditions may take place in either the large or small intestines. The fact that certain butyric acid forming bacteria are able to attack the carbohydrates with the formation of toxic and irritating substances has led Herter (8) to divide chronic excessive intestinal putrefaction into three types: First, the indolic type, marked by striking indicanuria and probably due to members of the *Bacillus coli* group; second, the saccharobutyric type, which seems to be instituted chiefly by anaerobic forms; in its simplest examples there is very little indol in the gut and very little indican in the urine; third, combined types, or cases combining the characteristics of groups one and two. He not only separates these types by differences in the analysis of the urine and feces, but also distinguishes certain interesting clinical variations.

A consideration of the ætiology is hardly complete without at least a superficial review of the synthesis of indol in the body and the reason for the abnormal bacterial activity in the intestines. Granting that indol is formed in the digestive tube, as stated before, it is next absorbed, combined with sulphuric acid and potassium, and appears in the urine as the indoxyl potassium sulphate or indican. Just where and when this pairing off process occurs is not as yet positively determined, but the trend of recent investigation is to consider that this process takes place very largely, but not entirely, in the liver. In this connection Herter and Wakeman (9) have shown that the body cells, especially those of the liver and kidneys, but also the epithelial cells of the intestines possess the power of oxidizing and pairing off these substances. Petrone and Pagano (10) are of about the same opinion, for as a result of extensive experiments they conclude that the body depends largely upon the liver for protection against the enterogenic poisons. They think the epithelial cells in the walls of the intestines offer the first barrier. Toxines that escape the intestines and liver are acted upon by the lungs, and finally the circulating leucocytes play an important part. Besides these tissues and organs there is little doubt but that the muscles and skin also enter into this process of oxidation and elimination. The nature of the enterogenic toxines and the exact manner in which they exert their deleterious action upon the organism is not well understood. It must be remembered that besides the aromatic products of intestinal putrefaction we have other known bodies, such as the basic substances, the sulphur compounds, etc. From evidence recently advanced it would seem that we have also to deal with the formation of certain ptomaines and other toxic bodies, some of which appear to possess hæmo-

lytic powers, while others seem to act mainly upon the nervous system. That indol itself is toxic to the organism has been amply proved by the experiments of Richard, Howland, and Lee (11), and also by observations to be mentioned later.

It was thought by students of the earlier school of physiologists that certain bacteria, through their ability to do the work of some of the unorganized ferments, were a necessity to health, but this theory has been largely negated by experiments upon animals conducted by Nuttall and Thierfelder (12), and others, who found no difficulty in keeping these animals alive under aseptic conditions in the alimentary canal. Metchnikoff (13, p. 211) cites many observations upon human beings, both children and adults, placed upon aseptic food for long periods, but who remained in perfect health. Such observations would tend to show that the intestinal flora is not essential to life, but they do not prove that certain bacteria existing in the intestines are not beneficial. Indeed, it has been shown by Herter and others that under normal circumstances the *Bacillus coli* group may be of considerable benefit to the organism. As stated by Metchnikoff, "when man enters the world his intestines are practically free from bacteria, but contain a good culture medium for the bacteria, which soon gain entrance by means of air, water, and food." From a theoretical standpoint it is not impossible that if a person always throughout life obeyed the laws of Nature the intestines would soon adjust themselves to the presence of bacteria, and under favorable conditions the harmless and protective species would predominate and defend the individual against the invasion and injurious action of the undesirable microbes. One can hardly help but think that primitive man suffered very little from gastrointestinal disturbances, but with the advancement of civilization, the crowded conditions of city life, the lack of physical exercise, the hurried eating, the worry, hurry, and excessive loss of nerve energy associated with the gaining of a livelihood, together with the inferior character of the food obtainable, it is no wonder that a suitable soil is prepared for the growth of harmful organisms in the intestines. An extremely long large intestine has, for various physiological reasons, always been considered a necessary part of human anatomy, but very recently Metchnikoff (14, p. 70) has advanced the opinion that a large part of the large intestine is rudimentary, that it has acquired in common with other rudimentary organs a lowering of vital resistance, thereby forming one of the many disharmonies of the human race in its present stage of evolution. He cites many experiments and observations to verify and fortify his interesting hypothesis, which, if found to be true, will certainly help one to understand why people of to-day are so susceptible to diseases of the gastrointestinal tract.

#### Diagnosis.

Although the rapid or slow absorption of the enterogenic toxines may produce a more or less typical picture of intestinal autointoxication or enterotoxism, a positive clinical or symptomatic diagnosis can, for obvious reasons, only be made in a limited number of cases. But in the absence of putrid processes elsewhere in the body the presence



of indican in the urine is positively indicative of intestinal putrefaction. There are several methods of testing for indican, the most of which are adequately described in the textbooks. The accurate quantitative methods are extremely difficult, and fall within the domain of the analytical chemist. Such procedure, however, is hardly necessary, for, if conducted in a methodical manner and especially if frequently performed for the purpose of obtaining the average reaction for the individual, the qualitative tests will give a very fair idea of the variable amount of indican voided, and in many cases will indicate the intensity of the intestinal putrefaction and the amount of absorption of toxic substances. Certain important exceptions must be considered. In negative reactions, for instance, the possibility of injurious types of saccharolytic fermentation must be considered. Again, the quantity of indican in the urine, although indicative, cannot be taken as a criterion of the amount of harm being done, because so much depends upon the nature of the toxins produced, upon the ability of the system to properly oxidize, pair off, and eliminate these substances, and also upon the amount of absorption from the intestines. It is desirable, therefore, to consider not only the presence of indican, skatoxyl, sulphuric acid, and ethereal sulphates in the urine, but also the severity and character of the symptoms presented. Furthermore, in considering individual cases where it is desirable to establish the relationship between the symptoms presented and the associated indicanuria it is essential that one take advantage of diagnosis by exclusion. In other words, one must exclude to the best of his ability all other aetiological factors, or if other possible causes are present, to estimate the probable significance of the indicanuria, which may be accomplished by careful study and by the aid of therapeutical measures.

In testing for indican it is advisable to decide upon one reagent, and always employ it in a definite manner. The following modification of Obermayer's test has given me great satisfaction: The reagent consists of a stock solution, composed of a 0.3 per cent. solution of C. P. ferric chloride in pure hydrochloric acid. Five cubic centimetres of this reagent are added to the same volume of urine in a test tube; 1 c.c. of chloroform is added to this mixture, and the tube inverted several times. If indican is present the chloroform, which rapidly settles to the bottom of the tube, will assume a blue color, the intensity of which depends upon the amount of indican in the urine. Occasionally the splitting of the potassium indoxyl sulphate is delayed, so in all negative cases it is advisable to allow the mixture to stand for several minutes before venturing an opinion. In mild reactions better contrast can be obtained by replacing the urine with water, leaving the chloroform at the bottom of the tube, or the urine may be clarified by filtration after the addition of a few drops of a saturated solution of lead acetate. Occasionally one will obtain a purplish or red, instead of a blue, reaction. This is probably due to the presence of skatoxyl compounds. The significance is the same, providing the patient has not been taking potassium iodide, which will give a red reaction with this re-

agent. Any doubt can be cleared up by the addition of a few crystals of sodium hyposulphite.

#### *Pathogeny.*

Physicians are frequently at a loss to know how to interpret their indican findings. They will no sooner arrive at the conclusion that certain diseases or disturbances are always associated with indicanuria than their calculations will receive a setback by the demonstration of large amounts of indican in apparently normal beings, or the disease usually associated with more or less indicanuria will be found to exist without any reaction to the Obermayer test. The proper interpretation of indicanuria is not easy, and depends upon the recognition of several important factors. In the first place, it is necessary to determine if the indicanuria is temporary or permanent. If temporary one would hardly expect more than mild, febrile disturbances associated with lassitude and signs of gastrointestinal irritation, depending, of course, upon the severity of the attack. If permanent then one must look for evidence of systemic disturbance, and in a majority of cases such evidence will usually be demonstrated by the presence of various local or general manifestations of disturbed metabolism. It has already been stated that the effect of intestinal putrefaction depends largely upon the absorption, oxidation, and pairing off of the toxic material. As long as the tissues entering into this process are normal and able to cope with these substances no harm other than an increased amount of work for important organs will be produced. But just as soon as these tissues become impaired by overwork or disease, then various local or general symptoms of toxemia are likely to manifest themselves. The question of idiosyncrasy is possibly no more than a question of synthesis. However this may be, we observe the same relation between cause and effect in the case of indicanuria as we do in the case of many of our important drugs. Quinine, the salicylates, the iodides, and bromides, all produce very distressing symptoms in certain individuals, while others may partake of them with impunity.

In cases of chronic, persistent indicanuria, where no deleterious effect is observable, it must be remembered that relatively small doses of poison are being absorbed into the circulation for a period of months or years, and in many of these individuals the evidence of disease may not manifest itself until the age of fifty or sixty. We are accustomed to use the inappropriate word toleration to account for such phenomena, and the same picture is portrayed in many cases of chronic alcoholic indulgence and by the long continued use of any one of many drugs. It is largely this effect of chronic intestinal autointoxication that has led Metchnikoff to write his latest book, *Essais optimistes*, which, like *Nature of Man*, is a study in optimistic philosophy. In these works he considers the phenomenon of old age, and concludes that the autointoxication derived from chronic intestinal putrefaction is one of the most important causes of premature senility, chiefly through its influence in inducing arteriosclerosis.

It is possible to divide the effect upon the system of the enterogenic poison into acute and chronic.

The acute cases represent the sudden absorption of large quantities of toxic substances from the intestines in individuals, who, as a rule, are free from indicanuria. Or the acute symptoms may occur as an exacerbation in the course of a chronic intestinal autointoxication. Both forms are common. The cause of these attacks is usually some indiscretion in diet or perchance to hygienic disobedience, but in many cases it is impossible to ascertain the cause. The symptoms of acute exenterotoxism are fairly typical, the most usual of which may be grouped under the term of biliousness. Mental and physical fatigue, anorexia, vertigo, and similar manifestations are usually prominent. Occasionally one meets with a very severe case, presenting gastric pain and vomiting, with or without diarrhoea. For some time I have noticed the interesting fact that many individuals are able to forecast with a surprising degree of accuracy the outcome of the test for indican. These patients appear to be able to distinguish between muscular fatigue, the weariness from insufficient sleep, certain hygienic indiscretions, and the "dopy feeling," as they express it, which is produced by a mild intestinal autointoxication.

In the chronic type of intestinal autointoxication we have to deal with the more or less slow absorption of relatively small amounts of indol and other toxic substances. The clinical picture is totally different from that portrayed in the acute type—in fact, the symptoms, diseases, or conditions produced depend largely upon the nature of the toxins generated and the idiosyncrasy of the individual as a whole and the resistance offered by the local tissues. It is, therefore, practically impossible to classify the symptoms of chronic excessive intestinal putrefaction, but inasmuch as its effects are now being seriously considered in all branches of medicine it will be profitable to give a somewhat superficial review of the more important recent literature.

It has long been known that gingivitis, Rigg's disease, and other similar affections could be caused by various nutritional disorders and by certain toxic substances. It is, however, only within the last few years that the dental profession has devoted attention to intestinal autointoxication in relation to these diseases. F. L. Stanton (15), of this city, was probably one of the first dentists to recognize the possibility of an intestinal autotoxic factor in pyorrhoea alveolaris. In collaboration with Dr. R. H. Potter, he examined a large number of patients, and found an excess of indican in about 98 per cent. of the cases. Talbot (16), of Chicago, has devoted considerable study to this subject. Although recognizing all forms of autointoxication as well as local aetiological factors, he considers that intestinal putrefaction deserves very careful consideration. He is of opinion that toxins in the circulating blood act chiefly upon the end organs, of which the gums and alveolar processes are examples, and that the injurious effects are produced by their action upon the bloodvessels. Fossune (17), of New York, is also an enthusiastic believer in the constitutional origin of Rigg's disease, and considers the constant presence of an excessive indicanuria as being very significant.

Taking the advice of Sabaroud, to the effect that

the dermatologist should devote more attention to diseases of the superficial mucous membranes and being interested in the subject, I have, in collaboration with several dentists, treated a few cases of Rigg's disease. In some of these cases it was possible to exclude diabetes, syphilis, nephritis, acidosis, alcoholism, etc. Without going into details these patients all presented an intense indicanuria, and many of them, besides their Rigg's disease, had attacks of vertigo, gastrointestinal disturbances, anaemia, skin eruptions, etc. As a result of a careful study of these cases I believe that as a result of treatment they are not only in better health, but that their mouth condition improved with a greater degree of rapidity under local surgical measures instituted by the dentist than had been the case previously. It is too soon to predict the ultimate effect upon this disease by treatment directed at the indicanuria, but evidence so far at hand would indicate that a considerable addition to permanency might be expected.

The neurologist finds indicanuria to be associated with many disorders of the nervous system, particularly with neurasthenia and various forms of neuritis. Cleghorn (18), in a report of six thousand cases of neurasthenia, finds that among the causative factors the disturbances of the gastrointestinal tract and the autointoxication therefrom stand out as conspicuous examples. Combe (19), Herter (20), and others place considerable importance upon the relationship existing between neurasthenia and intestinal putrefaction. Herter, for instance, considers the state of debility that we call neurasthenia as being one of the clearest clinical signs associated with certain types of intestinal putrefaction. During the past year several general practitioners, at my suggestion, have studied this question, with the result that a marked indicanuria was found to be present in a large percentage of the cases. The achievements of treatment in these cases were exceedingly interesting and instructive, and as a consequence of these observations I am of opinion that intestinal putrefaction is the cause of many, a means of exaggerating the symptoms in some, and possibly the effect rather than the cause in other cases of neurasthenia. Among other diseases of the nervous system, neuritis, progressive muscular atrophy, and various reflex disturbances are thought to be due to the enterogenic toxins. Mennella (21), for instance, in an article dealing mainly with the question of autointoxication and neurasthenia, not only believes intestinal putrefaction to be the cause of most cases of this character, but is of opinion that many cases of obscure reflex nervous symptoms, cephalalgia, various neuroses, and psychoses are of autotoxic origin, and especially from intestinal putrefaction.

Among the diseases lying mostly within the domain of the general practitioner and thought to be occasionally caused, or at least greatly exaggerated by intestinal autointoxication, may be mentioned certain types of chronic arthritis, muscular rheumatism, anaemia, cystitis, renal irritation, etc. In fact, it is now generally considered that the recovery from many diseases can be retarded by the presence of an excessive indicanuria, for the simple reason that the tissues have to deal with an ad-

ditional toxæmia. Landers (22) has resurrected the old idea of giving intestinal antiseptics in cases of typhoid fever, asserting that the good results obtained are due to the lessening of intestinal auto-intoxication, thereby overcoming the battle of the body tissues against these toxins. In this connection it might be stated that there are cases of intestinal putrefaction, which possess many of the symptoms of typhoid. Through the courtesy of a professional friend I recently had the opportunity of observing such a case. In this patient the attack was preceded by a severe vertigo, which lasted a month, at the end of which he had a temperature of 103° F., and presented many of the clinical manifestations of typhoid. The blood failed to respond to the Widal test, and the urine to the diazo reaction, but it did show a very marked indicanuria. The most curious feature was an eruption upon the abdomen closely resembling the well known rose spots. This eruption later developed into an extensive and typical erythema multiforme. The patient made a rapid recovery, both from his symptoms and his indicanuria when placed upon salol and a milk diet.

It is the opinion of several investigators that through the hæmolytic effect of certain intestinal toxins profound grades of secondary anæmia may be produced. In fact, it has been asserted that intestinal putrefaction may have an important bearing upon the production of primary anæmia. In this connection Olin (23) reports a case of simple anæmia with the hæmaglobin reduced to 30 per cent. and associated with a persistent indicanuria. Measures taken to overcome the intestinal putrefaction restored the patient to comparative health.

Several attempts have recently been made to associate indicanuria with renal irritation. Williams (24), for instance, reports six hundred urinary examinations in which he found one half the cases of albuminuria had an associated indicanuria, which apparently increased in severity with the increase in the albuminuria. He also found that in many of these cases the albuminuria rapidly subsided when attention was directed to the intestinal putrefaction. Darenberg and Perroy (25) found that in 95 per cent. of the cases in which the urine contained a great excess of indican there was likewise an albuminuria. Houghton (26) mentions three interesting cases of interstitial nephritis in which the administration of intestinal antiseptics was of the greatest value. It is quite reasonable to suppose that the excessive work demanded of the kidneys in eliminating such poisons may weaken these important organs. At any rate, there is sufficient evidence at hand to show that indicanuria represents a serious obstacle to the recovery of a diseased kidney. It is a well known fact that indicanuria is frequently, if not always, associated with increased arterial tension, and the proper attention to this indicanuria will not infrequently alleviate the strain placed upon the kidneys, circulatory system, and other important organs and tissues.

In recent literature one finds frequent mention of intestinal putrefaction in connection with a number of the organs of special sense. Dr. Schweinburg (27) in a very interesting paper, deserves considerable attention to intestinal auto-intoxication as an etiological

factor in the various diseases of the eye. He reviews the literature to some extent, and concludes that although the heterogeneous auto-intoxications may not be the sole cause of certain ocular disturbances they are at least contributory, and frequently are the means of a continuance of symptoms after the more commonly accepted ætiological factors have ceased to be active. The interesting discussions of this article by Wood, Bull, Marple, Posey, Weeks, and others were remarkably enthusiastic and strongly fortified the author's contentions.

In pædiatrics considerable attention has been given the subject of indicanuria as bearing upon the gastrointestinal complaints and malnutrition of infants. Veitch (28), for example, reports the cure of a child which appears to warrant the adoption of suitable means to overcome intestinal putrefaction in most cases of infantile malnutrition when associated with such process. Dunn (29) distinguishes between infectious diarrhœa and that produced by intestinal fermentation and putrefaction. Judson and Clock (30) mention several cases of marasmus successfully treated by the use of buttermilk, which, as will be seen later, is one of the most important means of combating intestinal putrefaction. Combe, in his various writings, recites experiments, observations, and investigations which strongly fortify these findings. Herter (7, p. 284), in collaboration with Holt, has investigated the group of cases that are characterized by the marantic, large belly type of chronic intestinal indigestion in children. To use Herter's words: "All physicians agree that this form of digestive trouble is extremely obstinate to ordinary methods of treatment. It is usually manifested by a distinct retardation of growth, muscular weakness, distension of the abdomen by gas, and voluminous, light colored, usually gray, and fatty stools. The urine of such cases usually contains an excessive amount of indican, phenols, and ethereal sulphates. Regulation of diet and hygiene in accordance with our knowledge of the action of bacteria in the intestines has been of considerable service in the treatment of these cases."

Although there is a very close relationship existing between the cutaneous diseases and intestinal auto-intoxication the scope of this article is too general to allow but a few words on this interesting subject at the present time. Engman (31) who has studied the significance of auto-intoxication in dermatological disorders, pays particular attention to the presence of a marked and persistent indicanuria in cases of pompholyx and dermatitis herpetiformis, and is of opinion that the toxins derived from intestinal putrefaction may be an important ætiological factor in many of these cases. Johnson (32) has considered the evidence of an antitoxine factor in eczema, and particularly in the bullous diseases, and concludes as a result of routine urine examinations, the clinical manifestations of these diseases, as well as the therapeutical results obtained, that auto-intoxication in relation to dermatology should receive careful attention. He believes that the auto-intoxication in many cases has its origin in the failure of protein metabolism, and while placing considerable importance upon the various toxic substances found in the urine, together with the est-



mation of the total nitrogen output, he also considers the presence of an indicanuria as very significant. Personally, I have never failed to obtain a marked indican reaction in cases of pompholyx or dermatitis herpetiformis, although in this connection it might be stated that Schuyler Clark, at a recent meeting of the dermatological section of the Academy of Medicine, January 7, 1908, reported a very severe case of dermatitis herpetiformis which had never presented an indicanuria. Indicanuria is not infrequently associated with eczema, psoriasis, urticaria, erythema multiforme, pruritus, etc., and although a definite relationship between these diseases and intestinal autointoxication has not as yet been established, there is little doubt but that some such cases may be produced in this manner, while in others the indicanuria represents a possible contributory cause. Clinical observation of individual cases certainly tends to confirm such opinion, and, furthermore, as a result of such observations, I believe that intestinal autointoxication may possibly have an influence in establishing individual susceptibility to various cutaneous irritations. In concluding this subject I am of the opinion that superior average results are obtained in many cutaneous eruptions when proper attention is directed to an associated indicanuria.

#### *Treatment.*

*Diet.*—Inasmuch as indicanuria is caused by the action of certain bacteria upon the proteids, it is essential in most cases to restrict the amount of this type of food. I think it is a good plan in these patients to limit animal food to one meal a day. In some instances it is necessary to abstain, for a time at least, from all nitrogenous food. Occasionally, however, one encounters a case that appears to be unable to tolerate a farinaceous diet. Both Herter (20) and Porter (33) have also found this to be the case. The latter objects to a vegetarian diet, because he considers such food hard to digest, while the former asserts that under certain conditions the growth of the gas bacillus is favored by an excess of the carbohydrates. It is obvious, therefore, that no absolute rule can be given regarding dietary measures, for each case is a law unto itself. A very important desideratum is the promotion of prompt absorption, which may be accomplished by the use of such vegetable foods as rice, or, in certain cases, an exclusive milk diet may be advised with benefit. Thorough mastication is also very important, and I have seen excellent results follow an adaptation of the rules of mastication as formulated by Horace Fletcher in his *A. B. Z. of Nutrition*. The entrance into the stomach of putrefactive bacteria must, as far as possible, be avoided. If the gastric secretions are normal, most of these bacteria are destroyed, but when defective, and especially when considerable mucus and desquamated epithelium is present, such organisms are not only able to survive, but may actually find a favorable medium upon which to multiply. In such cases this object may be attained by the proper cooking of food, by thorough mastication, and by attention to the teeth.

*Hygiene.*—Hygiene in many cases is of as much importance as diet. Proper exercise and bathing will aid metabolism, elimination is increased, and

the digestive functions strengthened. The prevention of worry, anxiety, etc., must be avoided if possible, for the effect of enthusiasm, suggestion, or by whatever term it may be called, upon metabolism is not well understood, but very likely it has been underestimated.

*Medicine.*—The digestive mixtures may, for obvious reasons, be of service when indicated. The so called intestinal antiseptics have been and are still being employed to control intestinal putrefaction. Although such drugs as salol, dermatol, etc., may reduce the urinary indican, it is hardly advisable to use such preparations for protracted periods. In the first place, we do not know what deleterious effect such drugs may have when taken indefinitely. Again, it is possible that such measures influence the protective members of the intestinal flora as well as the harmful invaders. In any event, it has been found that patients fail to do as well as expected when treated in this manner. This opinion receives confirmation by the published observations of Herter (7, p. 329), Metchnikoff (13, p. 204), Steele (34), Conner (34), and others. It is an opportune moment to say a word regarding constipation. Although cases of obstinate constipation, without an associated indicanuria, are to be met with, the opposite condition of affairs is more frequent. It is advisable to overcome the sluggish action of the bowels by other than medicinal means, but not infrequently it is necessary to resort to laxative measures. In this connection it is interesting to note the observation of Maberly (35), who finds that sodium sulphate in small doses acts not only as an aperient, but also as an intestinal antiseptic through the liberation of oxygen during the process of chemical decomposition. Intense and persistent indicanuria is sometimes met with in cases of chronic diarrhoea, and not infrequently the diarrhoea, flatulence, etc., will continue after the indican has been reduced. In such cases it is possible that certain bacteria are acting upon the carbohydrates with the production of irritating acids. In these patients, if other means fail, the temporary use of bismuth subnitrate may be of service. In passing I might call attention to the fact that lavage of the colon and stomach in both adults and children has been of benefit in disturbances of these organs when associated with intestinal putrefaction and autointoxication.

*Bacterial antagonisms.*—Through the possibility of the formation of specific antibodies by the influence of putrefactive bacteria in the intestines some work has been done in hopes of obtaining a specific bacterial vaccine or specific bacterial sera. Such investigations, although to be commended, have not as yet been attended with laudable success. Tissier (36) by analyzing the bacterial contents and determining the special bacillus causing the disturbance has been able by modifying the diet and infecting the individual with microbes antagonistic to the one at fault to obtain very good results. But as stated by Combe (37): "It is very difficult to individualize an intestinal infection, and in the majority of cases it is only possible to determine whether the flora is saccharo or proteolytic. This is sufficient to indicate the régime and the nature of the antagonistic bacteria. When it is possible in

every case, as Tissier does in some, to determine exactly the individual germ which is at the bottom of the trouble, it will be feasible to find its direct antagonistic microbe. The method of individualized intestinal infections is still a laboratory method which cannot enter into general practice."

**Sour milk.**—That sour milk is of benefit both in health and disease has been known since the earliest biblical times. For many centuries the inhabitants of Eastern countries have employed it as an article of diet. Passing from antiquity to modern times we find that buttermilk, or sour milk, is a favorite aliment among the people of many countries. The medical profession has long recognized the value of sour milk in disease. Piffard (38) has, for the past twenty-five years, directed many patients to use it both for dietetic and directly remedial purposes, and for the past thirty years many physicians have advised the use of certain fermented milks as an aid to digestion and nutrition. Metchnikoff (13, 14) has noted the interesting fact that individuals who have existed largely upon sour milk and vegetable food have attained a very old age and were remarkably well preserved both mentally and physically. Furthermore, he is of opinion that such milk, by preventing the deleterious effect of intestinal auto-intoxication on the circulatory system, will greatly aid in prolonging life, and if this is found to be true we have indeed, in sour milk, the nearest approach to the long sought elixir of life. In 1892 Rovighi (39), an Italian physician, drank daily a litre and a half of milk subjected to lactic acid and alcoholic fermentation. He found that in a few days the products of intestinal putrefaction in his urine were greatly reduced. In 1897 Herter (40) reduced the amount of indican in dogs by injecting pure cultures of lactic acid bacilli into the small intestines. In 1902 Bienstock (41) and Tissier and Martelly (42) proved the existence of certain bacteria in milk that prevented its putrefaction. Such observations explain why sour milk is of such value as a medicine. They also show why lactic acid will control certain cases of infantile diarrhoea. In any advent, the writings of Herter, Combe, Metchnikoff, and others have stimulated interest in a much neglected subject, and in recent months several instructive articles have appeared testifying to the efficacy of sour milk as a medicine. Dunn (29), Veitch (28), Batten (43), Morse and Bowditch (44), Judson and Clock (30), and Strauch (45) have found buttermilk of considerable service in certain forms of infantile diarrhoea, intestinal auto-intoxication, and malnutrition. As a result of personal observation I can state that sour milk will control the majority of cases of indicanuria, but is this effect the result of the lactic acid contained therein, or the colonization of the lactacid microbes in the intestines? As has already been mentioned Herter succeeded in modifying the indicanuria in dogs by the use of pure cultures of lactacid organisms. Tissier (46, 19) obtained good results in cases of intestinal putrefaction by employing pure cultures of certain lactic acid forming bacteria grown in peptone lactose broth. Combe (37) states that the bacillus of Massel (*Bacillus butylicus* of Metchnikoff), which is one of the organisms found

in Bulgarian curdled milk, may be demonstrated in the faeces of patients taking such milk. He also cites many favorable results obtained with both soured milks and with pure cultures of the various lactacid organisms. On page 223 of the *Essais optimistes*, Metchnikoff, as a result of numerous experiments, conducted by himself and others, is of the opinion that certain lactic acid forming organisms are able to colonize in the intestines, and that sour milk is of benefit not alone through its lactic acid, but also on account of the large number of desirable bacteria contained therein.

I have found that although lactic acid will control indicanuria to some extent, the indican will return to its original degree very soon after the acid is discontinued. Buttermilk and milk soured by means of native bacteria will, in many instances, completely control an indicanuria, and in some of my patients who have taken such milk for a considerable period and especially when placed upon a diet favorable to the growth of the lactacid organisms, there has apparently been a complete cure effected, making a continuation of the milk unnecessary. It has also seemed to me that milks fermented by certain foreign bacteria are more powerful and produce a more permanent effect than is the case with the native organisms. In experimenting with pure cultures I have utilized the lactobacilline tablets from Paris, the lactone tablets from Detroit, the yogurt capsules from Battle Creek, and some cachets which were specially prepared for Dr. Piffard. When employing these preparations it must be remembered that we are giving only relatively small numbers of bacteria, and they must, in some cases at least, be given over an extended period of time and combined with a favorable diet before their effects become clearly manifest. On the whole, I believe I have noticed good results from the use of these preparations, especially with the ones containing foreign organisms. Piffard (47) has also experimented with pure cultures, and finds that they control the indican output. Although a more rapid and positive action may be obtained by the use of soured milk, the cultures given direct are especially convenient for those individuals who cannot or will not tolerate any form of sour milk.

Although these observations would seem to verify the contention to the effect that under favorable circumstances certain lactacid organisms are able to colonize in the intestines, such a theory requires further fortification before it can be said to rest upon a firm scientific foundation. In this connection it might be stated that Herter (20), in his latest communication, is inclined to doubt the ability of lactacid organisms to permanently colonize and displace the putrefactive bacteria. He finds that intestinal putrefaction may continue in spite of the free or even exclusive use of fermented milk. Furthermore, he asserts that there is no evidence whatever that the lactacid organisms are able to restrain specifically the growth of *Shewanella putrefaciens*. He considers that any limitation in the growth of the putrefactive organisms depends upon the absence of carbohydrates in the fermented milk and in the presence of lactic acid. The amount of fermented milk possessing certain advantage over

fresh milk, but considers this to be due chiefly to the ability of the bacilli to make lactic acid freely from the soluble carbohydrates and to subdivide and transform the casein in such a way as to render it more readily absorbed than that of ordinary milk. It is to be hoped that further investigations will soon be made in this line, not only in the case of *Bacillus aerogenes capulatus*, but with other proteolytic anaerobes and in the case of the overactivity of the members of the *Bacillus coli* group. Such investigations are desirable, because we have thus far depended largely upon clinical observation, which is notoriously uncertain unless conducted by a number of different men over a protracted period of time.

For the lack of time and space it will be impossible to enter into a discussion regarding the relative value of the various sour milks and the preparations made therefrom. I respectfully refer those who are desirous of studying this important phase of the question to an excellent article recently published by H. G. Piffard (38), in which is recorded the result of an exhaustive bacteriological study of sour milks, and also to an article by Combe (37), who gives the method of preparing and taking of yoghourt and other products used as an article of food in eastern Europe.

I desire to state, however, that considerable caution must be exercised in selecting from among the artificially soured milks recently placed on the market, for one or two of these preparations have produced very untoward results. In choosing these products one should always consider the reputation of the firm making them. I am of the same opinion as Dr. Piffard in respect to the wholesomeness of most of the soured milks sold in New York City under the name of buttermilk. Finally, if one desires to do so, a good grade of whole milk may be soured at home by infecting it with a culture of suitable lactic acid organisms and the product consumed daily.

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616 MADISON AVENUE.

## A CASE OF ACCESSORY SINUS DISEASE WITH THE SYMPTOMS OF AN OSSEOUS TUMOR OF THE ORBIT.\*

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The subject of this report was a lad of fourteen who a year previous to his coming under my observation had noticed a reddened swelling at the inner side of his right orbit. He had been told at a local dispensary that this was caused by "tear duct trouble." The swelling was soft at first, but in eight months it became hard, and began to increase in size and density, though without pain. Later, the eye became slightly displaced, and the patient grew anxious because of a very annoying diplopia.

When I examined the boy for the first time, in January, 1905, the inner half of the orbit was occupied by a bulging mass, and the eye was pushed outward and downward, and could not be rotated inwardly. The mass was dense and appeared to have its base at the nasal and lacrimal bones and along the inner orbital wall. It extended laterally into the orbit about a half inch, and it could be palpated for three quarters of an inch horizontally backwards. It was irregularly nodular in shape, and projected forward to about the vertical plane of the cornea. It was not sensitive even to deep pressure. The tear ducts gave free passage to small Bowman's probes.

The patient was active and wiry, a member of a boys' choir and inclined to pay much attention to his personal appearance. He had never been annoyed by colds in his head, and had never received any injury to his orbital or facial bones.

There were no obstructions in the nasal or faucial passages, nor were there discharges on their membranes. The accessory sinuses were not examined as there was no symptom of such importance to lead me to believe they might be diseased. I did not express an opinion upon the probable cause of the swelling in the orbit. The patient was instructed to use an alkaline nasal douche daily and he promised to return to my office in two weeks.

He returned in ten days because of marked conjunctival congestion and he said he could not see so well with the right eye. The acuity of vision was 5/15. The optic disks were pale, though the retinal veins were engorged. I believed then that a bony tumor had involved the inner wall of the orbit, and, because it appeared to be pressing upon the ocular structures, I advised the boy's mother to have the tumor removed, but I requested her to consult a general surgeon before she accepted my opinion. She took the boy to Dr. Gwilym Davis, and he gave an independent verdict that it was an exostosis of the orbit, and urged the immediate excision of it.

On February 4, 1905, with Dr. Davis assisting me, I undertook the operation at the private building of the Germantown Hospital. The incision was begun along the upper orbital margin, carried in a semicircle down over the tumor, and ended at about the middle of the lower margin. The soft parts were separated deep into the orbit. Rather free hemorrhage followed. The tumor was circumscribed and projected irregularly. In the direction of the incision the instrument suddenly penetrated the bone, and a head of thick (tumor) matter extended. This opening was a core enlarged to the full size of the tumor. An enormous (incredible) amount of thick mucus was removed before the cavity could be exposed, then it was found that the eth-

moidal sinus had been entered. The cells had been absorbed so that exploration was carried on easily. The cavity extended back to the sphenoid, up to the frontal sinus, and the inner concavity to beyond the median line, while the outer wall projected far into the orbit. The walls were scraped; and as there was no opening into the nose, one was made with the curette. Two rubber drainage tubes were inserted, one far back into the cavity, the other upwards and forwards, and brought out through the nostril. The soft tissues were placed over the orbital opening, and the wound was closed by several silk sutures. The dressings included the tubes.

The patient recovered promptly, and no untoward events occurred. The cavity was douched daily with solutions of hydrogen dioxide. After six days the tubes were withdrawn, and the sutures were removed, so that in eight days the boy was able to come to my office for treatment. The aperture in the ethmoid allowed free drainage to continue into the nose.

For about four weeks the external cicatrix remained prominent, but it became reduced when the osseous aperture began to be filled in. Two months later the sinus was draining satisfactorily, though a plug of mucus was held in the opening; and, when deep pressure was made over the orbital opening a bubbling sound was emitted as though there was an accumulation of mucus. The boy stated there was no noticeable discharge from his nose. He had great comfort. The eye had become straight again; he was relieved of the diplopia, and the vision had returned to normal. The optic nerve had lost its pallor, and in all respects the fundus appeared to be as healthy as that of the other eye.

On November 16, 1907, nothing but the cutaneous cicatrix and a rather broad nasal bridge gave external signs of the former state, while the visual and ocular conditions were normal, and the nasal cavities were healthy.

The case is interesting on account of the question of diagnosis. Had the tumor been soft and painful, or had there been discharge from the nose, the ethmoidal origin of the trouble would have been suspected. But all these were absent, and the extreme hardness of the tumor, with lack of tenderness or pain or nasal trouble, caused one to regard it as a possible osseous tumor. The characteristics were explained by the fact that the bone was bulged forward, and the enlargement was really beneath it instead of above it.

235 SOUTH THIRTEENTH STREET

## WINTER DIARRHŒAS IN INFANT FEEDING.

By E. KIRKLAND SHELMERDINE, M. D.,  
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Extreme cold in winter as well as the extreme heat of the summer has its influence upon the progress of an infant who is being artificially fed. The diarrhœas which the physician is called upon to treat in summer are well known, but the diarrhœas which arise in the winter months are more puzzling as to their origin.

I must confess that up to recently I laid the main cause of winter diarrhœas to other reasons than the true one. I always blamed the cause to a too high percentage of fat, some carelessness in the preparation of the food, or to some accidental infection of the gastrointestinal tract due to the swallowing of microorganisms taken into the mouth from an unclean nipple, a teething ring, or some such object given to the baby to put into its mouth.

In my own hands held six four months' old infant was attacked by a diarrhœa during a spell of cold weather which had all the symptoms of the diarrhœa which occur in the summer months from

\*Read at a meeting of the Section on Ophthalmology at the Conference of Physicians of Philadelphia, February 2, 1908.

impure and contaminated milk. He was being fed on a certified cream and milk mixture; when the diarrhoea assumed the proportions of from eight to twelve stools a day I accused the mother of a lack of care in the preparation of the food, and volunteered to prepare it myself until conditions improved. Both the cream and the milk were left early in the morning before any of the household were out of bed, and when they were brought into the house both were frozen. After thawing out the milk and cream and making the mixture, I noticed that there were fine particles floating on the top; if the mixture was allowed to stand there would be quite a number, which would rise to the top. I came to the conclusion that the milk was not good, and telephoned the dairy, accusing them of leaving old milk, informing them of what I had found. They indignantly denied that old milk had been left at my place, and asked me if the milk had been frozen; I replied that it had. They informed me that if that was the case, the freezing was responsible for the small curds; and said, furthermore, that it was a well known fact among milkmen that freezing milk spoiled it. As it was not convenient to procure a fresh supply of milk, I strained the mixture through cotton and removed all the curds; this strained mixture was fed to the infant, and his diarrhoea disappeared by night.

By making arrangements to have the milk left at a later hour in the morning and thus preventing its freezing from being left out in the cold, and having the milkman take precautions to keep it from freezing en route, there was no further trouble on the score of minute curds in the milk. After preventing the milk from freezing there was no further trouble with diarrhoea. Since my attention was called to the cause of the diarrhoea in my own infant, I have found it also to be responsible for what was formerly puzzling diarrhoea in other infants under my care; precautionary measures adopted to prevent the milk from freezing brought about prompt relief.

When the milk is frozen, the water in it is congealed into ice, the perfect solution of the casein in the water is disturbed, and there results a clumping of the proteid molecules which lose their solubility; on the reduction of the frozen mass to a liquid, the curds, through some chemical change brought about by the freezing, are incapable of acquiring the solubility which they formerly possessed. These minute curds cannot be broken up by pouring the milk from one jar into another, by agitation, or by heating, and are present in the final mixture.

Certified milk, as a rule, contains very few bacteria when compared with ordinary milk; yet it has some, enough under favorable conditions to multiply into immense numbers. This clumping of the casein carries with it the majority of the bacteria suspended in the milk. These clumps in the gastrointestinal canal of the child are difficult to digest; the digestive juices do not break them down into assimilable forms, the rennet in the child's stomach is not capable of bringing about the molecular changes necessary for the proteolytic action of the gastric and pancreatic juices—in other words, tough

curds are ingested which are difficult to digest. These curds undergo decomposition in the intestines and are excellent foci for the multiplication of the bacteria with which they are loaded, as well as for the omnipresent microorganisms normally in the intestinal tract.

The diarrhoea caused by frozen milk is not as severe nor as debilitating as that of the summer season; neither are the number of stools as great. Six to twelve stools a day is the average. There is distressing colic. The stools are green, acid, watery, and contain small cheesy masses of undigested casein; the buttocks are generally excoriated from the irritative effects of the acid stools.

Treatment consists in taking the child off the milk diet for twenty-four hours, cleaning out the bowels, and giving barley water in the interim. If the condition is recognized early, correction of the underlying cause will produce a prompt subsidence without the necessity of stopping the food.

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#### A CASE OF ACUTE DOUBLE MILIARY TUBERCULOSIS OF THE CONJUNCTIVA.\*

By HOWARD F. HANSELL, M. D.,  
Philadelphia.

A Lithuanian, aged thirty-seven, having successfully passed the physical examination, was admitted to the United States through the port of New York in June, 1906. He stated that he had been healthy all his life and had had no trouble with his eyes until nine weeks ago, five weeks before he applied at the Out-Patient Eye Department of the Jefferson Hospital. At this time he presented to superficial external examination the characteristic appearance of trachoma, so common among the Russians who apply at the clinic. The skin of both upper lids was discolored, and the lids were swollen and drooping. On the palpebral surface the resemblance was equally marked. Scattered over the conjunctiva of both upper and lower lids were numerous yellow, isolated swellings that might at first glance be mistaken for trachoma follicles. Close inspection showed that the yellow patches were not granulations or enlarged follicles. They were round or oval, the size of a grain of wheat, circumscribed and sharply separated from the adjacent membrane, yellow in color as though they contained pus or caseous matter, slightly raised above the surface of the membrane and covered by epithelium. They were shallow, not penetrating as far as the tarsus. I had never seen a similar case and was uncertain as to the diagnosis. Dr. Rosenberger, of the pathological laboratory, collected some of the material from the surface of the conjunctiva by gently scraping and reported the presence of numerous tubercle bacilli. Examination of the contents of one of the little caseous like elevations had been commenced, but not completed. No signs of general tuberculosis could be detected by examination of the lungs, sputum, or urine by Dr. d'Apercy, of Dr. Cohen's medical clinic. The preauricular or cervical glands were not enlarged. The eye grounds were healthy, V. = 6/6 with —7.5.

Tuberculosis of the conjunctiva is usually acquired from sources external to the body, such as the dried sputum of tuberculous patients, a previous traumatism, and, as Fuchs has shown that, since many cases originate in the small fold of mucous membrane near the inner canthus, it may arise from the lodgment there of minute foreign bodies carrying the bacilli. Tschernomolow speaks of a case in which tuberculosis of the conjunctiva was implanted by the tongue of a tuberculous woman who at-

\*Read before the Section in Ophthalmology, College of Physicians, December 17, 1907.

tempted to remove a foreign body from the conjunctival sac of a friend, and Birch-Hirschfeld of a man who for months had milked a tuberculous cow. It may also be due to extension from neighboring parts of the lids or from the lacrimal gland. That tubercle of the conjunctiva is not more frequently seen in tuberculous individuals seems to prove that the disease is seldom metastatic, and that the conjunctiva is practically immune to contagion from within. Its frequency varies from 1 in 1,500 to none in 14,000, according to different observers. Groenouw says the conjunctiva is but little susceptible, as proved by the rarity of tuberculous disease in places where general tuberculosis is common. It appears in several forms, the miliary, ulcerative, disseminated, trachomalike tubercles, polypoid and as lupus. The symptoms are those of a mild form of chronic conjunctivitis. Its sequelæ are as disastrous as those of trachoma — entropion, ulcers, opacities, and pannus, perforation of the sclera, and extension of the destructive process to the lacrimal sac or to the interior of the ball.

Sämisch describes the usual appearance and progress of tuberculosis of the conjunctiva thus: "It consists in the beginning of an ulcerative process and then the development of small nodules (tuberculous) in a thickened conjunctiva in which the papillæ are hypertrophied." He adds: "But not always is the ulcerative stage present, but the tuberculous growth assumes the form of disseminated, small, deeply placed, irregularly defined nodules, which show but little inclination to become necrosed. In rare cases they appear as circumscribed, polyp-like prominences covered by a smooth surface, each one projecting above the level of the moderately injected and thickened conjunctiva."

The recent literature on ocular tuberculosis is voluminous. A small proportion only of the articles deals with tuberculosis of the conjunctiva. Sämisch's comprehensive article (Graefe and Sämisch, second edition) includes the references from 1864 to 1903.

The writers have agreed on the clinical signs and the diagnostic tests, but have differed as to the prognosis. Some patients recover spontaneously, many lose both eye and life, and a few have recovered after tuberculin injections. An example of the last is the case reported before this Section on October 17, 1905.

On August 18th the patient received in the arm 2 mm. of Mulford's tuberculin which was followed in thirty-six hours by prolonged general and local reaction. On September 2d a second injection with a still more marked and rapid improvement in the condition of the eyes. Five injections in all were given and on October 10th the nodules had disappeared and the eyes were quite well.

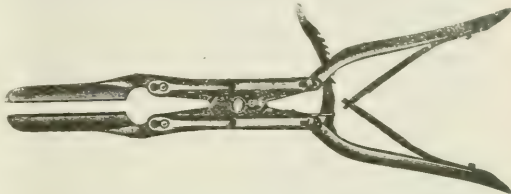
A positive opinion as to the value of tuberculin diagnosis and treatment cannot at this time be given, but I believe both to be of great service. Calmette's suggestion of applying the tuberculin directly to the conjunctival sac and then determining by the reaction the presence of tuberculosis is not in my limited experience dependable. It was tried in the case cited with negative result; also in fifteen or twenty individuals known to be suffering with general tuberculosis the reaction was present in only one fourth.

## CAUTERY CLAMP FOR HÆMORRHOIDS.

By DWIGHT H. MURRAY, M. D.,  
Syracuse, N. Y.

The use of the clamp and cautery in performing rectal operations for hæmorrhoids and other growths is so popular with surgeons that improvement in mechanism is always in order.

A hæmorrhoidal clamp should embrace the following qualifications in order that the work can be done securely and rapidly: 1. The most convenient form for most surgeons is shaped like a pair of scissors.



sors. 2. It is necessary that the clamp should have parallel jaws in order to securely hold all the tissues to be cauterized. 3. The clamp should be so constructed as to admit of rapid work. 4. One that can be easily taken apart for the purpose of sterilization. 5. A clamp that locks securely and automatically as it is closed. 6. It should be so made that the tissues can be released immediately. The fifth and sixth necessities mentioned are great time savers in an operation.

I feel that my clamp combines all of these qualifications for an instrument with which to work securely and rapidly. I claim originality only for the improvement this clamp embraces. The principle of the Goodell dilator reversed is used, and the same principle was used by Dr. Linthicum, of Baltimore, in his clamp six years ago. My improvement does away entirely with the thumb screw, which takes much time to close and open. I published the description of a clamp six years ago which was parallel jawed and scissors shaped, but find the new one to be a distinct improvement.

800 UNIVERSITY BLOCK.

## CAUSE OF PREMATURE SEPARATION OF THE PLACENTA.

By SAMUEL ROBINOVITZ, M. D.,  
Brooklyn, N. Y.

A number of times I have come across statements made by various contributors in the columns of the *New York Medical Journal* that the cause of premature separation of the placenta, in certain cases which they had reference to, was not known, or could not be definitely ascertained.

Now, I do not mean to imply that the cause of premature separation of the placenta in a given case can be determined with ease, nor that I can do so. Such a statement would seem absurd, and I would not venture to make it, considering the great number of predisposing and exciting causes enumerated in standard works on obstetrics. But having given this matter a thought I came to the following con-



clusion: I find that the most frequent and predominating cause that may be assigned to the premature separation of the placenta with more certainty is *traumatism*, in the form of either direct or indirect violence. To corroborate my statement, I beg to be permitted to relate my experience concerning this subject. During my obstetrical practice which I received since student life heretofore I have not observed such a number of cases where a too early separation of the placenta took place as I chanced to see during the past half a year. This is due to the fact that I was appointed, six months ago, a physician to a Woman's Confinement Society, in Brooklyn, the object of which society is to furnish gratis a physician or an accoucheur to all poor women who are to be confined, and apply for such aid, but have not adequate means requisite for the engagement of such an attendant. Hence, so far, in every case, without exception, where I found accidental hæmorrhage either before labor directly or during the last month of gestation I could elicit by close investigation (all such cases having been furnished me by the society) a history of traumatism as a cause. To make this more explicit I wish to maintain the fact, in support of my opinion, that several of the patients presented a history of having been beaten by their husbands—addicted to alcoholism, and being at the time under the influence of liquor—during the last trimester, or during the last month, because they refused to go to work for their husbands and furnish them with sufficient means for drink as they were able to during the earlier period of pregnancy. Again, others stated that they were thrown to the floor violently or had been pushed with their abdomen by their cruel husbands against a hard or solid object during the last period of pregnancy. Other such poor women told me that they fell from a flight of stairs, or met with some accident in the workshop or factory, where they were employed during pregnancy.

In conclusion I will state, therefore, that all these facts go to prove what an important part traumatism plays as a cause of accidental hæmorrhage or premature separation of the placenta, especially so when the woman is subjected to traumatism during the last month or two of the gestation period.

714 SUMNER AVENUE.

#### ACUTE PURULENT OTITIS MEDIA IN INFANTS AND YOUNG CHILDREN.\*

By ARTHUR J. IERZIG, M. D.,  
New York.

*Received for publication, December 1, 1904.*

Before proceeding with my subject I wish to report a few statistics of the prominence and frequency of the occurrence of acute otitis media during or following the acute exanthemata. Ducl's report in 1904 shows that there appeared in 6,000 cases of otitis media, about 10 per cent. in diphtheria, about 20 per cent. in scarlet fever, and about 5 per cent. in measles.

Ducroix and Gosselin reports 500 cases, of which acute purulent otitis media originated during simple

catarrh 29.4 per cent., measles 26.1 per cent., diphtheria 20 per cent., scarlet fever 12.6 per cent., pertussis 3 per cent., mumps 0.6 per cent., syphilis 1.6 per cent., and doubtful were 6.7 per cent.

Craiger (1891) reports 125 cases of acute purulent otitis media occurring in 1,000 cases of pneumonia.

Kerley in 1905 reports seventy-seven cases, one occurring with rubella, two with scarlet, seven with measles, and fifty-eight with influenza.

Of 248 cases examined and treated by me in five years in private practice there originated acute purulent otitis media during simple catarrh in 56 per cent., during measles in 14 per cent., during diphtheria in 2 per cent., during scarlet fever in 20 per cent., during pertussis in 1.5 per cent., during mumps in 0.5 per cent., and doubtful were 6 per cent. Eighty-nine cases, or 36 per cent., originated from the exanthemata; 230 cases, or 93 per cent., had adenoids; forty-eight cases, or 20 per cent., had hypertrophied tonsils; twenty-eight cases, or 11 per cent., had acute coryza, and twelve cases, or 5 per cent., had follicular amygdalitis.

Proportion of symptoms in 248 cases: 1, Rise of temperature was present in 248 cases, or 100 per cent.; 2, pain, and 3, tenderness in 114 cases, or 46 per cent.; 4, extreme restlessness in 236 cases, or 95 per cent.; 5, refusal of the child to rest its head upon the affected side in 125 cases, or 50 per cent.; 6, glandular enlargement in 189 cases, or 76 per cent.; 7, nasal discharge in 136 cases, or 54 per cent.; 8, gastroenteric symptoms in 69 cases, or 28 per cent., and 9, convulsions in 40 cases, or 16 per cent.

In these cases 50 per cent. showed the absence of pain or tenderness, which fact proves how uncertain the symptom of pain or tenderness is in infants and young children.

*Etiology.*—The following conditions may cause acute purulent otitis media: 1, The exanthemata; 2, adenoids; 3, hypertrophied tonsils; 4, acute coryza; 5, nasopharyngeal catarrh; 6, follicular amygdalitis; 7, hypertrophies of the turbinates, and 8, deflected septum. These causes act by either blocking the Eustachian tubes directly or by causing a congestion and thus closure of the tubes.

Closure of the tubes results in a disturbance of circulation in the middle ear and acts also as a good nidus for infection. I forget to mention that a frequent cause is the introduction of fluids into the tube by the use of the old fashioned nasal douche.

*Symptoms.*—These vary in infants and older children, hence I will describe them separately.

Infants.—These symptoms may be divided into Objective and Subjective. Objective symptoms are: 1. A red, angry, bulging drum membrane is seen upon careful examination. I also wish to state that very often one sees a bulging of the posterior portion of the tympanic membrane, or only the congestion of the upper third, and sometimes one only sees a congestion of Shrapnell's membrane alone. All of these lead to a diagnosis of acute otitis media. Very frequently a physician examines an ear and finds what appears to him a white membrane, which, if carefully and delicately swabbed, will reveal an angry, red, bulging ear drum. This white coating is caused by drugs used by the parents or doctor or by the secretion itself. Infiltration of the

canal wall occurs in infants, so that it is often impossible to introduce a small speculum, and so fail to see the ear drum.

Subjective symptoms are: 1, Temperature; 2, pain; 3, extreme restlessness; 4, refusal of infant to rest head upon affected side; 5, tenderness; 6, enlargement and tenderness of the glands under the angle of the jaw; 7, a nasal discharge; 8, symptoms of gastroenteritis, and 9, convulsions.

1. The temperature is one of the most reliable and constant symptoms that we have. If during the convalescence of an infant from one of the infectious fevers the temperature suddenly rises examine the ear, and you very frequently find the cause of the trouble here. Also in gastroenteric diseases, when the patient is improving, but the temperature remains high, examine the ear, and in 95 per cent. of the cases you will find an acute otitis media the cause of the temperature.

2. Pain is the most inconstant symptom we have in acute otitis media in infants. Kerley, 1901, reports seventy-seven cases, of which number there was a total absence of pain and tenderness in 69 per cent., and yet these infants all suffered from an acute otitis media. In cases where pain is present it is shown by the short, spasmodic cry of the infant, which is increased by pressure upon the auricle and in the angle of the lower jaw.

3. Extreme restlessness is a very constant symptom in infants, being present in over 90 per cent. of the cases. In cases of gastroenteritis we often see extreme restlessness as the only symptom of an acute otitis media.

4. Refusal of the child to rest its head upon the affected side was brought to notice by Dr. Marsh in 1897. This is not a constant sign, as it only appears in about 50 per cent. of cases.

5. I have already described tenderness upon pressure.

6. Enlargement of the glands under the angle of the jaw is fairly constant, as I have been able to collect 248 cases in my own experience where the glandular enlargement was present in 189 cases, or 76 per cent.

7. A nasal discharge was present in 136 cases of the 248 cases I have seen, or 54 per cent. This discharge is generally of a glairy mucoid character, but oftentimes mucopurulent.

8. Gastroenteric symptoms, such as diarrhoea and vomiting occur.

9. Convulsions occur in a small percentage of cases, and take the place of the chill, which we get in older children and adults.

Symptoms in older children are the same as those enumerated for infants, except that the element of pain plays a greater rôle than in infants, and is a far more constant symptom. Nausea is also a symptom often seen in older children. These children complain frequently of a fullness of the head. Anorexia is present in most of the cases in older children. In older children the gastroenteric symptoms are more marked than in infants. Headaches are also complained of.

#### Form of Cases

Cases in which the first symptoms are a high temperature, followed by a chill. The child has been exposed by the family doctor to summer complaint, or the mother

described it, but did not get well, the child being restless at night and eating poorly. The child also complained of pain in the ear, which the doctor told the mother was neuralgia. I asked the mother whether the doctor examined the child's ear and she told me "No, he did not think it necessary." Upon examination I found a bulging drum which I incised. There was an immediate relief of the gastroenteric symptoms, and the child was relieved of its summer complaint by an ear specialist as the mother termed it.

CASE II.—A child, six years of age, was brought to me by a physician for a running ear. He had treated the child for ten days for an enteritis, and suddenly on the eleventh day was surprised to see a discharging ear. The doctor tells me that the child complained of a stuffy feeling of the head, but he thought it was only a cold in the head, which the child contracted. The child had no pain whatsoever and this fact misled him. I am happy to say that the doctor now examines the ears of every child he has occasion to see.

These cases are only a few of the many that I have had the opportunity of seeing, and I always hear the same remark: "There was no pain, and I never thought of looking in the ear."

CASE III.—A typical case in an infant. An infant, three months old, did not nurse well, was restless at night, rested on one side continually, and cried when laid upon the opposite side. Rectal temperature 103° F. showed there was a slight discharge from the nose, and slight congestion of the pharynx and tonsils. After two or three days these symptoms subsided, but the infant continued to be restless and awoke frequently at night with a start. The child seemed quite ill, but no definite symptoms were present. Sometimes there was marked tenderness about the ear, and the child screamed when the ear was touched. After a few days a discharge was found in the external auditory canal and the symptoms subsided.

In some cases we get a rise in temperature and no other symptoms until the ear discharges, this being the first sign of the trouble in the ear. In other cases in older children the child hangs its head for several days, eats poorly, and does not sleep well; the child may complain of nausea, but no sign of a pain or a rise of temperature beyond 100° F. During the night the child is restless, and all of a sudden falls asleep, and the next morning we find a discharging ear and the child feels better and is brighter. Such is the general run of cases, and unless a physician examines the ears of such patients he will be misled very often as to the cause of the child's illness.

*Treatment.*—The treatment of acute purulent otitis media is summed up in three words, namely, *Remove the cause.* The treatment may be prophylactic; remove any postnasal obstruction, e. g., adenoids, hypertrophied tonsils, or treat the postnasal catarrh, which is present in a great number of children. A thorough examination of both ears in all children will become necessary. At the time the bulging drum is seen a paracentesis may be performed. After treatment consists in keeping the ear free from accumulated debris, by douching the ear with a hot normal saline solution every half hour. I prefer to have the people use a four ounce syringe. The Eustachian tube should never be inflated, as is the custom with a great many of our artists. When I open the ear drum I make a good free incision in the posterior quadrant, and carry my cut not only through the drum, but also well into the pericystic of the tympanic. A good free incision ought to relieve a patient in from one to three hours.

Keep your patient in bed upon a low plane until all the same symptoms have subsided. Douching with

a normal saline solution is all that is necessary, as the ear drains itself, and all we need to do is to remove the retained secretion which collects in the external auditory canal. A running ear will, under favorable conditions, be self limited in its course. The attack usually lasts from fifteen to thirty-six days. Keep the bowels open is an axiom to be followed in all febrile conditions, and so in purulent acute otitis media.

*Complications and Sequela* need only be mentioned, as my paper treats of acute purulent otitis media in infants and children. They may be: 1, Mastoiditis; 2, meningitis; 3, cerebral abscess; 4, thrombosis of the lateral sinus; 5, labyrinthine involvement, and, 6, facial paralysis.

*Conclusion.*—In summing up, I wish to state that my paper was not written with the idea of giving a complete résumé of this subject, but rather to bring to your notice the extreme importance of examining the ears of infants and children frequently, especially during the various exanthemata. The physician should not be satisfied with one examination of the ears, but make frequent and thorough examinations at short intervals. If I have made this clear to you this evening my purpose in presenting this paper shall have been fulfilled.

2040 SEVENTH AVENUE.

### Correspondence.

#### LETTER FROM OTTAWA.

*A Department of Public Health for Canada.—The Canadian Medical Association.*

OTTAWA, ONT., March 9, 1908.

On the 3d of March an important delegation of medical men, consisting of the medical members of the Canadian House of Commons, the medical men of the Senate, and the Special Committee on Public Health of the Canadian Medical Association, waited on Sir Wilfrid Laurier, the Prime Minister, and members of his cabinet to lay before them the various resolutions and reports which for the past six years have emanated from the Canadian Medical Association, as well as a memorandum on the subject of a Department of Health for Canada. At the present time the medical services in the Dominion government are administered from five separate departments, and the object is to have these consolidated into one department under one of the existing ministers of the crown. In the Department of Agriculture there are national quarantine, leprosy, etc.; in the Department of the Interior, diseased immigrants; in the Indian Department, sick Indians; in the Department of Marine, marine hospitals and sick seamen; in the Inland Revenue Department, the analyses of drugs and foods. The delegation was introduced by Dr. Black, M. P., of Windsor, N. S., and at his suggestion the Prime Minister called upon Dr. Lachapelle, chairman of the Quebec Board of Health and the convener of the Special Committee of the Canadian Medical Association on Public Health, to present a memorandum on the subject. This memorandum, in addition to calling for a consolidation of the above

mentioned services, also advocated a national laboratory for Canada, for the examination of vaccines, sera, etc. Dr. George Elliott, the general secretary of the Canadian Medical Association, came down from Toronto, and also addressed the cabinet, particularly as to what had been done by the national medical body in this direction. Dr. R. W. Powell, of Ottawa, who for five years was convener of this special committee, advocated the subject strongly, as did Lieutenant Colonel Carleton Jones, M. D., director general of the Canadian Army Medical Services; Dr. Schaffner, M. P., of Manitoba, and others. The Premier and the Hon. Minister of Agriculture were much impressed with the delegation, and considered the project feasible, but the Hon. Minister of Agriculture saw some difficulties in the way of bringing it to a successful issue. The matter is to be again debated in the House of Commons shortly, on the resolution proposed by Dr. Black a few weeks ago.

A very successful organization meeting was held in this city on the afternoon of the 3d of March, looking toward perfecting arrangements for the forty-first annual meeting of the Canadian Medical Association in this city on the 9th, 10th, and 11th of June. Dr. Montizambert, the Director General of Public Health, the president, called the meeting in his office in the Langevin Block, and a good representation of the physicians of Ottawa was present, as was the general secretary from Toronto. Dr. R. W. Powell, the chairman of the Committee of Arrangements, was in the chair, and after considerable discussion it was decided to follow out the arrangements provided for in the new constitution and inaugurate different sections for the meeting. There are to be general sections in medicine and surgery, and one session for each of the following sections: Eye, Ear, Nose and Throat; Obstetrics and Gynecology; Military Surgery; Public Health; Mental and Nervous Diseases.

### Therapeutical Notes.

**Chronic Sigmoiditis.**—Stern (*Medical Record*, February 29, 1908), in discussing the causal treatment of chronic sigmoiditis, says that sigmoidal spasm is readily amenable to atropine administered hypodermatically in repeated doses of 1/100 grain until relaxation of the affected parts has ensued. When the spasm is less pronounced, but occurs on the slightest provocation, lupulin should be given for its mild, enteric nervine sedative effects. In the motor neuroses of the sigmoidal segment of the colon, lupulin in the following combinations may, the author says, be found of service:

- I.  
 R Lupulin, ..... I.  
 Strontium bromide, ..... ãã 3ii.  
 M. ft. caps. No. 1.  
 Sig: Two capsules three to five times a day.
- II.  
 R Lupulin, ..... 3iiss;  
 Pulverized ipecacuanha, ..... gr. vi.  
 M. ft. cap. No. xx.  
 Sig: One capsule four to six times a day.



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## MILK AND THE PUBLIC HEALTH.

Last week, in an article entitled *The Public Health and Marine Hospital Service*, we mentioned that the bureau's report of its investigation of the milk industry was announced as soon to be published. We have now received the report, a volume of 758 pages, styled *Milk and Its Relation to the Public Health*. Various writers have taken part in its production, and the result of their associated efforts is a most notable contribution to the literature of hygiene. The volume opens with an introductory article by Surgeon General Wyman. "It has been the object," says Dr. Wyman, "to include in this volume all available data showing the influence of milk as a carrier of infection, its chemical composition, the contaminations found therein, their influence upon it as an article of food, and the measures necessary in its production and handling to prevent such contamination." The surgeon general is conservative in his brief remarks on pasteurization. While he admits that it is "not the ideal to be sought," he declares that "practically it is forced upon us by present conditions." He goes on to say: "It prevents much sickness and saves many lives—facts which justify its use under proper conditions." These statements, it will be seen, do not justify the demand that has been made in some quarters for wholesale and indiscriminate pasteurization.

Passed Assistant Surgeon John W. Trask treats of milk as a cause of epidemics of typhoid fever, scarlet fever, and diphtheria. While perhaps the

text of the article tells us nothing new, it is written in a convincing and very readable style, and to it are appended about a hundred pages of tabular matter setting forth the facts with regard to epidemics believed to have been caused by milk. This statistical material, intelligently classified, must prove of great value. The milk supply of cities in its relation to the epidemiology of typhoid fever is treated of specifically by Passed Assistant Surgeon Leslie L. Lumsden, who considers not only milk itself, but also buttermilk, butter, cheese, and ice cream. His article is a short one, but it contains many useful reminders. Passed Assistant Surgeon John F. Anderson follows with a short report on the frequency of tubercle bacilli in the milk supplied to the city of Washington. He properly holds that all dairy cows should be tested with tuberculin, and those that respond to it so disposed of as to prevent their contributing to further milk supplies. Dr. Anderson furnishes us also with an interesting article on the relation of goat's milk to the spread of Malta fever.

Milk sickness, an affection apparently confined to the United States, is lucidly described by Passed Assistant Surgeon George W. McCoy. Dr. Charles Wardell Stiles treats briefly of the relation of cow's milk to the zooparasitic diseases of man. Under the title of *Morbidity and Mortality Statistics as Influenced by Milk*, Assistant Surgeon General J. M. Eager treats in rather a sketchy way of various points relating to milk and disease. He appears to believe implicitly in pasteurization, and he leaves the reader to infer that the diminution of mortality which followed the installation of a pasteurizing plant on Randall's Island in 1898 resulted solely from pasteurization. Dr. Harvey W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture, with the collaboration of Dr. George W. Stiles, of Washington, and Dr. M. E. Pennington, of Philadelphia, contributes an interesting and instructive article on ice cream. It has the crispness and directness of all of Dr. Wiley's writings. The great subject of the chemistry of milk is handled by Dr. Joseph H. Kastle, chief of the Division of Chemistry, and Assistant Surgeon Norman Roberts. It covers not only the chemistry of normal milk, but also the changes due to ferments and bacteria, milk poisoning, the chemical standards for the control of the sale of milk, and the adulterations of milk, together with a section devoted to the Washington milk supply.

Bacteria in milk receive the special attention of Dr. Milton J. Rosenau, the director of the Hygienic Laboratory, and the same author, in conjunction with Dr. McCoy, contributes an article on the germicidal property of milk. One of the conclusions is that "this so-called germicidal property of milk is

curs only in the fresh raw fluid." It seems to us rather important to bear this in mind in connection with the consideration of pasteurization. It is insisted that the action is rather "restraining" than truly germicidal. The significance of leucocytes and streptococci in milk is treated of by Assistant Surgeon William Whitfield Miller, and his essay, though brief, is full of interest. Dr. John R. Mohler, chief of the Pathological Division of the Bureau of Animal Industry of the Department of Agriculture, treats briefly but satisfactorily of the conditions and diseases of cows which affect their milk injuriously. Sanitary inspection is dealt with by Mr. E. H. Webster, chief of the Dairy Division of the Bureau of Animal Industry. His article, which is freely and effectively illustrated, brings out sharply the contrast between good and bad methods in the care and milking of cows, in the storage of milk, and in its transportation and distribution. The allied subject of sanitary water supplies for dairy farms is well handled by Dr. B. Meade Bolton, of the Bureau of Animal Industry, with a separate section on the water supplies of dairies supplying the District of Columbia. Dr. A. D. Melvin, the chief of the Bureau of Animal Industry, contributes a very short article on the classification of market milk. He thinks that all milk which comes from other than certified or inspected dairies should be pasteurized, though he appears to regard the process as only a substitute for more radical measures. Certified milk and infants' milk depots are succinctly described by Assistant Surgeon General John W. Kerr.

Pasteurization is particularly treated of by the director of the Hygienic Laboratory, Dr. Milton J. Rosenau, who balances the advantages and disadvantages of the procedure fairly. An excellent article on infant feeding is contributed by Passed Assistant Surgeon Joseph W. Schereschewsky. The volume concludes with an instructive article on the municipal regulation of the milk supply of the District of Columbia by Dr. William Creighton Woodward, the health officer of the District.

As in all variorum works, there is an unavoidable overlapping of subjects in this volume, but the collection as a whole is one that gives a renewed assurance of the efficiency of the Public Health and Marine Hospital Service, and must prove of great value in the final solution of the problems involved.

#### CALCIUM METABOLISM AND THE PARATHYREOIDS.

Of the many advances that have been made in medicine in the past twenty-five years, those concerned with the relations of specialized structures and metabolism have been the most striking. The discovery of thyroid insufficiency as a determining

factor in myxœdema and cretinism was but the first of a long series of observations that have served to unravel a large number of disorders dependent on thyroid inadequacy and thyroid excess.

The regulating effect of the adrenals in carbohydrate metabolism is a further illustration in the line of progress, and now we would call attention to a preliminary announcement of what promises to be a very important discovery by Dr. W. G. MacCallum and Dr. C. Voegtlin (*Johns Hopkins Hospital Bulletin*, March) that the parathyroids stand in close relation with the calcium metabolism of the body.

It will be recalled that Loeb and J. B. MacCallum showed that calcium salts had the property of reducing the irritability that caused twitchings in muscles rendered superactive by the application of other salts, notably those of potassium, and, further, that certain well recognized disorders, such as osteomalacia and rickets, usually associated with a defective amount of calcium, were frequently accompanied by a muscular irritability sufficient in many cases to cause what is clinically grouped as tetany.

With these general facts in mind, and further recalling that an abundant milk diet, which is rich in calcium, served to either prevent the tetany reaction in parathyroidectomized dogs, or to greatly mitigate its severity, the authors were led to a study of the calcium metabolism in animals in which tetany had been produced by removing the parathyroids.

They tell us that all the violent symptoms produced by extirpating these glands—muscular twitching and rigidity, tachypnoea, fibrillary tremors, increased rapidity of the heart beat, etc.—may be almost instantly cured by the intravenous injection of a calcium salt. They use the acetate or lactate for the purpose by hypodermic injection, or, acting more slowly, by the stomach. Magnesium salts are also efficient, but they introduce a toxic action, while potassium salts make things worse. It is significant that an analysis of the blood taken from a dog during tetany shows an amount of calcium which is only about half that of a normal dog on the same constant diet.

The authors suggest the hypothesis that the parathyroids control in some way the calcium metabolism, so that upon their removal a rapid excretion, possibly associated with inadequate absorption and assimilation, deprives the tissues of calcium salts. The certainty and rapidity with which the symptoms of tetany are dispelled by the administration of calcium salts make it seem probable that this observation will have some therapeutical importance, not only in postoperative tetany, but also in the vari-

ous forms of tetany which occur spontaneously in children and in connection with infectious diseases, pregnancy, and lactation. They suggest that it is possible that the tetany of lactation may be due to the great drain of calcium in the production of milk rich in calcium, especially in individuals in whom there is parathyroid insufficiency.

The analogies of the modifications of carbohydrate metabolism by the destruction of the islands of Langerhans, with the production of diabetes mellitus, suggest the term diabetes calcareus for this type of phenomena. The work is not without immense significance when one views the entire group of motor anomalies, the choreas, catatonias, tics, and it may be even epilepsy, which may have some light thrown on them through this newly opened door.

### THE CRIPPLED AND DEFORMED CHILDREN OF THE STATE OF NEW YORK.

In West Haverstraw there is an old wooden Colonial mansion which has been remodeled as thoroughly as was practicable to serve as the New York State Hospital for the Care of Crippled and Deformed Children. The old building happened to stand on a tract of land, fifty acres in extent, which the State bought in 1904 as a site for a large new hospital which it evidently intended to build, and in the interest of economy it was thought expedient to use the building as a temporary hospital. But it is not well adapted to the purpose. In the first place, it is too small, for it will accommodate only forty-five patients, though at times there have been forty-eight within its walls. It cannot be enlarged to advantage, but there is a crying need for more extensive provision for the cure (which is often possible) of children who, but for such an institution, would either die or grow up more or less incapacitated for work and become a burden to the State for life. Therefore a bill has very properly been introduced into the present legislature to appropriate \$100,000 for building and equipping on the West Haverstraw site a modern hospital with accommodations for two hundred patients, the ultimate design being to enlarge it to double that capacity.

In the mean time the Medical Society of the State of New York has passed a resolution, apparently not very well considered, approving of a project to convert into a similar hospital certain unoccupied buildings in Rochester formerly used by the State as a custodial and correctional asylum for boys. This it is pointed out that the Rochester buildings also are unsuitable for the purpose, and that to carry out the proposed plan would be to scatter forces which ought to be concentrated. The West Haverstraw institution already has the special appliances for the work

in hand, and to duplicate them in Rochester would be to spend money unnecessarily. It seems better to establish and support one adequate hospital for the relief of deformity than to start two that will still fall short of answering the purpose, though doubtless in years to come others will be needed. The objection that West Haverstraw is not easily reached by the poor of the entire State is met by the statement that the railway companies whose lines lead to that point have heretofore shown themselves willing to furnish free transportation to children accepted as patients, and would probably continue to do so. It appears to us, therefore, that in the interest of economy the State would do well to perfect the hospital already in existence rather than to establish another imperfect one. The action taken by the Medical Society of the State of New York shows that the profession recognizes the need of a suitable provision for the treatment of crippled and deformed children, but its specific recommendation hardly seems wise in view of the situation which we have outlined.

### THE CONGESTION OF POPULATION IN NEW YORK.

On last Monday night an exhibit illustrating the congestion of population in New York and its moral, intellectual, and physical effects was opened in the American Museum of Natural History with a formal address by the governor of the State. Many who attended were surprised to find that the large auditorium of the museum was filled, a fact which we should like to construe as being a hopeful indication of the attitude of the public on this most important question, though it is quite possible that an opportunity to hear the governor had some bearing on the size of the audience. Such as had the privilege of attending the conference cannot but have been impressed with the grave responsibilities which rest upon the shoulders of the executive authorities in dealing with a problem which is so full of serious import for the future, not only of the city and State of New York, but of the republic. Governor Hughes might well be both oppressed and depressed, as he admitted, by the exhibit, for there are shown in graphic manner the density of the congestion in various parts of New York and the pitiable results arising from it, results which, as Governor Hughes rightly said, "are intolerable. They cannot last."

This exhibit is the first step in a systematic study of the evils of congestion, and should furnish a basis for suggestions as to the means of relieving these evils. The committee which organized the exhibit is to be congratulated upon its wisdom in pointing out from the exhibition a certain phase or phases of the evils which they point out. The function which the committee has assumed is that of making clear



the need for the amelioration of the congestion of population and its attendant evils. There naturally will be differences of opinion as to the best means of preventing the continuance of these conditions, and if the committee had come before the public at this juncture with a full fledged plan of reformation, their energies would probably have been dissipated in the discussion of details of such plans. Instead of doing this, the members have wisely restricted their efforts, so far as this conference is concerned, to a presentation of the facts, with a view to so arousing the public conscience to its responsibilities in the matter as to lead the way to a systematic study of ways and means of changing these conditions.

The physician is necessarily interested in this topic, for so long as these densely congested areas of population exist in our large cities, just so long will it be impossible to give protection against infectious disease and insure the normal, healthy growth of the children of the slums, who in the near future will constitute the men and women of the republic. A child reared under such conditions as are portrayed in some parts of this exhibit is almost foredoomed to ill health and immorality. Physicians more than the people of any other class are keenly alive to the degrading influences, both physical and moral, incident to living under the unhygienic conditions to which the very poor of the city of New York are condemned, and if this exhibit can stimulate the physicians who may visit it to a keener appreciation of the responsibility under which they rest for the creation of public sentiment against such abuses as are shown, it will have done good work, bearing fruit in improved conditions of living and higher types of manhood for our future citizens. Every physician who can do so should visit this exhibit, which will be open for two weeks, and should use it as a means of stimulating public interest in a question which is one of the most vital importance to the future welfare of the community and of the nation.

#### A PUERILE ATTEMPT AT HUMOR.

On Friday of last week, under the subheading of Hospital Ship Will Join Fleet Fully Equipped, the *New York Times* published a special dispatch from Washington, of which the following is the substance:

With its magazines stored with pills, and high explosive scidlitz powders in its handling room, within easy reach of the ammunition hoists, the hospital ship *Relief* will set sail from San Francisco under orders from the Navy Department to join Admiral Evans's fleet at Magdalena Bay. In consequence Rear Admiral Surgeon Stokes will steam south with the muzzles of his medicine bottles uncapped and his crew of internes in readiness for whatever may arise.

This precious piece of puerility could not be held

back for the mail; it had to be telegraphed! We congratulate the *Times* on the humor of its correspondent.

#### THE BUREAU OF ANIMAL INDUSTRY.

The *Twenty-third Annual Report of the Bureau of Animal Industry* for the year 1906, recently issued, is chiefly devoted to matters of interest from the agricultural point of view and from that of persons concerned with meat products, but it contains also much that will prove valuable to medical men. We have had frequent occasion to cite the bureau's publications, nearly all of which are of the greatest scientific or economic value.

#### Obituary.

DANIEL B. ST. JOHN ROOSA, M. D., LL. D.,  
of New York.

Dr. Roosa died suddenly on Sunday, March 8th, lacking less than a month of the age of seventy years. He had appeared to be in his usual good health, but it is now understood that he had trouble with the kidneys and with the heart. Soon after his morning bath he fell to the floor and was dead almost at once. He was a native of Bethel, Sullivan County, N. Y. He received his medical degree from the Medical Department of the University of the City of New York in 1860. After taking the full course of two years on the surgical house staff of the New York Hospital, he made a special study of ophthalmology in Vienna and Berlin. Returning to New York, he entered upon ophthalmic practice and soon won distinction in that field, both as a practitioner and as a teacher.

Dr. Roosa was a born leader of men. Had he chosen a purely political career, he would undoubtedly have climbed very high. As it was, he was able to move the general body of the medical profession almost at will by the earnestness and precision of his oratory. His was the central figure in the movement which led to the abolition of the old Code of Ethics in the State of New York. And it was not in speechmaking alone that he made himself felt; he was a skilled organizer, as was shown by his establishment of the New York Postgraduate Medical School and Hospital, the first institution of its kind. Almost everybody looked for the failure of the scheme, but Dr. Roosa carried it through triumphantly. He was a man of great mental and moral strength.

EDWARD C. WYMAN, M. D.,  
of Detroit.

This distinguished surgeon died at his home, in Detroit, on Monday, March 9th, after a short illness. He was fifty-six years old. He was a native of Indiana, but had practised in Detroit for many years. He was a frequent contributor to medical literature and a well known authority on abdominal surgery. He was an attractive man personally and a highly successful practitioner.

## News Items.

**Changes of Address.**—Dr. Henry Mitchell Smith, to 64 Montague street, Brooklyn, N. Y.

**The Franklin Institute of Philadelphia** has received \$50,000 from Mrs. Anne Weightman Walker Penfield as a memorial to her father, the late William Weightman.

**Portland, Me., Medical Club.**—At a meeting of this organization held on Thursday, March 5th, Dr. Willis B. Moulton read a paper entitled *Laboratory versus Clinical Diagnosis*.

**Dr. R. V. Wagner, of Chicago**, inventor of apparatus for the therapeutical application of electricity, and head of the firm of R. V. Wagner & Co., died on Thursday, March 12th.

**Gloucester County, N. J., Medical Society.**—The next meeting of this society will be held in Woodbury, N. J., on Thursday, March 19th, at 1:30 p. m. A full attendance of the members is desired.

**Donations to Charities.**—Mrs. Anne Weightman Walker Penfield has given \$20,000 to the Society to Protect Children from Cruelty in Philadelphia and \$20,000 to the Society for the Prevention of Cruelty to Animals in Philadelphia.

**A Hospital and Medical School in Manchuria.**—The Chinese authorities have announced their intention of establishing in Kirin, Manchuria, a medical school and hospital, with graduates from the Medical School of Formosa as teachers.

**The Frankford Hospital, of Philadelphia.**—The new buildings of this hospital were dedicated on the afternoon of Tuesday, February 25th. Dr. B. F. Walters and Dr. Samuel Bolton made addresses. Donation Day was also observed.

**Society of Medical Jurisprudence, New York.**—The two hundred and twelfth regular meeting of this society was held on March 9th. The paper of the evening was read by A. Delos Kneeland, Esq., of the New York bar, on *Honesty in Our Professions*.

**The Pennsylvania State Board of Pharmaceutical Examiners** has issued certificates to 8 registered pharmacists and 40 qualified assistants, as a result of the examinations held in Harrisburg on February 15th. One hundred and thirteen persons took the examinations.

**The Clinical Society of the Elizabeth, N. J., General Hospital** will hold its next meeting at the hospital on Tuesday, March 17th, at 9:00 p. m. Dr. T. N. McLean will read the paper of the evening on *Epidemic Influenza*. Dr. Russell A. Shirrefs is the secretary of the society.

**Rochester, N. Y., Academy of Medicine.**—At a meeting of this academy, which was held on March 11th, the evening was devoted to general observations and conclusions after a visit to Dr. William J. Mayo and Dr. Charles H. Mayo, of Rochester, Minn., by Dr. Zimmer and Dr. Elsner.

**St. Catherine's Hospital, Brooklyn.**—At the annual meeting of the medical board of this hospital, which was held recently, the following officers were elected: President, Dr. Maurice Enright; vice president, Dr. Peter Hughes; secretary and treasurer, Dr. E. J. Carroll; and member elect to executive committee, Dr. J. C. Kennedy.

**New York Pathological Society.**—The regular meeting of this society was held at the New York Academy of Medicine on Wednesday evening, March 11th. The programme included a paper by Dr. Leo Berger, entitled *The Pathology of the Muscles in Cases of Gravel of the Lower Extremity*, and a paper by Dr. J. C. Spencer, entitled *Gravel of the Lower Extremity*.

**Buffalo Academy of Medicine.**—The regular meeting of the Society of Medicine was held at the Buffalo Academy of Medicine on Wednesday evening, March 11th. The programme included a paper by Dr. J. C. Spencer, entitled *The Pathology of the Muscles in Cases of Gravel of the Lower Extremity*, and a paper by Dr. J. C. Spencer, entitled *Gravel of the Lower Extremity*.

**The Pathological Society of Philadelphia.**—At a meeting of this society, which was held on March 11th, the evening was devoted to general observations and conclusions after a visit to Dr. William J. Mayo and Dr. Charles H. Mayo, of Rochester, Minn., by Dr. Zimmer and Dr. Elsner.

Wolf; Dr. R. S. Lavenson read a paper on *Acute Lymphopenic Lymphatic Leucæmia*; and Dr. J. L. Donnhauser read a paper on *Splenomegaly*.

**A Physicians' Protective Association in Gloucester County, N. J.**—The physicians of Woodbury, Mantua, Wenonah, and Westville have organized a protective association, the members of which embrace all practising physicians in the towns named. The association meets on the first Wednesday evening of each month at the residence of the members in turn.

**Société de Pathologie Exotique** is the name of a new medical society which has just been organized in Paris which will meet at the Pasteur Institute. The principal object of the society will be the study of tropical diseases in man and animals, and the sanitary measures that will best prevent the spread of epidemics of diseases of exotic origin. Dr. Laveran is the president of the society.

**The Long Island Society of Anæsthetists** will hold its spring meeting on Saturday evening, March 14th, in the building of the Medical Society of the County of Kings, 1313 Bedford avenue, Brooklyn. The evening will be devoted to a consideration of modern European methods of surgical anæsthesia, and all members of the profession who are interested in the subject are invited to be present.

**College of Physicians of Philadelphia.**—On Monday evening, March 9th, a meeting of the Section in General Medicine was held, and the following papers were read: *The Resistance of Diabetics to Bacterial Infections*, by Dr. J. C. Da Costa, Jr., and Dr. J. G. Beardsley; *Some Cases of Fever of Obscure Origin*, by Dr. J. Dutton Steele; and *A Case of Typhoid Fever Usurped in by an Attack of Uremia*, by Dr. R. Max Goepf.

**The Northern Medical Association of Philadelphia** held a meeting on Friday evening, February 13th. The general subject for discussion was gonorrhœa, and papers were read as follows: *The Symptomatology and Treatment of Gonorrhœa*, by Dr. H. M. Christian; *The Symptomatology and Diagnosis of Complications of Gonorrhœa*, by Dr. Alexander A. Uhle; and *The Treatment of the Complications of Gonorrhœa*, by Dr. William H. MacKinney.

**Richmond, Va., Academy of Medicine and Surgery.**—A regular meeting of this academy was held on the evening of March 10th. The programme included a paper on *Brain Lesions secondary to Diseases of the Eye, Ear, and Nose*, by Dr. Clifton M. Miller, and a paper entitled *An Improved Operation for Mastoid Disease*, by Dr. D. A. Kuyk. Dr. Miller's paper was discussed by Dr. John Dunn, and Dr. Kuyk's paper was discussed by Dr. William F. Mercer.

**Geneva, N. Y., Medical Society.**—At the regular monthly meeting of this society, which was held on Thursday evening, March 5th, the general subject for discussion was constipation. Many interesting papers were read, and at the close of the meeting refreshments were served. The officers of the society for the present year are: President, Dr. J. H. Knickerbocker; vice president, Dr. C. C. Lytle; treasurer, Dr. C. F. Nieder; and secretary, Dr. J. A. Spengler.

**Meetings of German Medical Societies.**—The seventh annual congress of the German Society for Orthopaedic Surgery will be held in Berlin on Saturday, April 25th; the fourth annual congress of the German Röntgen Ray Society will be held in Berlin on Sunday, April 26th, and the thirty-seventh annual congress of the German Surgical Society will be held in Berlin on April 21st to 24th. Exhibitions of instruments and apparatus will be held in connection with these congresses.

**Philadelphia Neurological Society.**—At a stated meeting of this society, which was held on March 11th, the evening was devoted to general observations and conclusions after a visit to Dr. William J. Mayo and Dr. Charles H. Mayo, of Rochester, Minn., by Dr. Zimmer and Dr. Elsner. The programme included a paper by Dr. Leo Berger, entitled *The Pathology of the Muscles in Cases of Gravel of the Lower Extremity*, and a paper by Dr. J. C. Spencer, entitled *Gravel of the Lower Extremity*.

**The Düsseldorf Postgraduate Medical School.**—Professor Witzell, president of the new Postgraduate Medical School at Düsseldorf, Germany, has issued an interesting prospectus showing the course of instruction given. The corps of teachers includes several men of prominence in the medical world, and, as the course is particularly intended for postgraduate students, it may interest our readers to know that foreign physicians, including those from America, of course, are admitted to this school without any fee except the registration fee of \$1 each.

**The Medical Society of the Borough of the Bronx** held a stated meeting on Wednesday, March 11th. Dr. Ralph Waldo read a paper entitled *The Indications and Contraindications for the Use of the Uterine Curette*, and Dr. Malcolm McLean read a paper entitled *A Consideration of the Fœtal Envelopes in Obstetrics*. The officers of the society for the current year are: President, Dr. William McChristie; first vice president, Dr. Edward Broquet; second vice president, Dr. Charles Graef; secretary, Dr. Clarence H. Smith; and treasurer, Dr. William H. Meyer.

**Medical Society of the County of Richmond, N. Y.**—The regular monthly meeting of this society was held at the Staten Island Academy of Medicine on Wednesday evening, March 11th. Dr. Carl Keppler, of Manhattan, read a paper on the Treatment of Infantile Paralysis, which was discussed by Dr. Sprague and Dr. Johnston, and Dr. A. P. Voislowsky, of Manhattan, read a paper on Oral and Nasal Troubles in General Practice, which was discussed by Dr. Coonley and Dr. Jessup. Dr. C. E. Pearson, of 32 Central avenue, New Brighton, S. I., is the secretary of this society.

**Vacancies in the House Staff of the New Harlem Hospital.**—A competitive examination to fill vacancies in the house staff of the new Harlem Hospital, which is situated at the corner of Lenox avenue and One Hundred and Thirty-sixth street, will be held at the hospital on Saturday, March 21st, commencing at 10 a. m. Applications, stating the name, address, academic education, place and date of graduation or expected graduation in medicine, of the applicant, and accompanied by at least three letters of endorsement from regular physicians in good professional standing, should be sent by mail to Dr. R. Van Santvoord, to West One Hundred and Twenty-second street.

**Philadelphia County Medical Society.**—The Central Branch of this society held a meeting on Wednesday, March 11th, the general subject for discussion being *nostrums and nostrum prescribing*. Papers were read by members of the pharmaceutical profession, as follows: *Nostrum Prescribing: Its Cure*, by Prof. Joseph P. Remington; *Nostrums in Dosage Form*, by Mr. M. I. Wilbert; *The Relative Frequency in the Prescribing of Proprietary Medicines*, by Mr. Ambrose Hunsberger; and *The Legal Safeguards Surrounding U. S. P. and N. F. Preparations*, by Mr. W. L. Cliffe. The discussion was opened by Dr. James M. Anders and was participated in by many prominent members of the medical profession.

**Eastern Medical Society of the City of New York.**—At a meeting of this society, which was held on Friday, March 13, Dr. D. A. Singer presented a case of acetonuria bradycardia. There was a further discussion of the papers on diseases of the bones and joints which were read at the previous meeting of the society, and Dr. A. J. Herzog gave a short résumé of the commoner conjunctival and corneal diseases, which was discussed by Dr. Ervin Jörök and Dr. Martin Cohen. Dr. Henry S. Stark read a paper entitled *Diabetes and the Food Factor*, which was discussed by Prof. Lafayette B. Mendel, of Yale University; Prof. Graham Lusk, of Bellevue; Dr. Max Einhorn, Dr. W. Gilman Thompson, Dr. J. Kaufmann, Dr. Phœbus A. Levene, and Dr. Morris Margenau.

**Statistics Desired on Gallstone Surgery.**—Dr. Hans Kehr, of Halberstadt, Germany, has been designated as reporter on the surgery of gallstones at the International Congress of Surgeons, which will be held in Brussels next September. He wishes to collate as complete statistics as possible, and to that end requests that all surgeons who have had any experience in this direction will send him complete statistics of their own cases covering the five years from 1903 to 1907, inclusive. He would like to have the cases arranged in three classes: 1st, pure stone cases; 2d, complicated, benignant and reparable cases; 3d, complicated, malignant and irreparable cases, the statistics re-

to learn from surgeons who can furnish such statistics what their views are regarding the various operative methods.

**Entertainment for Women Physicians Attending the Chicago Meeting of the American Medical Association.**—The Women's Alumnae Committee, the Women's Medical Society of the State of Illinois, and the Women's Medical Club of Chicago, announce that a banquet and entertainment will be given on the evening of June 2d, to which all women physicians who are in Chicago at that time are cordially invited. Each of these organizations desire to entertain the visitors, but as the session is very short they have decided to join forces. At the banquet a special feature will be the reunions of the alumnae of the different colleges. The College Club in the Fine Arts Building, 203 Michigan avenue, will be at the disposal of the women physicians exclusively during the meeting.

**Philadelphia Pædiatric Society.**—At a regular meeting of this society, held on March 10th, the following programme was presented: Dr. James K. Young exhibited a case of tuberculous dactylitis; Dr. James K. Young reported a case of streptococcic dactylitis; Dr. C. F. Judson and Dr. H. L. Carncross reported a case of encephalitis; Dr. E. Buryville-Holmes read a paper entitled *Lumbar Puncture, its Technique and the Value of Cytodagnosis in Differentiating the Tuberculous from the Epidemic Form of Meningitis*; Dr. C. H. Muschlitz read by invitation a paper on *Congenital Unilateral Hypertrophy*; Dr. B. F. Royer and Dr. J. D. Wilson reported a case of incomplete heterotaxy with unusual heart malformations; and Dr. C. F. Judson and Dr. W. N. Bradley presented a case of sporadic cretinism.

#### Scientific Society Meetings in Philadelphia for the Week Ending March 21, 1908:

MONDAY, March 16th.—Northeast Branch Philadelphia County Medical Society.

TUESDAY, March 17th.—Dermatological Society; Academy of Natural Sciences; North Branch, Philadelphia County Medical Society.

WEDNESDAY, March 18th.—Section in Otology and Laryngology, College of Physicians; Association of Clinical Assistants of Wills Hospital; Franklin Institute.

THURSDAY, March 19th.—Section in Gynecology, College of Physicians; Section Meeting, Franklin Institute; Medical Society of the Woman's Hospital; Section in Ophthalmology, College of Physicians.

FRIDAY, March 20th.—University of Pennsylvania Medical Society; American Philosophical Society.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending March 7, 1908:

	February 26—		March 7—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis, pulmonalis	451	294	470	200
Diphtheria	373	44	379	48
Measles	1,554	89	1,495	26
Scarlet fever	924	79	901	56
Smallpox	—	—	—	—
Varicella	80	—	113	—
Typhoid fever	15	3	26	7
Whooping cough	20	1	0	1
Cerebro-spinal meningitis	16	8	100	32
<b>Totals</b>	<b>3,503</b>	<b>334</b>	<b>3,402</b>	<b>350</b>

**Personal.**—Surgeon General Baron Sato has been appointed president of the Great Korean Hospital, attached to the Japanese Residency-General in Seoul.

Dr. W. C. McKechnie, of Portland, Ore., Dr. John J. Snyder, and Dr. George C. Thomas, U. S. Navy, are registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

Dr. Roswell P. Angier, of the Medical College of Yale University, has been promoted to an assistant professorship of psychology.

It is reported that Dr. August Martin, professor of gynecology at the University of Griefswald, will visit the United States during the summer, and will attend the meeting of the American Medical Association.

Dr. R. C. Kemp announces that he has moved from Echo, La., to Baton Rouge, La., where he has an office in the Raymond Building.



**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending February 29th, there were during the week 677 deaths from all causes, as compared with 786 for the corresponding week in 1907. The annual death rate was 16.30 in 1,000 of population, as compared with an annual death rate of 19.45 for the corresponding week in 1907. The principal causes of death were: Apoplexy, 10; Bright's disease, 43; bronchitis, 25; consumption, 71; cancer, 26; convulsions, 4; diphtheria, 15; heart diseases, 73; influenza, 24; intestinal diseases, acute, 39; measles, 6; nervous diseases, 21; pneumonia, 106; scarlet fever, 9; suicide, 8; typhoid fever, 6; violence, other than suicide, 25; whooping cough, 4; all other causes, 162.

**The Health of Philadelphia.**—During the week ending February 22, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Typhoid fever, 183 cases, 32 deaths; scarlet fever, 80 cases, 4 deaths; chickenpox, 41 cases, 0 deaths; diphtheria, 78 cases, 11 deaths; measles, 172 cases, 4 deaths; whooping cough, 36 cases, 6 deaths; pulmonary tuberculosis, 181 cases, 76 deaths; pneumonia, 113 cases, 77 deaths; erysipelas, 17 cases, 0 deaths; puerperal fever, 2 cases, 8 deaths; mumps, 27 cases, 0 deaths; cancer, 14 cases, 17 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 5; malarial fever, 1; dysentery, 1; diarrhoea and enteritis, under two years of age, 15. The total deaths numbered 590, in an estimated population of 1,532,733, corresponding to an annual death rate of 20.00 in 1,000 of population. The total infant mortality was 118; under one year of age, 95; between one and two years of age, 23. There were 43 still births; 30 males, and 13 females.

#### Society Meetings for the Coming Week:

**MONDAY, March 16th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Hartford, Conn., Medical Society.

**TUESDAY, March 17th.**—New York Academy of Medicine (Section in Medicine); Medical Society of the County of Westchester, N. Y.; Buffalo Academy of Medicine (Section in Pathology); Triprofessional Medical Society of New York; Medical Society of the County of Kings N. Y.; Binghamton, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital; Syracuse, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association.

**WEDNESDAY, March 18th.**—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery; Woman's Medical Association of New York City (New York Academy of Medicine); Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club; New Haven, Conn., Medical Association; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York.

**THURSDAY, March 19th.**—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo, N. Y.

**FRIDAY, March 20th.**—New York Academy of Medicine (Section in Orthopædic Surgery); Brooklyn Medical Society; Clinical Society of the New York Postgraduate Medical School and Hospital; East Side Physicians' Association of the City of New York; New York Microscopical Society.

**The Medical Association of the Greater City of New York** will hold its annual meeting in the Baus Hall, New York Academy of Medicine, on Monday, March 16th, at 3.30 p.m. The program will be devoted to a discussion of the subject of progress in bacteriology, and papers will be read as follows: The Relations of Tubercle and Paratubercle, by Dr. J. Ramsay Hunt; Laryngeal Involvement in Tuberculosis, by Dr. W. H. Stettin; The Bacteriology of Dr. J. Bentley Squier, Jr.; Present Methods of Treatment, by Dr. S. Wachsmann. Among those who will take part in the general discussion are Dr. A. D. Rockwell, Dr. Frederick Peterson, Dr. W. B. Pritchard, and Dr. Joseph Fraenkel. The officers of the society for the present year are: President, Dr. Robert T. Morris; vice president, Dr. Raymond F. Van Gieson; recording secretary, Dr. P. H. Berg Porter; corresponding secretary, Dr. Frank C. Ray-

nor; treasurer, Dr. A. Ernest Gallant; chairman for the Borough of Manhattan, Dr. J. Blake White; chairman for the Borough of the Bronx, Dr. Nathan B. Van Etten; chairman for the Borough of Brooklyn, Dr. J. Scott Wood; chairman for the Borough of Queens, Dr. Neil Orrin Fitch; chairman for the Borough of Richmond, Dr. Henry C. Johnston.

**Scholarships and Fellowships at the Rockefeller Institute.**—The Rockefeller Institute for Medical Research announces that for the year 1908-1909 a limited number of scholarships and fellowships will be awarded for work to be carried on in the laboratories of the institute in New York City, under the following conditions: The scholarships and fellowships will be granted to assist investigations in experimental pathology, bacteriology, medical zoology, physiology and pharmacology, physiological and pathological chemistry, and experimental surgery. They are open to men and women who are properly qualified to undertake research work in any of the above mentioned subjects, and are granted for one year. The value of these scholarships and fellowships ranges from \$800 to \$1,200 each. It is expected that holders of the scholarships and fellowships will devote their entire time to research work. Applications accompanied by proper credentials should be in the hands of the secretary of the Rockefeller Institute not later than April 1st. The announcement of the appointments is made about May 15th. The term of service begins preferably on October 1st, but, by special arrangement, may be begun at another time. Dr. L. Emmet Holt, 44 West Fifty-fifth street, New York, is the secretary.

**The Congestion of Population in New York.**—The exhibit of congestion of population in New York, which will be shown for two weeks at the American Museum of Natural History, Seventy-seventh street and Columbus avenue, was formally opened to the public on Monday evening, March 9th, by a series of addresses, the principal speaker of the evening being the Governor of the State. Governor Hughes's address was devoted to an accentuation of the importance of the work being done by the conference and of the need of a careful, systematic survey of the field in just the way in which it was being carried on by the Committee on Congestion of Population. He said that the exhibit was a most depressing one, and a study of it would be helpful in arousing public sentiment to the need of proper legislative regulation of the various and complex problems involved and the need of proper enforcement of such legislation. He took a hopeful view as to the possibility of eradicating the evils incident to this congestion, now that they are being carefully and scientifically studied. He said that he felt confident that with the immense mass of facts and statistics which had been collated through the agency of the committee, it would be possible eventually to devise some means of ameliorating the evils which are so vividly portrayed in the exhibit. The meeting was opened by Mrs. Vladimir G. Simkovitch, chairman of the Committee on Congestion of Population, who, after a brief address, introduced Dr. John H. Finley, president of the College of the City of New York, who presided during the meeting. The speakers included Count Massaglia, the Italian Consul General, who spoke on behalf of Baron des Planches, the Italian Ambassador, who was unable to attend; Dr. Baker, representing the Commissioner of Health of New York; the Hon. Robert W. Heberd, Commissioner of Public Charities of New York, and Mr. Jacob A. Riis. Further conferences were held throughout the day and evening of Tuesday, Wednesday and Thursday. The speakers at these meetings include the following: Mr. Gaylord S. White, Dr. George W. Goler, of Rochester, N. Y.; Mr. Joseph Lee, of Boston; Mr. Howard Bradstreet, Mr. Robert Bruere, Dr. Arthur Shoemaker, Mr. Robert Watchorn, Dr. Lee K. Frankel, Mr. Leonard B. Robinson, Dr. Antonio Stella, Mr. Gino C. Speranza, Miss Amy A. Bernardy, of Smith College; Professor Morris Loeb, Mr. Eugene A. Philbin, Dr. Felix Adler, Dr. E. R. L. Gould, Dr. Henry M. Leipziger, Mr. Homer Folks, Mr. Mornay Williams, Miss Mary Van Kleeck, Miss Julia Richman, Dr. Edward P. Devine, Mrs. Florence Kelley, Dr. Henry R. Seager, Dr. Walter Laidlaw, Mr. John F. Tobin, Mr. George Neubert, Dr. William H. Allen, Professor L. H. Bailey, of Cornell University; Dr. Abraham Jacobi, Mr. C. W. Larmon, Professor Jeremiah W. Jenks, of Cornell University; Mr. Charles Mulford Robinson, of Rochester, N. Y.; Mr. Lawson Purdy, and the Rev. Stephen S. Wise.

## Pith of Current Literature.

## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

March 5, 1908.

1. The Surgical Treatment of Various Conditions as Influenced by Pregnancy, By MALCOLM STORER.
2. A Case of Acute Dilatation of the Stomach and Duodenum (in a Moribund Phthisical Patient) Simulating a Terminal General Peritonitis, By THOMAS ORDWAY.
3. The Boston Medical Library. Its Past, Present and Future, By JAMES F. BALLARD.

1. **The Surgical Treatment of Various Conditions as Influenced by Pregnancy.**—Storer considers the view, held universally until comparatively recently, and still having much weight in the minds of most general practitioners, that pregnancy is a condition of *noli me tangere*, in which operations of all kinds are to be avoided, chiefly from fear of interrupting pregnancy. That the organism then has quite enough to do without being subjected to the additional strain of a surgical operation, of whatsoever nature, that can just as well be deferred is selfevident. From a critical survey of much of the wealth of material bearing on this subject, some 700 papers, it is evident that nearly all operations have practically no influence upon the course of pregnancy, except to favor its continuance, provided that they are not followed by a septic process which, by reason of continued high temperature, may cause the death of the fœtus and abortion. A glance at the following list of reported operations, by which pregnancy was not interrupted, will make this evident: External genital: Incision of hæmatoma, extirpation of hypertrophied clitoris and labia, extirpation of Bartholin's glands, extirpation of labial abscess, sarcoma of labia and vagina, perineorrhaphy, prolapse operation, periurethral sarcoma, fistula in ano, hæmorrhoids. Vagina and cervix: Excision of cicatricial stenosis vagina, curettage of cancer of cervix, scarification of cervix, cauterization of cervix. Uterus: For incarcerated retroflexed uterus, adhesions, curettage of uterus septus (at three months). Miscellaneous: Curettage of bladder, exploratory laparotomies, fibrosarcoma of abdominal parietes, nephrotomy for pus, nephrotomy for stone, nephrectomy, nephorrhaphy, other kidney operations, extirpation of spleen, cholecystotomy, resection of pylorus, resection of sigmoid, Cornell thyroidectomy, amputation of breast, inguinal and umbilical hernia, general peritonitis, tuberculous peritonitis, dermoid of mesentery, hydrosalpinx. In the next group of reported cases abortion has followed more or less closely upon operation: Labial polyp, carcinoma of vulva in which bladder was injured, cervical polyp, amputation of cervix, vesicovaginal fistula, removal of stones from bladder, tumors of pelvis, cancer of rectum, echinococcus cyst, ileus, crural hernia, pyosalpinx, cysts of vagina removed, appendicitis, ovariectomies, myomectomies. In many of these cases in which abortion followed it was at so appreciable an interval that it may be questioned with propriety whether it was caused by the operation; in fact, some writers hold that in no case is the operation the direct cause of miscarriage, but merely determines a miscarriage that is bound to come any-

way. An examination, then, of the foregoing list will show that operations of the most varied nature can be performed with very little danger of interrupting pregnancy, with two exceptions: In 9 operations for vesicovaginal fistula abortion followed in four, and in 25 operations for crural hernia it took place six times.

## THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

March 7, 1908.

1. Symptomatology and Diagnosis of Acute Articular Rheumatism, By PHILIP KING BROWN.
2. Cardiac Complications of Acute Rheumatism, By ALEXANDER LAMBERT.
3. The Vaccine Treatment of Gonorrhœal Vulvovaginitis in Children, By WILLIAM BUTLER and J. P. LONG.
4. The Common Ground of Medicine and Dentistry, By F. L. FOSSUM.
5. Subphrenic Abscess as a Complication of Appendicitis, By DANIEL N. EISENDRATH.
6. The X Ray and High Frequency Treatment of Exophthalmic Goitre, By FINLEY R. COOK.
7. Local Arteriosclerosis, By F. FREMONT-SMITH.
8. Perinephritic Abscess Following Parturition, By J. SHELTON HORSLEY.

1. **Symptomatology and Diagnosis of Acute Articular Rheumatism.**—Brown summarizes his article thus: Diseases with acute joint symptoms which resemble each other in the character of the joint involvement and in the accompanying complications belong to a definitely infectious group. The nature of the infection is clear in the following group: Group 1.—Septicæmia, pyæmia, puerperal fever, typhoid, pneumonia, epidemic meningitis, influenza, dysentery, gonorrhœa. The character of the disorder is established as definitely infectious in: Group 2.—Scarlet fever, smallpox, dengue. An infectious origin is presumed on good analogical evidence in: Group 3.—Acute articular rheumatism, acute arthritis deformans, Still's type, and the erythema group. When the infectious diseases with acute joint symptoms and known ætiology and also those infectious diseases with established identities but still doubtful ætiology have been taken out, there remains another group which contains acute articular rheumatism, acute arthritis deformans, and the erythema type of lesions. That specific toxic agents are responsible for these conditions seems a matter of no doubt, and that these agents differ from each other seems likely. The final diagnosis of acute articular rheumatism can be made only when Groups 1 and 2 have been excluded and when there are clinical distinctions clearly separating the diseases in question from the other members of Group 3. There are cases in all groups which can be diagnosed only by the lapse of time, and some which cannot at present be differentiated at all.

2. **Cardiac Complications of Acute Rheumatism.**—Lambert observes that it can not be reiterated too often or emphasized too strongly that the cardiac affections of rheumatism occur in all their intensity without any ratio to the extent of the joint manifestations, and the intensity of the cardiac involvement in both children and adults is not necessarily in any ratio to the intensity of the other symptoms. Many of the symptoms which we have heretofore believed due to endocarditis occur with the myocarditis and must be considered as equally due to this condition. After the acute joint symptoms have subsided, it is often noticeable that the



March 14, 1908.]

patient's temperature does not come down to normal and remain there; there is a continued run of temperature from subnormal to subfebrile, from  $97^{\circ}$  or  $98^{\circ}$  to about  $100^{\circ}$ , and it may rise as high as  $101^{\circ}$ . This invariably means an actively continuing endocardial or myocardial inflammation. The pulse may range near normal or be slightly above. In the subacute forms, in which the degeneration of the muscle is more common than in the acute inflammatory condition, and in the chronic condition, the pulse rate may be distinctly below normal. Heart disease, in the early half of life, is mainly of rheumatic origin, and we have come, in late years, to realize that the treatment of heart disease has more and more become the treatment of the cardiac muscle. We have now reached the position where we must realize that our knowledge of rheumatic endocarditis is still fragmentary and very incomplete. Heretofore our knowledge has been chiefly focused on the endocardial and pericardial involvement to the exclusion of the myocardial, but to-day we realize that the cardiac involvement of rheumatism includes endocarditis, pericarditis, and myocarditis, and the most serious is myocarditis.

**3. The Vaccine Treatment in Gonorrhoeal Vulvovaginitis in Children.**—Butler and Long report twelve cases treated with vaccination of gonococcus serum and twelve cases treated locally. They came to the conclusion that vaccine therapy has a place in the treatment of gonorrhoea in the female, that it appears to be far more efficient and at the same time scientifically more tenable than local antiseptic treatment.

**4. The Common Ground of Medicine and Dentistry.**—Fossum, in speaking of the common ground of medicine and dentistry expresses his opinion as follows: The dentist must appreciate the fact that the mouth is a part of the whole body, an important part, but only a part. He must think in terms of interchangeable scientific expressions of thought, so that his findings, observations, and deductions are easily interpreted by the physician. He must keep pace with the best in medicine, for only those physicians who stand for what is best in medicine can and will appreciate what is best in dentistry. The mediocre man in either profession will of necessity stick to his own particular line, but if the dentist will record and read his daily findings correctly he will find that his experience must more and more elucidate some of these problems of medicine, his work will be of double interest to himself, and he will open up fields hitherto undreamed of. The physician, on his part, must recognize that the mouth as a seat of disease is often overlooked, and that the logical consultant in many cases is the dentist, who, by virtue of his constant clinical experience of the normal in the mouth and teeth, must acquire the knowledge that is necessary for the unraveling of symptoms pointing to the mouth as a seat of trouble. Let the physician choose his consulting dentist with the same care that he does his consulting surgeon, for all his patients will have to visit a dentist, while only a small proportion will need surgical intervention. Let him keep abreast to a small extent of dental literature, not necessarily the most technical but the general literature. Let the dentist think and

work in terms scientifically interchangeable with the physician; then, and then only, will the common ground need no defining.

**5. Subphrenic Abscess as a Complication of Appendicitis.**—Eisendrath says that there are five methods of draining a subphrenic abscess: (a) By an incision in the epigastrium; (b) by an incision along the costal arch; (c) by an incision in the lumbar region; (d) by the transpleural route; (e) by pushing the pleural reflection upward and opening the abscess cavity through an incision in the diaphragm without opening the pleural cavity. The first three methods are indicated when there is bulging in the epigastrium along the costal arch or in the lumbar region. A simple incision will suffice to evacuate the abscess. If, however, suppuration continues and septic symptoms reappear, it indicates either an accompanying empyema or insufficient drainage, or, finally, a persistence of the original focus. Such conditions require more extensive operations. The ideal method of opening a subphrenic abscess, no matter what its origin may be, is by one of the last two methods, viz., resection of ribs over the area of suppuration with or without opening of the pleural cavity. If it is necessary to open the pleural cavity several methods can be employed. If possible, the diaphragmatic pleura should be sutured to the costal pleura. If there is much bulging of the diaphragm it is best to aspirate some of the pus lying beneath it before suturing. If it is impossible to bring the diaphragm to the chest wall the general pleural cavity can either be walled off with gauze or a larger portion of the ninth and tenth ribs can be resected.

**7. Local Arteriosclerosis.**—Fremont-Smith remarks that arteriosclerosis is frequently in its inception, a local disease dependent on acute or chronic infections. Its final lesion is controlled by the extent of primary vessel injury and the success or failure of natural reparative processes. Arterial hypertension exists in some instances independently of arteriosclerosis, and may or may not produce or be associated with causes which produce cardiac vascular phenomena. Arteriosclerosis exists independently of arterial hypertension as both a general and a local disease, and the absence of hypertension must not be regarded as security from dangers arising from arterial degeneration.

#### MEDICAL RECORD.

March 7, 1908.

1. The Opportunities of a Great Medical Society.  
By THOMAS F. SAUTHERSWAITE.
2. Report of Three Years' Work at the Sea Breeze Hospital for the Treatment of Surgical Tuberculosis in Children.  
By LEONARD W. FLY and BRANFORD H. WHITEBICK.
3. Some New Facts Regarding Heart Disease.  
By W. WACHENFELD.
4. "The Flowers that Bloom in the Spring." With Variations and Digressions.  
By W. B. KANSIE.
5. A Plea for the Correction of Uterine Displacements.  
By FRANK H. HANCOCK.

**3. Some New Facts Regarding Heart Disease.**—Wachenfeld says that it has been stated that the general tone of a normal heart can be increased through a course of gymnastics, and that this would improve the strength of the contractile



elements of that organ. This applies also to the body muscles, and against it the following may be said: Every human being is endowed at birth with a maximum ability to develop his musculature. The muscles, including the heart, can develop only to the extreme limit of this ability. The condition necessary to a healthy maximum muscular development is normal metabolism; this simply means the conveyance of normal nutrient substances to the muscle cell, and normal removal of waste. This is important, as not a single cell in the entire body receives its nourishment other than through the lymph channels. The lymphatic clefts reach directly every cell of all the organs in the economy. The capillaries, however, reach only to the clefts. We must, for this reason, and for many others which do not come within the scope of this work, regard the lymphatics as the carriers of cell nourishment. The force which propels the lymph within the closed system of channels is mainly derived from muscular energy. For these reasons active muscular work, or passive, massage, is necessary to healthy metabolism. Absorption of the nutrient moving material within the lymphatics can take place properly only when muscular relaxation and contraction normally alternate. Excessive muscular exertion causes congestion of lymph. The author has in mind, in making this statement, the lymph stagnation often seen in the muscles of the legs after long marches, and the same condition in the arm after protracted fencing bouts. The heart performs always as much work as the nutrition of its cells will allow. Overstraining of the heart—and each muscular act intensifies and accelerates its work—must lead not only in the normal, but particularly in the diseased organ, to congestion of its lymph channels. We can, however, stimulate metabolism of the diseased heart if we increase to a maximum the period of rest between the contractions and retard its action. For these reasons digitalis, rest in bed, and thermal baths act invigoratingly upon the diseased heart, whereas it is always, and in any case, harmed or damaged by gymnastics.

5. **A Plea for the Correction of Uterine Displacements.**—Hancock remarks that statistics show that the fecundity of the American woman is below that of any other woman of the world, the average number of children being as low as 2.5 per marriage. Discounting the large number that insist upon defeating nature's great purpose, there are still a multitude seeking relief from sterility. Flexions do not cause sterility by mechanical obstruction, as formerly supposed. Spermatozoa will pass any point that will permit the exit of menstrual blood, but the attending endometritis is a factor. Sims found fifty per cent. of his cases of sterility were associated with dysmenorrhœa, or really endometritis. In cases not due to infection endometritis results from interference with the circulation, with its attendant phenomena, proliferation of the glandular structures, and leucorrhœa. The epithelium that develops is of poor quality and embryonic in character, on account of venous congestion occurring in place of the arterial blood that supplies the normal endometrium, giving a shaggy, thickened, mushy surface, which the villi of the impregnated ovum cannot readily penetrate, as they must do if the ovum is firmly

planted and properly nourished. Again, the excessive secretion pouring from the utricular glands is apt to wash away the ovule, just as it often sweeps out of the uterus the spermatozoa ascending to the distal end of the tube. Nature arranged that the spermatozoa should be deposited in the vaginal vault and that the cervix should be immersed in this spermatic fluid, and any alteration of this arrangement is at least, as Bissell observes, "discouraging to fecundation" and should be corrected.

#### BRITISH MEDICAL JOURNAL.

February 22, 1908.

1. Some Abdominal Tumors Simulating Malignant Disease, and Their Treatment, By A. W. M. ROBSON.
2. Surgical Aspects of Subphrenic Abscess, By H. L. BARNARD.
3. Observations on the Incidence and Spread of Cancer, By G. L. CHEATLE.
4. A Form of Oral Filter to Be Worn During Operations by all Persons Inside the Operating Room, By G. E. DUNCAN.
5. Appendicitis at Sea: With Remarks on the Surgical Equipment of the Mercantile Marine, By A. E. JOHNSON.

1. **Pseudomalignant Abdominal Tumors.**—Robson, from a considerable experience of abdominal tumors that have simulated malignant growths, but which, arguing from the sequel of events and the ultimate complete recovery of the patient, must probably have been inflammatory, concludes that such tumors are much more common than is generally supposed. Guarded prognoses should more frequently be given in the case of abdominal tumors having the appearance and feel of cancer, and even having the clinical signs and symptoms. The writer cites a number of instances of inflammatory tumors of the colon in which resolution occurred. The pathology of the cases was probably a chronic infiltrating colitis, possibly associated with pouches lodging fecal matter, or may be simply due to infection spreading through the intestinal walls. Two forms are commonly described, chronic adhesive colitis, in which the onset is usually acute, and chronic infiltrating colitis or proctitis, in which the onset is insidious and the progress slow. Both are associated with progressive constipation and with great loss of flesh and strength. The fact that cancer is complicated with inflammation makes a positive diagnosis extremely difficult and at times impossible, but fortunately the treatment of securing physiological rest by operation is curative if the disease fortunately turns out to be a primary inflammation and not secondary to growth. Chronic tuberculous disease of the cæcum may closely simulate cancer. The liver is not infrequently the site of simple tumors suspected to be malignant, and if they are associated with rapid loss of flesh and more or less jaundice, the diagnosis of cancer is very apt to be made. The writer reports a number of cases of simple abdominal tumor simulating malignancy, all going to support the proposition that, if the diagnosis is doubtful and the patient is at all in a condition to bear operation, exploratory laparotomy should be performed. Not only may a removable cause of the jaundice be discovered, but it may fortunately happen that, even if the diseases appear to be incurable on exposure, the operation *per se* may have some hitherto unexplained influence leading to recovery.

Such exploratory operations, if undertaken with proper care and skill, are almost devoid of danger, so that, even if no real good can be done, no serious harm can follow.

**2. Subphrenic Abscess.**—Barnard has analyzed seventy-six cases of subphrenic abscess, and among his findings are the following: About one third the cases were due to perforating gastric and duodenal ulcers. In the majority of the cases due to gastric ulcer the perforation was on the anterior wall of the stomach and near the lesser curve. The septic matter escaped direct into the left anterior intraperitoneal space and the abscess was localized there. About one sixth of the cases were due to appendicitis, which may infect the subphrenic fossæ in four ways: 1. As a part of an acute general peritonitis. 2. By a more or less slow and direct extension up the lumbar peritoneal fossæ, from the pelvis. 3. Through the medium of the portal vein, as a part of pyelophlebitis. 4. By lymphatic extension (a) up the right retroperitoneal cellular tissue, or (b) up the lymphatics around the deep epigastric artery to the falciform ligament. Another one sixth of the cases was due to hydatid and tropical abscesses of the liver. As a liver abscess enlarges it tends to thin out the liver substance over it and comes to the surface. In the majority of cases the right anterior intraperitoneal space is infected, the layers of the coronary ligament being pushed aside until the diaphragm forms a considerable part of the upper boundary of the abscess. The diagnosis of a subphrenic abscess is not really difficult if the examination is conducted in an orderly and complete manner, as follows: 1. (a) History. In many of the cases due to gastric ulcer there is a characteristic history of dyspepsia and hæmatemesis, in those due to appendicitis of previous attacks, and in the case of tropical abscess of the liver of foreign residence and of having suffered from dysentery, malaria, or typhoid fever. The duration varies from one day to sixteen months, but averages eight weeks. (b) Onset. The great majority of intraperitoneal subphrenic abscesses begin with an acute perforation into the peritonæum, whilst extraperitoneal collections of pus below the diaphragm result from a spreading cellulitis and are therefore slower in their beginnings. Pain is nearly always the first symptom of the onset of a subphrenic abscess, and is referred in every case to the situation where the abscess forms. In perforative cases it is sudden, severe, and stabbing. Vomiting is the next symptom in point of frequency and time, and is almost restricted to those subphrenic abscesses which originate in a perforative peritonitis, and especially to gastric and duodenal cases. Nausea, hiccup, collapse are occasionally observed at the onset, which may also be preceded by a period of obstinate constipation. When the abscess becomes well localized septic diarrhoea nearly always appears. Hæmatemesis and melæria are usually due to hæmorrhage from a gastric or duodenal ulcer, but occasionally they arise from a chronic and insidious subphrenic abscess which has ruptured into the stomach and has then become acute in its progress. 2. General signs and symptoms. In nearly all cases an examination of the general symptoms points to the presence of a collection of pus below

the diaphragm. The tongue is dirty and dry, the face pale and muddy. In most cases there is profuse sweating, with weakness, dyspnoea, and no appetite. Wasting is a very constant sign, and there is usually a profuse septic diarrhoea. Fever is always present, but may be slight in amount. Chills occur in about one seventh of the cases, and are a very fatal sign. Leucocytosis is present in all cases, the polymorphonuclear leucocytes being greatly increased. In two out of three cases due to hydatids of the liver, eosinophilia was noted. 3. Abdominal signs and symptoms. An abdominal swelling is present in the great majority of the cases. This swelling does not descend on respiration, because it is adherent. The part formed by adhesions is rigid, tender, and dull on percussion; that formed by pus in contact with the abdominal wall is scarcely tender, bulges and fluctuates, and is dull on percussion. Where gas is present a tympanic area is formed, high up in the epigastrium as a rule, and over the liver dullness, amphoric and coin sounds can be obtained, and the tympanic area travels around the chest as the patient is rolled over. In only a very few of the cases is the liver dullness lost. 4. Thoracic signs and symptoms. These are present in most cases, the conditions indicated being those of compression, and inflammation of the base of the lung and pleura, namely: (a) Displacement of the lung upwards and obliteration of the lower pleural angle. (b) Dry pleurisy. (c) Pleural effusion. (d) Compression of the lung. (e) Consolidation of the lung. (f) More or less bronchitis at the base. The most frequent association of signs is dullness, with diminution or absence of breath sounds, vocal resonance, and tactile vocal fremitus. 5. Local signs. These are found over the abscess and encroaching upon the thorax or abdomen or both. In many cases the abscess causes a visible bulging of the thorax or a definite swelling in the abdomen. The circumference of the thorax may be greater on the side of the abscess, and deep tenderness is sometimes present. In the only case in which the x rays were used, the abscess showed as a deep shadow. The proper use of a good aspirating needle on the operating table and under a full anæsthetic is the most certain means of diagnosis we possess. The only safe rule in thoracic operations is to follow the needle; it is useless to make a large opening and admit air to the pleura unless pus is present. Needling should never be abandoned until it is certain that no pus is present, but a promiscuous search for pus with an ineffective syringe is dangerous and deceptive. Of the seventy-six cases investigated forty patients lived and thirty-six died, a case fatality of 47.4 per cent. Twelve patients were not operated upon and all died, a fatality of 100 per cent. Of the sixty-four operative cases, 24 patients died, a fatality of 37.5 per cent. Posterior operations gave the best results. Half the avoidable deaths could be attributed to the fact that the condition was not diagnosed, the other half to the absence of exact and detailed knowledge of the localization and character of subphrenic abscesses on the part of the surgeons. With a perfect opportunity, knowledge, and technique the seventy-six cases might have been treated with an ideal fatality of no more than 10 per cent.

## LANCET.

February 22, 1908.

1. The Pyogenic Activities of the Pneumococcus (Eras-  
mus Wilson Lecture), By J. W. H. EYRE.
2. Considerations Concerning the Functions of the Stom-  
ach and the Operation of Gastroenterostomy,  
By H. M. W. GRAY.
3. Night Blindness, By J. H. PARSONS.
4. A Case of Aneurysm of the Femoral Artery in a Man,  
Aged Seventy-eight Years, in which Suppuration  
Took Place from Pneumococcal Infection: Recovery,  
By H. H. CLUTTON and L. S. DUDGEON.
5. Three Cases of Poisoning by Carbonic Oxide; One  
Recovery, By R. S. PEARSON.
6. A Method of X Ray Examination in Cases of Urinary  
Calculus, By C. J. MORTON.
7. "Dammed Circulation" and "Interrupted Circulation."  
A Note in Nomenclature, By W. EWART.

## 2. Gastric Function and Gastroenterostomy.

—Gray sums up his conclusions as follows: 1. The cardiac and pyloric portions of the stomach are distinct in development, structure, function, and pathology. 2. During the early stage of gastric digestion the pyloric portion is normally empty and tonically contracted. When food has attained a proper chemical reaction in the cardiac enlargement it passes into the pyloric portion. 3. Bearing this in mind, care should be taken in performing gastroenterostomy to make the opening in the stomach wall within the pyloric portion as near the pylorus as possible. This will then, if the stomach has not irremediably lost its muscular power, provide against an "uncontrolled escape of the acid gastric contents," which is asserted to occur in cases of gastroenterostomy. If pyloric spasm is present the stomach will act as a safety valve and remove the spasm. If pyloric stenosis exists the natural condition of things will be most nearly approached and the "regulating action" of the pylorus, so necessary to perfect digestion, be most nearly approximated.

3. Night Blindness.—Parsons states that complaint of inability to see in the dusk or foggy weather at once suggests the disease commonly known as retinitis pigmentosa. In this disease there is comparatively little disturbance of central vision. Examination of the fundus shows in the early stages in young patients a zone of characteristic retinal pigmentation in the neighborhood of the equator; both peripheral or central to this zone the retina looks almost or quite normal. The pigmentation shows characteristic spots shaped like bone corpuscles, and aggregations along the perivascular sheaths of the retinal vessels. The progress is usually slow, and central vision is seldom lost by direct extension of the disease, as before this happens a posterior cortical opacity usually appears in the lens. Another chronic form of night blindness is met with which differs from retinitis pigmentosa in that it is stationary. This form is always hereditary, and shows no gross changes in the fundus. Syphilitic pigmentary retinitis constitutes a group of cases intermediate between idiopathic retinitis pigmentosa and congenital night blindness. Malnutrition occasionally causes night blindness, it having been observed in alcoholism, scurvy, malaria, and nephritis, most of the patients having reflex blepharospasm (photophobia) in bright sunlight. Another group of cases are those

associated with jaundice; it may be noted that bile salts are a solvent of the visual purple.

6. X Ray Diagnosis of Urinary Calculi.—Morton, in order to diagnosticate urinary calculi by means of the x rays, tests the efficacy, quantity, and penetrating quality of the rays, uses a set of calculi of known composition and size as a means of testing the actual effects of the rays while they are passing through the patient. If the rays are of sufficient strength, shadows of the individual calculi will appear on the fluorescent screen, and can be readily recognized. If no shadows can be seen it means the rays are inadequate.

7. "Stauungshyperämia."—Ewart suggests that the term "dammed circulation," introduced by Thomas thirty years ago, be used to express in English the German *Stauungshyperämie*—the condition produced by Bier's method of treatment. "Passive congestion," "passive hyperæmia," and "stasis hyperæmia" are all unsatisfactory. "Dammed circulation" is even more strictly inclusive than the German term, for it implies the manœuvre and covers the entire field of its operations. arteries, veins, capillaries, plasma, and lymphatics.

## LA PRESSE MEDICALE

February 15, 1908.

1. The Lower Segment of the Uterus. General Idea of  
Its Anatomy, Physiology, and Pathology,  
By CYRILLE JEANNIN.
2. Do the X Rays Produce Cancer? By G. HARET.
3. Palpation of the Normal Stomach, By G. FISCHER.
4. Artificial Parabiosis in Cold Blooded Animals,  
By R. ROMME.

1. The Lower Segment of the Uterus.—Jeannin studies the lower segment of the uterus during pregnancy, during labor, and during involution. The term lower segment is obstetrical rather than anatomical or surgical; the puerperal uterus is divided into three zones, the body, the lower segment, and the neck, and these correspond in the nonpregnant uterus to the body, the isthmus, and the neck, hence the lower segment or intermediate portion corresponds to the isthmus. The anatomical study is followed by a brief glance at the physiology and pathology of the lower segment.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

February 18, 1908.

1. The Experiment on Animals in the Diagnosis of Tuberculous Disease, By WEBER.
2. Concerning the Frequency of Tuberculosis and the Two  
Principal Points of Time of Infection in Infancy,  
By SEHLBACH.
3. Comparative Valuation of the Tuberculin Reactions in  
Childhood, By REUSCHEL.
4. Influenza Bacilli in the Bronchi, By WOHLWILL.
5. Zinc Chloride for Carcinoma, Carbolic Acid for Endo-  
metritis, By v. IERFF.
6. Concerning the Value of Arthrodesis, By VULPIUS.
7. Carbonic Hand and Foot Baths, By POTOTZKY.
8. A Case of Vaginal Cesarean Section Performed on Ac-  
count of a Rare Indication, By VOIGT.
9. Concerning a Case of Cholesteatoma, By BEYER.
10. An Improved Nozzle to the Irrigator for Washing Out  
the Vagina, By SCHEUNEMANN.
11. Two Cases of Tetanus after Gynecological Operations  
Treated with Antitoxine, By ZACHARIAS.
12. The Separation of Cholesterol in the Bile and Its Sig-  
nification in the Pathogenesis of Gallstones (Con-  
cluded), By BACMEISTER.
13. Obituary of Eduard Buchner, By GRUBER.



14. The Royal Gynæcological University Poliklinik at Munich.

15. Medical Support of Quackery, By KLEIN. By KANTOR.

**1. Experimental Diagnosis of Tuberculous Disease.**—Weber considers that the finest and most positive demonstration of tuberculosis is the experiment in which supposedly tuberculous material is injected beneath the skin of the abdomen of an animal. If the material is tuberculous the lymphatic glands in the neighborhood of the injection can be felt at the end of from ten to sixteen days, and if these glands are removed the presence of tubercle bacilli within them can be easily demonstrated. This experiment is of special value in distinguishing bacilli found in the urine, smegma, and tubercle, as these resemble each other in their staining and morphological properties.

**2. Frequency of Tuberculosis and the Two Principal Times of Infection in Infancy.**—Sehlbach comes to the following conclusions: 1, The frequency of tuberculosis in infancy does not increase from month to month; as has been assumed heretofore, but a retrogression takes place toward the ends of the first and of the second years. 2, Correspondingly there are two principal points of time of infection, (a) in the first three months of life, crade infection; (b) creeping, or dirt, or smear infection about the turn of the first year; the possibility of an infection at any other time cannot be excluded. 3, In general, artificially fed children fall victims to tuberculosis most quickly, those partially breast fed next, and those nursed wholly at the breast latest. 4, This shows the great protective power of the mother's milk against tuberculosis.

**4. Influenza Bacilli in the Bronchi.**—Wohlwill, on account of the pandemic of influenza, instituted a bacteriological examination of the smallest bronchi in 158 cadavers. Seventy-five of these had suffered from phthisis, twenty-six from acute infectious diseases, and fifty-nine from various other diseases. The bacteriological examination revealed the *Streptococcus pyogenes* sixty-eight times; the *Staphylococcus pyogenes aureus* thirty times; *albus* six times; the *Diplococcus lanceolatus* forty-six times; the *Bacillus pneumoniae Friedländer* seven times; the *Bacillus coli communis*, the *Bacillus pyocyaneus*, the *Bacillus diphtheria*, each twice; the *Bacillus influenzae* twenty-nine times; influenza like rods five times; and three kinds of not identified germs. In ten cases no microorganisms were found. Further analysis showed that the influenza bacillus was present in 22 per cent. of the cases of pulmonary tuberculosis, in both of the patients that had died of measles, and in the six patients that had died of whooping cough, but in only one of the adults that had died from various other diseases.

**6. Arthrodesis.**—Vulpus deals with the indications for this operation in the various joints, and then pictures some remarkably good results which he has been enabled to obtain in this manner.

**8. Vaginal Cesarean Section on Account of a Rare Indication.**—Voigt reports a case in which he performed this operation because of a severe bronchial asthma with secondary cardiac insufficiency and pulmonary edema, aggravated by the

physiological compression due to the nine months' pregnant uterus, which imminently threatened the life of the mother.

**9. A Case of Cholesteatoma.**—Beyer reports a case of cholesteatoma which varied from the usual in several of its characteristics. The patient was a soldier under observation, who was seized with an acute suppurative inflammation of the middle ear, on account of which paracentesis was performed, and later, as the suppuration proved not amenable to treatment, a radical mastoid operation. This final operation revealed the cholesteatoma, which may therefore be said to have run a symptomless course.

#### THE MILITARY SURGEON.

March, 1908.

1. Plague in India. By ARTHUR HENRY MOORHEAD.
2. Benjamin Rush's Directions for Preserving the Health of Soldiers, with a Note upon Surgeon Ebenezer Alden. By HENRY PELOUZE DE FOREST.
3. Notes and Statistics of the Year's Service at the United States Marine Hospital, San Francisco, Cal., By H. W. AUSTIN.
4. Instruction in the Physiology of the Circulation. By ROBERT S. WOODSON.
5. In Memoriam: The Necrology of the Association for 1907. By SAMUEL C. STANTON.
6. Heat Exhaustion on Men-of-War. By MIDDLETON STUART ELLIOTT.

**1. Plague in India.**—Moorhead remarks that the future outlook and likelihood of the spread of the plague to Europe and America is a very serious problem. The disease in eleven years has spread through the whole of India, and will no doubt next infect Afghanistan and Persia. These countries lie in the northwest frontier and are adjacent to Russia in Europe, and they are not likely to adopt more vigorous measures than have been done in India. Wherever the plague carrying rat and its flea, the *Pulex Cheopis*, can travel and live the disease is sure to spread to, and it will reach Europe overland. He describes his method of treatment as follows: All plague patients were removed to plague hospital on the boundary of cantonment. This hospital consisted of several grass built huts with open doors and very free ventilation. The sick attendants, hospital assistants, and staff of servants lived in tents close by and were never changed. A guard over this hospital prevented all communication and permitted only the medical officer to enter it. All contact cases were isolated in a camp for ten days and daily inspected, and their clothing disinfected in perchloride of mercury lotion and placed in the sun for four hours. A medical inspection of the whole regiment and followers was made daily, and an airing of all kit, clothing and bedding in the sun for four hours daily. All the barracks occupied by the men and followers' huts were disinfected by swabbing floors and walls with strong perchloride of mercury or carbolic, and later were all lime washed. All huts in which cases of plague had occurred had the roofs removed and remained in this state for a couple of months. All dead rats found were burnt with kerosene oil and special disinfection of places in which they occurred. Inoculation was not carried out. Rat destruction was not employed, and the importance of the flea not then known. Buboes which mostly were in the groin were opened and dressed antiseptically. The present treatment is to

open and drain these at a very early date and prevent the poison entering the system. The strength of the patient was kept up by suitable diet, and stimulants were freely given. He also tried internally large doses of carbolic acid freely diluted. Doses as large as eight grains twice or thrice daily were given. The rest of the treatment was symptomatic. For the very high fever, ice to head, cold packings, and iced water enemata were employed, and stimulants freely given in the event of cardiac failure. The result, the author says, was very satisfactory, as the mortality was only 65 per cent. A curious after effect in many patients was an affection of speech and difficulty in articulating words.

### Proceedings of Societies.

#### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Special Meeting, Held in the Borough of the Bronx,  
January 6, 1908.*

Dr. N. B. VAN ETEN in the Chair.

#### On Some Newer Aspects of Cardiac Pathology.

—The first paper of the evening was read by the president, Dr. THOMAS E. SATTERTHWAITE, on this subject. The first positive advance in cardiac pathology, he said, was made in 1826, when Laennec announced his discovery of fatty degeneration as a myocardial disease; but it was not until a quarter of a century later that the matter was turned to practical account. In Quain's classical monograph, published in 1850, Laennec's fatty degeneration was distinguished clinically from the fatty deposition of the fat heart, and five years later Stokes elaborated still further the topic of myocardial diseases, being the first to recognize the fatty hearts of infective disease, especially typhus and typhoid. Having referred to the discovery of the syphilitic heart by Ricord and the "irritable heart" by Da Costa, he stated that in 1876 Bristow showed that the interstitial cardiac tissue, as well as the muscle tissue, of the heart, might also be implicated, so as to cause a diffuse myocarditis. A further advance was made when Romberg, in 1891, traced myocardial disease to diphtheria and scarlet fever, while Huchard, in 1891, showed that the source of the interstitial inflammation might be the coronary vessels.

As a result of these pioneer discoveries and of still later investigations, we had now reached a point where it could be said with confidence that all toxæmias, whether acute or chronic, some dyscrasias and hyperpyrexias, if long continued or severe, and some other conditions which would be mentioned later, produced definite morbid changes in the heart walls, evanescent or permanent, as the case might be. To the profession at large these matters were comparatively new, since attention hitherto had been mainly directed to diseases of the endocardium and pericardium; yet the condition of the heart substance was always of paramount importance. As regarded the term myocarditis, however, we had to face the fact that its use had led to some misapprehension. It had been and was

still employed somewhat indiscriminately for various myocardial diseases, and to most physicians myocarditis implied an inflammatory process, and did not therefore include the degenerative affections of the heart. The speaker then offered a new classification of these diseases, as follows: 1. Acute parenchymatous myocarditis. 2. Acute diffuse myocarditis, including the tuberculous, syphilitic, and suppurative forms. 3. Chronic myocarditis, including all the diffuse inflammatory changes mentioned. 4. The fat heart. 5. The fatty heart. 6. Hypertrophies, whether due to severe exercise, vascular diseases, blood disorders, neurotic disturbances, or possibly pregnancy. Dilatation could not be called a disease, being an incident which might occur at times in any of the varieties enumerated.

Some such classification as that now given, he thought, was essential to a clear conception of myocardial diseases, though many of the pathological phenomena mentioned might be interconnected in any single instance. A parenchymatous myocarditis might be but the first indication of the diffuse form, even though the character of the parenchymatous change was not fully understood. It might, however, be presumed, from what we knew of similar processes elsewhere, that parenchymatous changes might produce not only necrosis of the muscle cells, but, in addition, fatty degeneration, leading to dilatation and possibly rupture of the heart. Harlow Brooks had recently published statistics showing that, of 457 cases of which he had personal post mortem records, where death was the result of cardiac lesions, 330 showed evidences of diseased heart walls, while in many others myocardial diseases figured as additional subsidiary factors. Yet these diseases, which were largely responsible for the fatal endings, were not recognized during life in a very considerable number of instances. Of these 457 cases, in 214 there was chronic endocarditis, in 51 acute endocarditis, and in 66 pericardial diseases; so that, throwing entirely out of account the myocardial affections which complicated endocardial and pericardial disease—which might of themselves have been the cause of death in many and possibly most instances—126 out of the 427, or about twenty-eight per cent, were believed to have been due to uncomplicated degenerative disease of the heart walls. From his own clinical records, Dr. Satterthwaite would say that in forty-five per cent. of his deaths in heart cases degenerative cardiac changes were the principal predisposing causes of death, though at the end in very many uræmic poisoning was an active controlling factor. The statistics gathered by Roemer in Liebermeister's clinic corresponded very closely with these figures. The later statistics of Romberg showed that chronic cardiac insufficiency (by which he meant chronic myocardial disease) was the most common heart affection, and if we added to the chronic forms the uncomplicated acute myocardial forms associated with infections, dyscrasias, anæmias, etc., it could readily be seen that myocardial diseases were very much more common than valvular diseases. Moreover, as other organic heart diseases were comparatively rare, and as myocardial disease was apt to complicate valvular

disease, it could well be asserted that myocardial diseases were more common than all other forms of heart diseases combined, in the sense that they entered as a factor.

The speaker then took up in detail a number of the forms of myocardial disease, as given in his classification, and some of the statements made were as follows: Parenchymatous alteration was the earliest form of muscle metamorphosis. Schmalz, whose experience was very large, had sometimes found acute myocarditis within a few days after the inception of an attack of diphtheria, and myocardial disease occurred in sixteen per cent. of his diphtheria cases. Diphtheria was now held to be the most frequent cause of chronic myocarditis. Acute myocarditis occurred also in rheumatism, tuberculosis, amygdalitis, measles, lobar pneumonia, erysipelas, epidemic influenza, gonorrhœa, and septic processes, and according to present opinion the pathological changes noted were due either to the toxins of the diseases named or to the continued high temperature. In alcoholism a similar condition had been noted, though in this instance the alcohol itself was probably the poison to which the myocarditis was due. We could not dissociate these parenchymatous changes clinically from those of that acute myocarditis which was a somewhat later event in the pathological chain. This, however, presented a different microscopical picture, and what we were pleased to call acute myocarditis was found, from the microscopical appearances, to consist of a diffuse inflammation in which the muscular tissue was only one of the several elements involved. Occasionally abscess resulted, usually causing death; but the acute form of myocarditis might pass over into the chronic form. When hypertrophy of the muscular tissue occurred, more or less dilatation was likely to follow. Clinically speaking, if the left margin of the heart did not extend beyond the nipple, it was not regarded as an alarming sign, but if an inch beyond that point, the prognosis was unfavorable. In mild cases the dilatation (as shown by the apex beat) would not reach to the nipple. If, now, in the course of or following typhoid, diphtheria, or any of the acute or chronic toxæmias referred to, the pulse became weak and irregular, no matter what its rapidity, attention should be directed to the probability of the occurrence of some myocardial affection. If there were præcordial distress or cyanosis, dyspnoea, and, in extreme cases, anginoid attacks, the diagnosis of acute dilatation could be made with a reasonable degree of probability; which would amount to certainty if it was found that the heart's dimensions had suddenly become enlarged. While the parenchymatous change might result in acute diffuse myocarditis, and possibly terminate in fatty degeneration, it was found that in most cases the condition disappeared with convalescence, and that, so far as could be determined by clinical tests, the patient, wholly recovered.

Among the prominent causes of cardiac hypertrophy were arteriosclerosis, congenitally small vessels, scurvy, Marfan's disease, and the neuritic heart of hysteria. During the first stage of hypertrophy there was a gradual increase in the several tissues of the heart walls, with increase of the size of the muscle cells and perhaps increase in the num-

ber of cells. This stage was completed when the hypertrophy had become sufficient to propel the blood column with the required amount of force, and the second stage was marked by a return of the action of the heart and pulse to their normal condition. This condition, so far as we knew, might continue indefinitely, but if the heart began to dilate further the affection then entered upon the third stage, a period of failing compensation, temporary or permanent. In many cases a further access of dilatation would mean cardiac failure, and, if no relief was given, sudden death. The heart of the athlete was more apt to suffer from excitement or sudden strain than the normal heart, so that he must always be put upon his guard against sudden dilatation.

The two terms, fat heart and fatty heart, implied some semblance in intimate structure, and while it was true that, pathologically speaking, they were closely allied, there was in uncomplicated cases little clinical resemblance between them as to natural history, diagnosis, prognosis, and treatment. In the fat heart there was a deposition of fat between the muscle fibres or bundles, while in the fatty heart there was a fatty degeneration of the muscle fibres themselves. The character of the conditions existing in cardiac syphilis was now pretty fully understood. The disease might affect any part of the heart, and also the pericardium. The gumma or some tertiary infiltration was most often found, and might occur as late as ten or twelve years after the primary lesion. Cardiac syphilis was also one of the manifestations of the hereditary form of the disease. The condition yielded promptly to treatment if recognized before destructive changes had taken place.

**Instruments of Precision in the Management of Diseases of the Heart.**—This paper (to be published) was read by Dr. LOUIS F. BISHOP.

**On the Diagnosis of Diseases of the Heart.**—This paper was read by Dr. WILLIAM H. PORTER (see page 486).

**On the Use of Drugs in Diseases of the Heart.**—Dr. REYNOLD WEBB WILCOX, to whom this topic had been assigned, said that the wave of therapeutic nihilism which had of late years affected the profession was happily now passing away. Substitution and failure to observe the requirements designated by the pharmacopœia were punishable by severe penalties, so that reliance could be placed on the qualities of the remedies at our disposal. The work of the heart was determined to a very large extent by the condition (1) of the vessels, (2) of the cardiac walls, and (3) of the valves, the last named being of less importance than the others. Having referred to the value of the hæmoglobinometer and the sphygmomanometer, he expressed the opinion that the question of the blood pressure was as yet only in its infancy.

We could regulate the rapidity and the force of the heart's action, and there were three groups of remedies at our command for accomplishing this. As long ago as in 1783 Withering had correctly laid down the indications for the use of digitalis in a rapid low tension pulse, with venous congestion. This drug was indicated, in general, when the cardiac action was weak and feeble, with low arterial tension, and contraindicated when the cardiac action



was strong and arterial tension high. Digitalis, however, had its defects, and the principal of these was the pronounced vasoconstriction which it produced. This had led to the study of strophanthus as a substitute for it in suitable cases. Strophanthus was found to be less of a vasoconstrictor and to have a more rapid action, and experience had shown that it should be used in place of digitalis in children and the aged. Dr. Wilcox had personally worked out its effects in the laboratory and in his clinics with the sphygmograph. Convallaria was untrustworthy, and adonidine, another drug of the digitalis group, which was now official, was objectionable on account of the renal irritation which it caused. Erythrophloeum, or sassy bark, the last of the five drugs of this group, was a remedy which slowed the pulse and raised the tension, just as digitalis did. He had made a careful study of its effects, and the results obtained in the laboratory were confirmed by clinical observations. As compared with digitalis, it was decidedly more active in slowing the pulse, but it was irritating to the stomach. As a vasoconstrictor it had a greater effect than digitalis; in fact, as great as digitalis and ergot combined. While it was less cumulative than digitalis, it was also rather less reliable. Its use, he thought, should be confined to those cases of fairly competent heart with low vascular tension, in which it would show its effects more markedly and rapidly, and to those cases in which digitalis had lost its usefulness or had entirely failed. In the most recent revision of the pharmacopœia the tincture of strophanthus and all potent tinctures had been placed at the uniform strength of ten per cent.

Then came the class of drugs which weakened the heart's action and slowed its rate, such as aconite and veratrum. Both these were of great value in appropriate cases. Veratrum was especially esteemed by the obstetricians, and the danger from its use had been much exaggerated, since it always gave ample warning when it was being carried too far. There was only one drug which both increased the force and frequency of the pulse, and that was cactus. It was especially useful in the neurotic heart and the slow heart. If an active preparation (and such was readily found in the shops) was used, in appropriate cases, brilliant results might be obtained. In pulmonary oedema with heart failure the speaker did not know of any remedy so good as hot coffee given by high rectal injection. By combining with each dose half a grain of caffeine sodiobenzoate, we could get along with much less digitalis than otherwise. Strychnine was sometimes of service in cardiac disease, but one difficulty with it was that patients readily became habituated to its use. As to cardiac syphilis, he had himself seen three cases of gumma of the heart wall, proved to be such in the dead house. In this disease he had found that arsenic iodide had sometimes proved efficient in cases in which the usual antisyphilitic remedies had entirely failed.

Dr. ROBERT E. COUGHLIN, of Brooklyn, said that he was interested in the subject of Dr. Satterthwaite's paper, because for a number of years he had given some time and thought to the subject as related to athletes and the strain put upon their hearts in athletic contests. As medical men we were not par-

ticularly interested in the professional athlete only so far as his life might become an example to the growing young, many of whom sought our advice when about to enter into athletics. The subject was very important when we considered that young schoolboys were at present put into contests by the public school instructors where their hearts were put to a very severe strain, as in sprinting and running a distance. There was great chance of injury being done to the heart by violent exercise in competitive games. His opinion was that the young exercised probably too much, and those over forty and fifty years not sufficiently. Take, for instance, he said, the case of the oarsman, Edward Hanlon, who died a few days ago. It was said that he was the most graceful oarsman who ever pulled an oar, and that he lost only six races out of 200. He also held the record for a four mile row. This man died at the age of fifty-two, after a two days' sickness, of pneumonia. It was known to be a fact that he took no exercise for ten years preceding his death. Was it not reasonable to suppose that, after an interval of inactivity, no exercise being taken for this period, myocardial disease was really the cause of his succumbing to pneumonia, in which the heart was markedly taxed? Twenty years ago Richardson, of London, pointed out a white spot on the heart, or myocarditis, in connection with the deaths of athletes. It was interesting to note that the reader of the paper described very well the pathology of this condition. Persons over forty ought to try to keep up their cardiac muscle, so that no degeneration should take place. Especially was this so in men who had overdeveloped their cardiac muscle. Take the instance of Weston, who at the age of sixty-nine walked from Portland, Maine, to Chicago, a remarkable feat for a much younger man to perform. Weston had kept up his cardiac muscle development uninterruptedly, as in an interview he professed to have taken regular exercise every day of his life. The great thing was to maintain our cardiac muscle and not allow degenerative changes to take place. A young man could map out his life's work in this respect, and it was our duty to explain to him what he should do to keep up his cardiac muscle once he entered into the athletic life.

Dr. EDWARD E. CORNWALL, of Brooklyn, thought the water sphygmomanometer of Dr. Bishop very ingenious, but unlikely to be of much practical use on account of the height of ceiling required, to say nothing of the step ladder. The sphygmomanometer which he preferred for general use was the Kaplan. This he found convenient and portable, though it frequently spilled out mercury, which, however, could be easily replaced if one carried a small bottle of mercury with him and a medicine dropper. As for the therapeutic nihilists to whom Dr. Wilcox referred, he was inclined to doubt if they existed to any important extent among regular physicians. He was inclined to believe that therapeutic nihilism was a bugaboo invented by those who were in the habit of using drugs excessively and without clear indications. These, who he thought constituted a very numerous class, he suspected of stigmatizing the advocates of conservative and rational therapeutics as therapeutic nihilists in order to distract attention and criticism

from their own prejudiced therapeutics. He was much pleased with Dr. Wilcox's remarks on strophanthus, and remembered reading in Wilcox and White's *Materia Medica* Dr. Wilcox's account of the action of that drug, which was the best description of it he had ever seen. He had used that drug extensively, and had learned to value it at least equally with digitalis. He thought its range in cardiac therapeutics was greater than that of digitalis, and, though not exactly coextensive, its action included much of the range of digitalis. He had found by clinical experience that for restoring lost compensation in valvular diseases in children it was better than digitalis, and in conditions of high blood pressure and in dilated hearts with greatly weakened myocardium he thought there was no question of its superior value. He thought that failure to get good results from its use were often due to the fact that it was given in too large doses, and that the doses advised in the textbooks were too large. He had also observed clinically that, while it was generally much less irritating to the stomach than digitalis, there were a few people who seemed to have an idiosyncrasy in regard to it, who got less therapeutic benefit from its use and more irritation of the stomach than they did from digitalis. A preparation of digitalis which he had found useful in bad cases and for which he wished to say a good word was the soluble digitoxin recently put on the market. In regard to cactus, of which Dr. Wilcox spoke favorably in spite of the investigations on the action of this drug and adverse conclusions recently reported in the *Journal of the American Medical Association*, he felt that he could say little, not having had sufficiently extensive experience with it. He was inclined to believe, however, that it was a cardiac sedative of value in functional disorders of the heart. Convulsaria he had found so vastly inferior to digitalis and strophanthus that he seldom used it. He was pleased that Dr. Wilcox omitted to make mention of sparteine, if, indeed, his silence was not meant for assent, for he thought we could well afford to ignore sparteine as a heart stimulant when we had so many better ones.

Dr. SATTERTHWAITTE said he would like to ask Dr. Wilcox's opinion of the value of adrenalin in cardiac failure.

Dr. WILCOX said that Dr. W. H. Bates was the first to demonstrate the effect of suprarenal extract on the eye and the larynx. He himself had been the first to make sphygmographic tracings under the use of suprarenal extract, and these corresponded very closely with those obtained with adrenalin later. Adrenalin should be employed for shock, he thought, only when this was due to dilatation of the bloodvessels of the splanchnic area. Unless it was used with great caution, a weakly acting heart might be overwhelmed.

Dr. SATTERTHWAITTE said he had heard of cases in which death was caused by adrenalin. Under its use the pulse ran up very high at first, but soon sank below normal, and he therefore regarded it as a very dangerous remedy. On the other hand, he had found the ordinary suprarenal extract distinctly useful at times, and was accustomed to employ it in his practice in appropriate cases.

Dr. WILLIAM H. PORTER thought there could be no doubt that the heart muscle underwent fibrous degeneration after an individual accustomed to taking active exercise stopped this. In affections of the heart, as in other diseases, the object of drugs in all cases was, not to cure the disease, but to enable Nature to continue the functions which had been interrupted. We should first seek the cause of the trouble, and then direct our remedies toward the removal or modifying of existing conditions. As regarded drugs, in many cases of cardiac disease he had come to place special reliance upon benzoic acid and caffeine.

#### WESTERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Seventeenth Annual Meeting Held in St. Louis, December 30 and 31, 1907.*

The President, DR. CHARLES W. OVIATT, of Oshkosh, Wis., in the Chair.

(Continued from page 475.)

**The Association or Confounding of Appendicitis with Other Diseases in the Female Pelvis.**—Dr. A. E. BENJAMIN, of Minneapolis, said that any inflammatory disease within the abdomen primarily involving one organ might from continuity or contiguity result in other tissues or organs being involved. The blood supply of the abdomen and pelvis was such that infectious microorganisms might be carried from one diseased organ to another, thereby starting a similar disease in a part through which this infected blood flowed. The lymphatics might also convey disease to organs in the line of their distribution. The nerve supply of the organs of the lower abdomen and pelvis and their sympathetic relationship were such that pain might be referred to localities not affected. It was possible for more than one form of disease to exist within an abdomen simultaneously, and the symptoms to become quite complex in consequence. Besides actual disease, there might exist a misplaced position of one or more organs, thereby changing the symptoms considerably, or resulting in contiguous organs being affected because of this displacement. Also the misplaced position alone might cause distress which resembled some actual form of disease. The character of the disease, the variety of each form of disease, the number of organs involved, the associated displacement of organs, the temperament, environment, and vocation of the individual were all factors to be considered in summing up the case. A careful personal history, a thorough physical examination of the individual, with the aid of chemical and bacteriological investigation, and a searching examination with all the apparatus at command, i. e., the cystoscope, proctoscope, microscope, and x ray, would clear up the majority of cases. In certain cases, if no positive diagnosis could be made, there might be clear indications for operative intervention to cure the disease. In complicated cases a thorough search through a proper sized opening should be made to terminate the symptoms, establish of and a record of all findings made for future reference.

**Torsion of the Omentum.**—Dr. W. W. GRANT

of Denver, reported an interesting case of torsion of the omentum, and said that in view of the most common association of this diseased condition with hernia, it became a matter of unusual interest in this particular case as to its possible connection with hernia in earliest childhood. He was positive, from the nature and character of the adhesions, the condition of the intestine, and the absence of any indication of disease, past or present, of every other organ or part, that it was of long standing. It seemed possible that it could have dated from the existence of hernia in childhood without causing intestinal obstruction or torsion at an earlier date. The vomiting might have been due to a momentary obstruction from volvulus due to the adhesion and intestinal peristalsis.

In reviewing the literature, Dr. Grant found that sixty-one cases had been reported. He agreed with Richardson, of Los Angeles, that strangulation of the omentum from pressure or adhesions did not constitute torsion and should not be classed as such. Only seven cases were entirely intraabdominal. His own made eight. The torsion might be single or double, but usually the former. In the intraabdominal cases the symptoms closely resembled those of acute appendicitis, and up to the present time there had probably been a diagnosis of the latter. Even in hernia the abdominal symptoms were pronounced in most cases. The tenderness and dulness at an early period covered a wider area than in appendicitis; yet, if on the right side, both subjective and objective symptoms simulated those of acute appendicitis. If hernia existed, one should especially be on guard as to the diagnosis. The history of torsion of the greater omentum justified this precautionary statement, and he hoped that these suggestions might be accepted as timely. He believed this case was unique in the fact of a portion being completely amputated by torsion from the body of the omentum and fixed by adhesion to one point of intestine and to nothing else.

**Lymphatic and Portal Infections Following Appendicitis.**—Dr. ROLAND HILL, of St. Louis, reported an interesting and unique case illustrating these infections, and said that in the present stage of surgical knowledge we were almost absolutely helpless in the presence of some of the severe forms of infection when the infecting organism had once passed into the general circulation. It went without saying that early removal of the appendix should be the keynote in all cases, together with an attack, whenever possible, upon any focus that might form. Considering what had been accomplished along the lines of serum therapy, the remarkable effects of antitetanic serum as a prophylactic of tetanus, and the miraculous results of diphtheria antitoxine, it did not seem too much to hope and expect that experimental medicine would soon offer specific agents which would nullify the effects of the various pathogenic organisms when once they had been introduced into the blood.

**Extrauterine and Intrauterine Pregnancy of Five Months, with Operation and Death.**—Dr. D. C. BROCKMAN, of Ottumwa, Iowa, reported the case of a woman, five months pregnant. An attempt was made to remove the ectopic sac by abdominal section, but the parts were so vascular that he was

obliged to desist. Furthermore, the patient was so debilitated from vomiting that he did nothing further. But in ten days he opened the sac from below, removed the fetus, and packed the cavity with gauze, intending to remove the placenta later. Uterine hemorrhage and pains occurred on the third day, and the woman died two days later from extrauterine and uterine hemorrhage. He asked whether a better method could be suggested.

Dr. D. W. BASHAM, of Wichita, Kan., reported a case of hernia of the appendix, which was complicated with appendicitis, and reviewed the literature on the subject.

**Sexual Perversion as an Accompaniment of Prostatic Hypertrophy.**—Dr. J. F. PERCY, of Galesburg, Ill., believed that the old prostatic, who showed aberrant sexual activity, was in a large proportion of cases suffering from a psychosis rather than senile dementia, to which the symptoms were usually attributed. Under the influence of the irritation from his enlarged prostate he might commit all forms of sexual crime, and after removal of his prostate his functional sexual aberration disappeared and he remained cured. This phase of the diseased prostate opened up the possibility of a more rational study of the pelvic environment of the prostate gland in the sexual perversions among men, old and young. Many old prostatics were in insane asylums and many of them were in the Government and State soldiers' homes, as well as in the various county almshouses. The strain of sexual excesses from early life until old age, the intimate connection maintained between the prostate gland and the sympathetic and the cerebrospinal nerves, the unknown secretory functions of the prostate gland along physiological lines—these all made prominent the fact that with the hypertrophied prostate could be had a class of symptoms referable to the sexual system where the mental life of the sufferer carried him close to the border where insanity had its dominion, and which could be corrected by the aid of surgery.

**Intestinal Obstruction.**—Dr. B. MERRILL RICKETTS, of Cincinnati, contributed a paper on this subject, in which he defined obstruction as the stoppage or blocking of a canal or opening in the body, due to any of the numerous causes. The symptoms, such as vomiting, pain, distention (symmetrical or asymmetrical), sweating, collapse, rigid parietes, and toxemia, one or all, might be present in any form of obstruction in the large as in the small bowel. These being facts, why should exploration be delayed, when simple incision through the abdominal wall was done without mortality? Should exploration and direct digital and ocular examination of the abdominal viscera be delayed in intestinal obstruction, because experiments, reports, "symposia," and discussion had failed to explain satisfactorily its aetiology, symptoms, and treatment? Intestinal obstruction probably had a higher immediate mortality, with or without surgical intervention, than any of the surgicopathological diseases. The nonmechanical type without operation had a supposed mortality of ninety per cent. when not complicated with general peritonitis, and from sixty to eighty-four per cent. with operation. This mortality in postoperative obstruction exceeded that



of preoperative obstruction of the same degree, whether of the mechanical or nonmechanical or septic type. This increased mortality was due to the added surgical trauma, and especially to the anæsthetic. In the mechanical type the mortality was given as one hundred per cent. without operation, and from fifty to eighty per cent. with operation. This difference was probably due to the advantages of palpation and the Röntgen ray in detecting neoplasms and foreign bodies, which were its most common cause; hence earlier surgical measures might be resorted to. In the septicoperitonitic type without operation the mortality was generally given as one hundred per cent., while with operation it was somewhat less. There were certain forms of obstruction with or without infection that had been considered invariably fatal. If this was so, there was nothing to be lost in opening the abdomen. If, after opening the abdomen, an imperfect mechanism within could be made perfect without destruction of the nerve or blood supply, in the absence of infection, surely many more patients would recover; even with many forms of infection this was probably so. But if the patient became exhausted from vomiting, pain, or want of nourishment, with or without infection of any kind, the mortality would be proportionately high. Pain, distention, and vomiting were always alarming, and the majority of patients went on to death in spite of every effort to relieve them. Intoxication had not yet been proven to be the cause of death in any given case of obstruction. If patients with obstruction indicated by one or more symptoms were opened at the onset, under ordinary precautions, the mortality would be less than if they were operated upon late in the attack. The element of delay in surgery was more serious than the element of aggressiveness. In no other surgical condition was this statement more fully verified. The most skilled operators had many times opened the abdomen for a condition made apparently certain by one or more symptoms, and found one entirely different. If this was sanctioned in other lesions of less importance within the abdominal cavity, why could not exploration for obstruction based upon one or more symptoms be undertaken? This would determine the character and degree if obstruction was present. If it was not present no special harm would ensue. If the character or degree or both were believed to be fatal, the remedy should be applied, regardless of its character, because that verdict was only an opinion, not an established fact.

Dr. A. A. KERR, of Salt Lake City, contributed a paper in which he discussed obstructions of the common bile duct, and reported a case in which he performed cholecystostomy, partial gastrectomy with posterior gastrointestinal anastomosis, cholecystenterostomy, and enteranastomosis.

The following officers were elected for the ensuing year: President, Dr. W. W. Grant, of Denver; vice-presidents, Dr. Willard Bartlett, of St. Louis, and Dr. Harry A. Sifton, of Milwaukee; secretary-treasurer, Dr. Arthur T. Mann, of Minneapolis; executive council, Dr. C. H. Mayo, of Rochester, Minn., and Dr. J. F. Perry, of Galesburg, Ill.

Minneapolis was selected as the place for holding the next annual meeting, on December 29 and 30, 1908.

## Book Notices.

*[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]*

**Maternity.** By HARRY D. FRY, M. D., Sc. D., Professor of Obstetrics, Medical Department of the Georgetown University, etc. New York and Washington: Neale Publishing Company, 1907. Pp. 220.

This book seems to be intended primarily for the laity. Its teachings are sound in the main, and the author's style is agreeable; consequently, it is likely to be of real service to many women, provided they do not accept it as embodying "the truth, the whole truth, and nothing but the truth," as the laity are very apt to do. Such implicit acceptance of any medical writing is apt to make the reader think he knows all about the subject and to render him contentious in his intercourse with the physician. A general precept has often to be fitted to the case in hand, and this the laity rarely comprehend.

The book treats of hygiene in its particular application to the female sex, with special attention to menstruation, pregnancy, and childbirth, dealing also with the care of infants.

**Outlines of Psychiatry.** By WILLIAM A. WHITE, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C., etc. New York: The Journal of Nervous and Mental Disease Publishing Company, 1907.

In publishing this book the author disclaims any intention of offering a substitute for larger and more pretentious works. He will have it that he is merely providing a "helpful guide" for his students and a working knowledge for young physicians. This is modest, but we believe that, whatever his conscious purpose may have been, the author has wrought more deeply than he thought. To give a working basis for the student of mental diseases, that is, to provide him with such matter and manner of thought as will lead to the acquisition of the power of independent observation and logical interpretation is scarcely a light undertaking. To a science like morbid psychology, involving at every turn a comparison of pathological mentalization with the normal operations of the mind, the task of laying down adequate principles is beset with manifold difficulties; and, furthermore, when it is borne in mind that many who read are by nature inept, being but poorly provided with the faculty of subjective analysis, the wonder is that any can be found among us with sufficient powers of exposition to reach the comprehension of the average mind. Yet we believe that Dr. White has succeeded; that he has written a book of manifest helpfulness to those desirous of going about the study of mental diseases in a systematic and rational manner, and that no student can read his book thoroughly without gaining a point of view which, with the aid of subsequent cultivation and experience, will confer a sense of capacity—more or less according to original endowment—for independent and useful observation.

The author prefaces his treatise with a brief chapter on the nature of the human mind. This is satisfactory, but we believe that the accuracy of psychical operations could have been appreciably lengthened without detriment or interference with the general plan of the book. Upon this follow ten

givings on the definition of insanity; classification of mental disorders; the causes of mental disorders and their treatment; and then two rather lengthy chapters on symptomatology and the examination of the insane. The last named chapter is admirably done; and even though all the tests are not always applicable, and a few of them perhaps debatable, most of them are well conceived and obviously informing.

Likewise to be commended are the chapters on Dementia Præcox, Paranoia and Paranoid States, and Manic-Depressive Psychoses.

The author acknowledges his indebtedness to Dr. Smith Ely Jelliffe for valuable hints and to Dr. Shepherd Ivory Franz for the preparation of the substance of Chapter VII—that on the examination of the insane, to which we have already favorably adverted.

*Notwendige Reformen der Unfallversicherungsgesetze.* Nach einem auf der Wanderversammlung der südwest-deutschen Neurologen und Irrenärzte in Baden-Baden am 1. Juni, 1907, erstatteten Referate. Von Prof. Dr. A. Hosne, Freiburg, i. Br. Halle a. S.: Carl Marhold, 1907.

The German laws referring to accident insurance, which force every employee to be insured and every employer to insure his help, was made the subject of a dissertation by the author at a meeting of the Society of Southwest German Neurologists, held in Baden-Baden on June 1, 1907. He points out several features of the laws which should be changed from the viewpoint of the neurologist.

#### BOOKS, PAMPHLETS, ETC., RECEIVED.

Die Schuppenflechte (Psoriasis vulgaris) und ihre Behandlung. Von Dr. S. Jessner, Königsberg i. Pr. Zweite Auflage. Würzburg: A. Stuber, 1908. Pp. 39. (Price, 70 marks.)

Annual Report of the Board of Trustees of the German Hospital and Dispensary in the City of New York for the Year 1907. Pp. 100.

Geschichte der Laryngologie in Würzburg. Von Professor Dr. Otto Seifert, Würzburg. Würzburg: A. Stuber, 1908. Pp. 68. (Price, 3.50 marks.)

Fourth Annual Message of John Weaver, Mayor of the City of Philadelphia, with the Annual Reports of the Director of the Department of Public Health and Charities and Chief of the Bureau of Health, for the Year Ending December 31, 1906. Issued by the City of Philadelphia, 1907. Pp. 236.

Textbook of Otolaryngology for Physicians and Students. In Thirty-two Lectures. By Fr. Bezold, M. D., Professor of Otolaryngology at the University of Munich, and Fr. Siebenmann, M. D., Professor of Otolaryngology at the University of Basle. Translated by J. Holinger, M. D. of Chicago. Chicago: F. H. Colgrove Co., 1908. Pp. 314.

Bericht über den XIV. internationalen Kongress für Hygiene und Demographie, Berlin, 23-29 September, 1907. Band I. Berlin: August Hirschwald, 1908. Pp. 314.

Personal Hygiene in Tropical and Semitropical Countries. A Popular Manual Written for the Use of Foreigners Residing in the Philippines, Cuba, and Other Portions of the Tropics. By Isaac Williams Brewer, M. D., Member of the American Society of Tropical Medicine. Philadelphia: F. A. Davis Company, 1908. Pp. 130.

The Diagnosis and Treatment of Pulmonary Tuberculosis. By Francis M. Pottenger, A. M., M. D., Monrovia, California, Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Professor of Clinical Medicine, Medical Department, University of Southern California, etc. New York: William Wood & Co., 1908.

A Textbook on Prescription Writing and Pharmacy. With Practice in Prescription Writing, Laboratory Exercises in Pharmacy, and a Reference List of the Official Drugs Especially Designed for Medical Students. By

Bernard Fantus, M. D., Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons of Chicago, etc. Second Edition, Thoroughly Revised and Adapted to the Eighth (1905) Edition of the United States Pharmacopœia. Chicago: Chicago Medical Book Company, 1906. Pp. 404.

#### Miscellany.

**The Plan of the Campaign Against Tuberculosis.**—Much has been said of late in the press concerning the campaign for the prevention of tuberculosis which has been inaugurated by the State Charities Aid Association. The press has indeed been, as it always is, most generous in giving to this movement the full and complete publicity which is indispensable to any effective work of a broad educational nature. Some few misconceptions, however, have become current. Chief among these is the fact that people have been led, through a misinterpreted newspaper report, to believe that a million dollars has been donated for the purpose of conducting this campaign, and that therefore the localities in which the educational campaign is being conducted are to assume no responsibility so far as financial support is concerned. In the light of this report it may be well to state definitely the plan and method of the State Charities Aid Association in this movement. The association is not merely spending money in arousing a wave of sentiment without a permanent basis in fact. On the contrary, the educational movement in any given locality is not begun until the facts concerning the disease are well known. This knowledge is obtained by means of an extended and thorough investigation: First, of the vital statistics, in order to determine the exact death rate and the prevalence of the disease; second, as to the provisions for relief and care of needy consumptives; third, as to the preventive measures that are in force; fourth, as to the means which are employed for acquainting the wage earners and the people in general with the present knowledge as to the treatment of pulmonary tuberculosis; fifth, as to general hygienic measures having special value in the prevention of tuberculosis, such as the adequacy of the building code, of supervision of food supplies, of supervision and regulation of public lodging houses, etc. It is not until after the investigation has revealed all the facts touching upon these points that the active part of the educational campaign in any given locality is undertaken. It is then that the series of public meetings is held, in connection with the tuberculosis exhibition of the State Department of Health and the facts concerning the means of prevention, treatment, and cure of this terrible disease are as widely disseminated as possible, and sentiment aroused through the aid of the press. And all this is done only for the purpose of directing the interest and enthusiasm thus aroused into definite channels of action, which will result in a material saving of life in each community. At the close of this active educational campaign a local committee of the State Charities Aid Association is formed for the purpose of continuing the work of education and securing the adoption of definite measures for the prevention of this dread disease. Thus, a





France—Paris.....	Jan. 25-Feb. 8.....	21	1
Great Britain—Edinburgh.....	Feb. 1-8.....	1	
Great Britain—Leith.....	Dec. 25-Feb. 8.....	6	3
India—Bombay.....	Jan. 14-28.....	2	
India—Calcutta.....	Dec. 28-Jan. 11.....	11	
India—Madras.....	Jan. 18-31.....	3	
Italy—General.....	Jan. 31-Feb. 6.....	57	
Japan—Kobe.....	Jan. 18-Feb. 1.....	1,792	603
Japan—Nagasaki.....	Jan. 19-26.....	2	
Japan—Osaka.....	Jan. 25-Feb. 11.....	204	
Japan—Tokyo.....	Feb. 4-11.....	134	Present
Japan—Yokohama.....	Jan. 25-Feb. 4.....	46	10
Manchuria—Daini.....	Jan. 18-25.....	3	
Mexico—Aguascalientes.....	Feb. 2-16.....	4	
Mexico—Monterrey.....	Feb. 2-16.....	2	
Russia—Moscow.....	Jan. 18-Feb. 1.....	76	21
Russia—Warsaw.....	Nov. 16-Dec. 14.....	75	
Spain—Denia.....	Jan. 25-Feb. 8.....	12	1
Spain—Valencia.....	Jan. 25-Feb. 8.....	18	2
Turkey—Constantinople.....	Jan. 27-Feb. 9.....	9	

*Yellow Fever—Fusion.*

Brazil—Manaos.....	Jan. 18-Feb. 1.....	6	
Brazil—Para.....	Jan. 25-Feb. 6.....	51	30
Ecuador—Huancabamba.....	Feb. 4-11.....	4	
Venezuela—Ciudad Bolivar.....	Jan. 1-31.....	1	Present

*Cholera—Insular.*

Philippine Islands—Manila.....	Jan. 4-11.....	45	35
Philippine Islands—Mariguina.....	Jan. 4-11.....	45	43

*Cholera—Foreign.*

India—Bombay.....	Jan. 14-21.....	1	
India—Calcutta.....	Dec. 28-Jan. 11.....	86	
India—Rangoon.....	Jan. 14-18.....	4	

*Plague—Insular.*

Hawaii—Hilo.....	Feb. 24.....	1	
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*Plague—Foreign.*

Brazil—Bahia.....	Dec. 28-Feb. 1.....	6	
Brazil—Rio de Janeiro.....	Jan. 19-26.....	5	
China—Hongkong.....	Dec. 28-Jan. 4.....	1	
Egypt—Alexandria.....	Jan. 19-Feb. 6.....	1	1
Egypt—Provinces.....	Jan. 25-Feb. 6.....	7	
Assiout.....	Jan. 29-Feb. 1.....	2	
Fayoum.....	Feb. 4-6.....	20	18
Gurgeh.....	Jan. 28-Feb. 2.....	22	14
Mimich.....	Jan. 4-11.....	3,719	2,833
India—General.....	Jan. 14-28.....	47	
India—Bombay.....	Dec. 28-Jan. 11.....	29	
India—Calcutta.....	Jan. 11-24.....	6	
India—Madras.....	Jan. 11-18.....	10	
India—Rangoon.....	Jan. 18-25.....	4	
Japan—Osaka.....	Dec. 28-Jan. 18.....	120	5
Turkey—Bagdad.....			1

**Public Health and Marine Hospital Service:**

*Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending March 4, 1908:*

COMFORT, N. C., Pharmacist. Directed to report to Passed Assistant Surgeon V. G. Heiser, chairman of a board of examiners, to determine his fitness for promotion to the grade of pharmacist of the second class.

EARLE, B. H., Passed Assistant Surgeon. Granted leave of absence for five days, from March 2, 1908.

FOSTER, M. H., Passed Assistant Surgeon. Leave of absence granted for two months and eleven days, from October 9, 1907, amended to read two months and nine days.

KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for five days from February 26, 1908.

KEEN, W. H., Pharmacist. Granted leave of absence for twenty days, from March 6, 1908.

SCOFIELD, R. B., Passed Assistant Surgeon. Granted leave of absence for three days, from February 23, 1908, under paragraph 191, Service Regulations.

*Board Convened.*

A board of medical officers was convened to meet in Manila, P. I., upon the call of the chairman, to examine Pharmacist N. C. Comfort for promotion. Detail for the board: Passed Assistant Surgeon V. G. Heiser, chairman; Passed Assistant Surgeon T. B. McClintic, recorder.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending March 7, 1908:*

BANTA, W. P., Captain and Assistant Surgeon. Advanced to the rank of captain, from February 18, 1908.

BIRMINGHAM, H. P., Major and Surgeon. Now on duty as medical inspector, Army of Cuban Pacification, will report in person to the commanding general of that Army for duty as chief surgeon, relieving Lieutenant Colonel Blair D. Taylor, deputy surgeon general.

LEGARDE, L. A., Lieutenant Colonel and Deputy Surgeon General. Upon arrival in the United States will proceed to Denver, Colo., and report in person to the commanding general, Department of the Colorado, for duty as chief surgeon of that department.

MABEE, J. I., First Lieutenant and Assistant Surgeon. Ordered to report in person on Tuesday, March 24, 1908, to Lieutenant Colonel George H. Torney, deputy surgeon general, president of examining board, Presidio of San Francisco, Cal., for examination to determine his fitness for advancement.

SCOTT, G. H., Captain and Assistant Surgeon. Ordered to report in person on Tuesday, March 24, 1908, to Lieutenant Colonel George H. Torney, deputy surgeon general, president of examining board, Presidio of San Francisco.

SCOTT, G. H., Captain and Assistant Surgeon. Relieved from further duty at Fort Duchesne, Utah, and assigned to permanent station at Fort Logan, Colorado.

TAYLOR, B. D., Lieutenant Colonel and Deputy Surgeon General. Relieved from further duty at the Army and Navy General Hospital, Hot Springs, Ark., and upon his relief from duty as chief surgeon, Army of Cuban Pacification, will proceed to Atlanta, Ga., and report to the commanding general, Department of the Gulf, for duty as chief surgeon of that department.

VAN DUSEN, J. W., Captain and Assistant Surgeon. Now on leave of absence at Norwalk, Ohio, will proceed on or before the expiration of said leave to Fort Crook, Neb., for duty.

**Navy Intelligence:**

*Official list of changes in the medical corps of the United States Navy for the week ending March 7, 1908:*

GARDNER, J. E., Medical Inspector. Ordered to the marine recruiting station, Boston, Mass.

HULL, N. F., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 12, 1907.

MCDONELL, W. N., Passed Assistant Surgeon. Detached from the naval recruiting station, Chicago, Ill., and ordered to the *Hancock*.

PUCK, R. F. S., Pharmacist. Appointed a pharmacist from February 24, 1908.

THOMPSON, J. C., Surgeon. Ordered to report at Washington, D. C., to the Secretary of War, for special duty.

WHEELER, L. H., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 22, 1908.

**Births, Marriages, and Deaths.***Married.*

BACHMAN—LESSIG.—In Pottstown, Pennsylvania, on Wednesday, February 26th, Dr. Morton V. Bachman, of Philadelphia, and Miss Caroline Bleim Lessig.

HAMMEREL—WOLF.—In Stillwater, Minnesota, on Wednesday, February 26th, Dr. Ambrose Louis Hammerel and Miss Anna Martha Wolf.

SCHISLER—CHIPLEY.—In St. Louis, Missouri, on Monday, February 24th, Dr. Edwin J. Schisler and Mrs. Lily Chipley.

*Died.*

CHAMBERLAIN.—In Madanapalle, India, on Monday, March 2d, Dr. Jacob Chamberlain, of New Brunswick, New Jersey.

DUFLOO.—In New York, on Saturday, February 29th, Dr. Armand L. F. Dufloo, aged seventy-five years.

EATON.—In Des Moines, Iowa, on Thursday, February 27th, Dr. Charles W. Eaton, aged fifty-two years.

GREENWALD.—In Philadelphia, on Wednesday, February 26th, Dr. Daniel F. Greenwald, aged fifty-five years.

HUGHES.—In New Rochelle, New York, on Thursday, March 5th, Dr. Oliver John Davis Hughes, aged fifty-five years.

LUEDEKING.—In St. Louis, Missouri, on Saturday, February 29th, Dr. Robert Luedeking, aged fifty-four years.

MACLAY.—In Chambersburg, Pennsylvania, on Tuesday, March 3d, Dr. David MacLAY, aged fifty-six years.

RING.—In Olcott, New York, on Saturday, February 29th, Dr. Charles A. Ring, aged fifty-four years.

ROOSA.—In New York, on Sunday, March 8th, Dr. Daniel Bennett St. John Roosa, aged sixty-nine years.

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WHOLE NO. 1529.

### Original Communications.

#### PROGRESS IN GYNÆCOLOGY FROM A CLINICAL VIEWPOINT.\*

By H. J. BOLDT, M. D.,  
New York.

While the advances made in gynæcology during the last few years are not so numerous as in some other departments of medicine, yet they are of sufficient importance to be noted.

Time was, not so many years ago, when it was a common occurrence to have an abundant number of uterine appendages that were practically normal presented at medical meetings and exhibited by the operator as trophies of his skill. Most of the patients recovered from the operation, it is true, but what was their physical condition subsequently? The greater number were not benefited at all; many of them were made much worse, while only a comparatively few were made better. When we seek for a reason for these unsatisfactory results, we are inevitably brought to the conclusion that the indication for the operation was based upon poor judgment; that in reality it did not exist at all. Physicians of many years' experience have passed the operating furor, and their judgment has been improved by experience, although it has not become perfect. In those days fifty per cent. of the cases of pelvic pain without gross palpable lesion in the pelvis were ascribed by the operating gynæcologist to an inflammation of one or both ovaries, the removal of which was deemed necessary to effect a cure. The tubes were said to be inflamed, whereas in reality, from a strictly pathological viewpoint, they were normal or very nearly normal.

Following the period of indiscriminate extirpation of the pelvic organs, there comes a period of ultra-conservatism, and though conservative procedure sometimes acts to the detriment of our patients, it has even then this advantage over radical surgery, that if the conservative operation does not bring about a symptomatic cure, a radical operation may subsequently be done.

Let me illustrate by an example: Take a patient with bilateral pyosalpinx of the chronic variety. Nearly all such patients have a chronic metroendometritis, and it is safe to state that they are sterile. From a theoretical point of view, such pelvic organs are useless to the patient. If she is advanced in years, near to the climax, and if the symptoms arising from the diseased local condition indicate surgical intervention, then the only

correct procedure is to do a radical operation—that is, remove the uterus with its annexa. If, however, the patient is in her thirties, or even younger, the psychical effect of such an operation is likely to be very severe. In the latter case, then, it is better to excise the Fallopian tubes, and if a zone of seemingly normal ovarian stroma is still present, to excise also the diseased area of ovarian tissue, and to implant the apparently normal part into the uterine cornu, from which the interstitial part of the tube also should have been excised. Subsequently, the cure of the metroendometritis by means of local treatment may be attempted. With such operation psychical disturbances are avoided. Should it be shown, after a sufficient time has elapsed, that the patient is not cured, then we may resort to a radical operation.

The greater conservatism of operating on the pelvic organs is also exemplified when operating for tubal pregnancy. While most operators still follow the old method of removing the entire annexum of the affected side, a considerable number have given that up and are content to remove only the Fallopian tube, retaining the ovary; while under favorable circumstances, some operators are still more conservative, and content themselves with splitting open the affected tube and depriving it of the conception product.

On this kind of conservatism of the pelvic organs I think most of the gynæcological operators of experience are agreed. It is not so, however, with conservative operations in multiple myomata. While the procedure has been tried frequently, the results are so far from satisfactory that we are still on the line of experimentation. With pedunculated tumors and single interstitial tumors of moderate size, we have passed the period of experimentation, and can with safety do a myomectomy.

With regard to myomatous tumors, we are learning more from year to year, and are realizing that they are not so innocent as we formerly thought them to be.

In operations for cancer of the uterus we have done much to advance the curability of the disease by doing the operation more radically, not relying upon the extirpation of the affected organ alone, but going beyond the boundaries of the organ and excising the parametria and the adnexa, and in some cases, even a part of the bladder.

Whether the longevity of patients afflicted with carcinoma of the cervix is increased by such procedure, has not yet been settled. It does not seem possible to remove all the pelvic and retroperitoneal glands. While I have done the operation,

\*Read at the Twentieth meeting of the New York Academy of Medicine.

number of times, I am not yet favorably impressed with it, both because of the magnitude of the surgical intervention, and because, in my opinion, it is impossible to remove all the invaded glands. About five years more of work in this direction should determine the mooted point.

Our knowledge of chorioepithelioma may be classed among the late achievements in gynecology. The first description of this malignant disease was given by the late Martin Saenger. Since he called the attention of the profession to this occasional transformation of conception product structures, many exhaustive and valuable articles on this comparatively new disease have appeared, and we have learned to recognize it sufficiently early to save many lives by immediate radical surgical intervention.

Very marked progress has been achieved in the treatment of purulent peritonitis. It has been proved by those who have tried the more modern method of extensive nonintervention that the rate of mortality is much lower. After the primary cause of the peritonitis has been removed, no attempt should be made to rid the abdominal cavity of the purulent secretion by flushing and sponging, because to remove it all is impossible, and the time consumed in flushing and sponging is too long and the traumatism too great. One should content himself with placing a drain in the cul-de-sac of Douglas, without any flushing or sponging. Rapid work is essential. When the patient is put to bed she should be placed in a semisitting position, the position suggested by the late Dr. George R. Fowler.

From that time on, continuous instillation of saline solution should be used, a method advocated by Dr. J. B. Murphy. It is certainly marvellous what a large quantity of fluid is absorbed. I have found that the best technique consists in taking an ice water cooler of two or three gallons' capacity, filled with hot saline solution (0.9 per cent.). This is kept at a temperature of about 110° F. by adding more very hot solution as needed. The quantity so added should be noted, so that we may know how much the patient absorbs. The container is placed alongside the bed and the rubber tube, with a small-sized rectal point, is attached. The flow is regulated by the faucet, and should not be more rapid than a quick dropping. The nozzle is inserted into the rectum, and the instillation is continued steadily, day and night. In one of my cases fourteen quarts were absorbed in twenty-four hours.

We have also learned by experience that, in instances of cystocele associated with descent of the anterior vaginal wall, a simple operation on the vaginal mucosa, such as some form of anterior colporrhaphy, does not suffice to cure a patient of the cystocele, but that it is necessary to separate the bladder from its cervical attachment and displace it upward, and then attach the vagina to that part of the cervix to which the bladder had been previously attached.

It would take more time than that allotted on this occasion were I to consider also the strictly scientific progress made in gynecology, and to consider in detail all of the clinical advances. I have, therefore, limited myself to those achieve-

ments which I consider most important and bear strictly on gynecology.

39 EAST SIXTY-FIRST STREET.

## POINTS IN THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.\*

By EMMET KEATING, M. D.,

Chicago,

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Medical society discussions of the subject of pulmonary tuberculosis indicate that it is difficult for many physicians to erase from their minds the clinical picture of what was formerly conceived to be an early diagnosis of this disease. Teachers in medical schools soon learn that students are least proficient in those subjects of which they have heard most, prior to their routine consideration. It seems that the exhaustive studies and discussions of the subject, that have filled the medical journals, while they have been of immense profit to those who are especially interested, have failed to impress the majority, who mistakenly infer that there is nothing more to be learned of a disease of which so much has been said and written. The *Bulletin of the Chicago Department of Health* states that for the week ending December 7, 1907, seventy-four people died from pneumonia, and seventy-seven died from various forms of tuberculosis. These figures do not indicate very startling progress in the prevention and cure of tuberculosis.

Although the pathologists have been demonstrating the almost universal prevalence of tuberculous lesions in adults that come to autopsy, we are slow in understanding that it is not the presence of tuberculous foci that should be cause for alarm, but the manifestation of the infection that should demand prompt and decisive action. When it is fully appreciated how slowly the disease progresses in its incipency, how grudgingly the organism yields to the invasion and with what readiness favorable reaction occurs, the number of cases of quick consumption will dwindle to a small minority, and we will find little solace in the thought that death in these cases is inevitable.

The mistaken belief that the tubercle bacillus must be found in the sputum before a diagnosis can be made is responsible for lack of care in clinical examination, errors in diagnosis, and unnecessary delay in the institution of proper treatment. It is quite true that if the patient recovers there is no positive evidence that the illness was due to tuberculosis; but if sufficient care has been exercised to rule out other diseases such a diagnosis is justifiable.

Clinical ability is largely proportionate to a knowledge of pathology, but the ambition to have diagnoses confirmed at the autopsy table is not always conducive to close and careful study of patients, nor to the making of efforts to effect a cure. If sputum can be obtained it should be examined in all cases, but the examiner should keep in mind that a negative sputum may be demonstrated from a victim of

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pulmonary tuberculosis, as well as a negative urine from a case of nephritis. Bacteriological studies have made possible the diagnosis of pneumococcus infection, when lung symptoms are wanting; but as it is seldom convenient to make the cultures to prove its existence, the clinical diagnosis is made. If the sputum examination offered as many difficulties as the recovery of the pneumococcus from the blood, more skill in the way of clinical recognition would be developed. Dr. Herrick has told us that "the physician has no right to throw the entire responsibility of an important decision upon the laboratory" (1). The value of the laboratory findings in any disease process should not be minimized, but these findings are but a part of the evidence, and the correlation with the clinical picture is a necessity in arriving at a correct conclusion. It is entirely possible to make a diagnosis of pulmonary tuberculosis before the condition is suspected by either the patient or his associates. The prospect of cure and the difficulties involved in the treatment of fairly well advanced cases do not admit of delay in recognizing the disease.

"Cambridge found bacilli in the sputum of 866 cases out of 925 (63.6 per cent.); and Lawerson Brown, who frequently made more than one examination for the same patient, found them in forty-two out of ninety incipient cases (46.7 per cent.); and in eighty out of eighty-seven moderately advanced cases (92 per cent.); Turban found tubercle bacilli in the sputum in 325 out of 408 patients (79.9 per cent.), during the course of the disease; and, according to stages, in thirty-seven out of ninety-seven cases (37.5 per cent.) in the first stage; in 184 out of 205 cases (89.9 per cent.) in the third stage. Julius Nagel found tubercle bacilli in 161 out of 1,081 female patients (14.9 per cent.); in eleven out of 762 cases (1.4 per cent.) in the first stage; one hundred out of 264 cases (38 per cent.) in the second stage; and in fifty out of fifty-five cases (91 per cent.) in the third stage. Nagel asserts that on account of the weaker muscular expiratory mechanism in women the chance of finding tubercle bacilli in the sputum of women is less than it is in men. They are also said to swallow their sputum more than men. From statistics of several different German sanatoriums, from records made on admission, I find that out of 3,429 patients with expectation, 1,351 (39.4 per cent.) showed tubercle bacilli; 438 out of 1,555 (28.2 per cent.) in the first stage; 225 out of 705 (31.9 per cent.) between the first stage and second stage; 302 out of 612 (49.3 per cent.) in the second stage; 176 out of 278 (63.3 per cent.) between the second and third stage; 209 out of 276 (72.1 per cent.) in the third stage; and out of three in which the stage was not recorded, 2. It is made presumed that care was exercised in obtaining the sputum for these statistics, and that the compilers were skilled in the use of the microscope. They are in accord with the experience of any physician who has kept records of his patients, and has had the opportunity to follow the subsequent history of those in whom he suspected pulmonary tuberculosis at the first examination.

A careful and searching history should be obtained (2). Fear of the incurability of the disease

has been so firmly impressed upon the minds of most persons that admission of the disease in members of the family is evaded. If the patient suspects the presence of the infection in his own case he not infrequently becomes reluctant and aggressive if the line of questioning suggests that the examiner has in mind the possibility of tuberculosis. Denial of facts and conditions is not uncommon. Diseases of childhood are easily overlooked if the offhand thoughtless disclaimer of the patient is at once accepted. The occurrence of these infections are important in that conditions are established that render the tissues of the child susceptible to the implantation of the tubercle bacillus, which may become a menace in after years. Of importance is the past and present association with others suffering from tuberculosis. The occupation may be a causative factor, but no trade or profession is exempt. Inquiry should be made as to the manner of living, worry, overwork, or a too zealous devotion to social duties, which results in a nervous breakdown. Does the bedroom receive fresh air? Is the window kept open at night, and how much? An inch or two is not enough. How does the patient eat? Is it coffee and rolls for breakfast, a starvation lunch at noontime, and a fifteen cent dinner in the evening? Has the patient, misled by the stomach symptoms, been indulging in a light diet, which further impairs the nutrition and serves to aggravate the distressing hyperchlorhydria that is often present? These are common conditions found daily in clinic and office, and merit more attention than they have received. Slight hæmoptysis may have occurred months and even years before the patient comes under our observation. Night sweats are found to have occurred at different times in many cases. It has been stated that those children whose heads sweat profusely when they are asleep are almost always subjects of tuberculous infection (4). Patients who have pulmonary tuberculosis tire easily, especially in the afternoon.

The expression of the face is often significant, sometimes worried and anxious, sometimes discouraged and apathetic. A slight degree of dependency is generally apparent. The feet and hands are cold and clammy. Emaciation is not a feature of an early case. The red line of the gums at the margin of the teeth was noted fifty years ago. A number of decaying teeth may be considered both as a cause and a result of tuberculosis. In many cases the tonsils are chronically inflamed, and the larynx presents a pale and anemic appearance. If emaciation is not present, the chest will not have the phthisical appearance described in the textbooks. When this condition is found, no other disease process being present, it may be generally set down that the case is well advanced. Subclavicular retraction will be noted in many cases, but may be of slight degree. Expansion is apt to be limited, as many of these patients are shallow breathers. Undue prominence of the scapulae is not seen in those patients who have lost but a small amount of weight. Changes in vocal fremitus cannot be expected where the involvement of lung tissue is so slight as to make it difficult to know from these findings that tuberculosis is the disturbing factor.

When the infection first becomes apparent

extremely difficult in many patients to determine the existence of the process by the chest findings alone, or to decide whether we are dealing with a simple bronchitis, a slight bronchopneumonia, or a healed lesion. With a simple bronchitis of small degree there is not apt to be any disturbance of other organs that are manifest either to the patient or to the physician. When tuberculosis is present, the examiner will be able to find pathological or functional changes in other organs, produced by the lung infection. Early in the infection the lung findings can only be considered as confirmatory evidence of pulmonary tuberculosis. Pleurisy has been considered positive evidence of tuberculosis, but I do not believe it to be an initial symptom, as I have not found symptomatic or physical evidence of it in beginning cases. Pain in the region of the heart is often the only one of which the patient complains.

When the process is sufficiently advanced to present physical signs, a slightly higher percussion note is detected, which extends from the apex to the upper border of the second rib. In slight variations of the percussion note the examiner should strike eighteen or twenty blows with the percussion hammer instead of the customary three or four. Not infrequently the patient will complain of pain within the chest beneath the area being percussed. Over this area the stethoscope will show an inspiratory sound that is sometimes harsh and sometimes jerking in character. Care in listening will demonstrate slight prolongation of the expiratory murmur. Râles, either dry or moist, are seldom heard. Râles that are difficult to elicit can be heard more plainly if the patient is instructed to breathe deeply several times in succession. If it is desired to demonstrate bronchial breathing, rather shallow, rapid breathing is most effective.

Posteriorly, the higher percussion note will be found as low as the spine of the scapula. The abnormal breath sounds heard beneath the clavicle are here more pronounced, and pectoriloquy may be noted as low as the fourth rib. In uncomplicated cases no change in size or position of the heart can be demonstrated. There is always a degree of tachycardia present, and an increased force to the contraction of the organ. Aside from the pain caused by a gas distended stomach, there is nothing either clinically or pathologically to account for the pain in the heart region complained of by the patient. The examination of the abdomen may be entirely negative, but pressure over the stomach will, in the majority of cases, elicit pain. In more advanced cases almost the entire abdomen may be sensitive to pressure; and in the female the tubes and ovaries will be found quite sensitive. Menstruation is not often affected; if the function should be altered it seldom has any bearing on the case, as the flow not infrequently continues until a short time before death. The pulse and temperature are important features, the afternoon temperature of most significance being 99° F.; a pulse rate of 80 or a trifle higher will be found both morning and afternoon.

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34 WASHINGTON STREET.

## THE TREATMENT OF ECZEMA IN INFANTS AND YOUNG CHILDREN

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It is with considerable hesitancy that I present this paper before a society composed of members skilled in the treatment of diseases of children. For the subject of eczema is so vast, and so many points require consideration, that it is difficult to choose which ones to touch upon in a paper that must be limited by lack of time.

Of all the cutaneous diseases, eczema is the most important, for it, in some of its protean forms, constitutes about one third of all of the skin diseases treated in the dermatological clinics of the world.

It is of common occurrence among infants and young children, and often proves extremely difficult to handle; many factors must be taken into consideration before one can expect to accomplish a cure.

Eczema is a catarrhal dermatitis, and if the typical symptoms of redness, swelling, vesiculation, and exudation are marked the diagnosis is a comparatively easy matter; but if there should be any variation from type the diagnosis may become difficult.

It is unfortunate for any one who is not a cutaneous specialist that writers upon skin disease have seen fit to multiply adjectives in attempting to describe the clinical types of eczema; the essential point to remember is that the treatment must be appropriate for a catarrhal skin disease that may be acute, subacute, or chronic.

These terms, acute, subacute, and chronic, should be understood to indicate the grade of inflammation, rather than the length of time the eruption has existed.

Infantile eczema is usually acute or subacute; when acute it is attended with redness, heat, and swelling; when chronic these conditions have, to a great extent, subsided, and the skin is considerably thickened.

Acute eczema frequently runs a typical course of three stages. First, the stage of congestion, erythema, and vesiculation; second, weeping and crusting; and, third, the stage of resolution by desquamation.

Owing to the thin and sensitive epidermis of the young, the vesicular stage may not be present, or if it is it is very transitory, and the picture first seen by the physician is the raw, red, exuding, and crusted surface. This condition is brought about by an intense effusion of serum underneath the epidermis, which washes it away in mass.

It occasionally happens that the effusion is very slight, and the congestive stage is rapidly followed by the squamous.

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The four types of eczema that are of special interest to those who treat diseases of children are the erythematous, the papulovesicular, pustular, and squamous.

Erythematous eczema is usually dry, and is the mildest form that children have: it is often described under the name of pityriasis; it is more frequently seen upon the face and hands, appearing, in some instances, as a simple chapping of the skin. It is also quite common to see erythematous eczema occur, in small rounded spots, scattered over different parts of the body. Although, in the adult, this variety is characterized by intense itching, in children this subjective symptom is comparatively slight.

The papular variety, eczema papulosum, the lichen simplex of the older writers, is observed in childhood; it usually appears on the flexor surfaces of the body as discreet, or numerous, irregular groups of bright red, acuminate papules, which, from the scratching, are tipped with minute blood crusts; if the disease becomes at all chronic the groups run together and are converted into thickened, scaly, or crusted patches.

The vesicular variety, eczema vesiculosum, is the most typical expression of the disease, and in infants is generally seen upon the face.

In the vesicular form the duration of the vesicle is usually so short that the physician sees the patient after the vesicle has ruptured, and there is a red exuding surface. The exudation is sticky or gummy in character and stiffens the hair and linen.

In children and infants the inflammation is usually intense, and the skin is swollen and red. This is the infantile eczema rubrum of the textbooks.

Pustular eczema is this type when it has become infected by the pus organism; then instead of exuding clear serum, the discharge becomes purulent and dries into brownish, or greenish crusts; instead of the thin, yellowish, friable scales of a serous exudate.

Postular eczema is more frequently seen on the head and face of strumous and ill nourished children or those whose skin and clothing have not been kept clean. It is also the sequel of pediculosis capitis; then the eruption is found on the scalp, especially over the occipital region and the back of the neck.

Squamous eczema, eczema squamosum, may follow any of the other types, and as it indicates that the attack is declining, it might be termed the type of resolution.

The greater the amount of previous inflammation the greater and more persistent the scaling and vice versa.

*Etiology.*—It is difficult to discuss the etiology of eczema in infants and young children in a limited paper, for so many factors must be considered. The exact cause or causes are perhaps still obscure, but we do know that the great majority of cases seen in the very young are due either to external irritants or reflexes from the gastrointestinal tract.

Heredity plays but a small role in its causation. Children who have inherited delicate skins are especially subject to eczematous outbreaks, provided there is any irritation either external or constitutional. Males seem to be slightly more subject to eczema than females.

In the true definition of the term, eczema cannot be said to be contagious or parasitic, unless those cases of catarrhal dermatitis that are the sequel of ring worm or scabies are included under the head of eczema.

The diet has considerable influence in producing the disease in small children; over feeding has as great an ætiological bearing as the kind of food given.

A great deal has been said about the influence of dentition in the production of eczema; dentition is a physiological process and never causes eczema or any other skin disease; but reflexly, through digestive disturbances, it may cause an eruption on the face of children, the so called tooth rash, which can readily become eczematous. Intestinal parasites may cause an outbreak of eczema in children so predisposed either through reflex impression, or by their disturbing influence upon the digestive functions. A tight foreskin, or adhesions of the hood of the clitoris may produce a reflex eczema, but it should be remembered that every male infant who is the victim of eczema is not the possessor of a tight foreskin, nor does every child with a tight prepuce develop eczema. In short one thing alone, be it dentition, a tight prepuce, or a disturbed digestion, is not capable of producing an outbreak of eczema in young children; there are usually many factors that enter into the sum total of the ætiology of the disease.

*External Causes.*—Among the external causes of eczema should be mentioned the animal parasites (pediculi and the scabic louse) and diseased, or more properly speaking malformed skin, as illustrated by ichthyosis, over clothing and improperly placed clothes and binders, woolen underclothing, and sometimes, in older children, the presence of irritating dye stuffs in the clothing that comes in contact with the skin.

*Diagnosis.*—In infantile eczema, as in other diseases, the correct diagnosis must be made before the proper treatment can be instituted.

There are certain diseases that bear a transitory resemblance to eczema, and to distinguish them seems to be a difficult task to many practitioners. In making a diagnosis the physician should place before his mind the picture of a catarrh of the skin, with its attendant erythema, vesiculation, papulation, exudation, and crusting; the exudations being of a sticky, mucilagenous nature. If this picture is remembered, then the distinctive diagnosis and treatment become a comparatively easy matter.

The principal skin diseases which might occur in infants and young children, that could be mistaken for eczema are: Scabies, impetigo, erythema, and syphilis. The distribution of scabies is so pathognomic that even when aggravated by maltreatment and scratching it assumes an eczematous character it should be easily distinguished. It would seem that the eruption produced by head lice could be easily diagnosed and not mistaken for eczema; the characteristic location on the occipital region is enough to stamp it pediculosis and not eczema.

Impetigo. If the eruption is composed of closely aggregated pustules it might easily be mistaken for impetiginous eczema, providing the characteristic targets that impetigo always begins as observed pre-



sized blisters, containing serum, which soon become seropurulent, and not as pin point or pin head sized papules or vesicles, which exude a sticky, serous fluid. The impetiginous lesion dries into a brownish crust, while the eczematous vesicle generally ruptures spontaneously.

Erythema.—In infants and children this is easily distinguished from eczema, but if a mistake is made, the erythema can readily become a true catarrh of the skin.

The symptoms of inherited syphilis in infants are so well marked that, to an audience of this character, it is only necessary to mention it in passing.

The other diseases which are frequently mistaken for eczema are erysipelas, miliaria, dermatitis, herpetiformis, ring worm, and favus; time will not allow me to enter into their discussion.

The symptoms of eczema in young children are constipation or loose movements indicative of intestinal irritation, some febrile disturbances, restlessness caused by itching, and the acute or subacute eruption which assumes one or more of the types previously described.

*Treatment.*—The treatment of eczema in infants and young children must be divided into two parts: First, the care of the child; and second, the treatment of the disease proper. The first division is the more important, for if the child is properly and hygienically cared for the treatment and cure of the cutaneous disease proper is often an easy matter.

Clothing.—The clothing of the child should be as light as possible; heavy flannel underclothing should be avoided, in fact, many children have an inherited idiosyncrasy to woollens; in these cases all the clothing that comes in contact with the skin should be of either linen, cotton, or silk. Most mothers and nurses make the mistake of keeping the baby too thickly covered; the clothing and covering should be just sufficient to protect the child, and not great enough to stimulate the cutaneous glands.

Care should be taken not to have the binders or bands of the clothing too tight upon children with sensitive or tender skins.

It would, perhaps, be better for the cutaneous integrity of the infant if water for bathing could be avoided, and some bland oil, such as olive or almond, be substituted; but it is almost impossible to properly remove crusts, soiled secretions, and debris without water, yes even soap and water! The water should be soft, rain or spring water, but if this is unattainable, water that has been boiled and cooled will be found quite as good; bran baths to which a small quantity of sodium bicarbonate has been added will often be found useful; castile, or the superfatted soaps, can be used when soap is indicated, but it is better to use as little soap as possible, for even the mildest will irritate some skins. After the child has been thoroughly dried, the body, diseased portion and all, should be thoroughly innuncted with some bland grease, such as cold cream or almond oil. The physician should be careful to prescribe a perfectly fresh oil or the best cold cream, for it is a fact of common observation that much of the olive or almond oil procured from the drug store is apt to be rancid, and the cold cream so badly made that it acts injuriously on sensitive skins.

I think that dermatologists as well as pædiatrists make a mistake when they impress upon the minds of the mother or nurse the dangers of using water on an eczematous skin; proper bathing at stated intervals, every third day or once a week or longer as the case requires, is not only noninjurious but beneficial, for, as stated above, water is the best medium for removing soiled cutaneous secretions and other deleterious material. After the bath the child should be thoroughly innuncted with cold cream or dusted with some bland powder, preferably of mineral origin, because the vegetable, such as lycopodium, rice powder, or starch, take up the secretions, become rancid, and readily serve as culture mediums. Most mothers and nurses use talcum powder for dusting; the only objection to this is that it is apt to roll up in lumps; this can be prevented if the powder is thinly and evenly distributed. The oxide or stearate of zinc with or without bismuth is useful. A commercial powder called pulvula, which is said to be a zinc preparation, fills the requirements of a dusting powder better than those mentioned. Among the vegetable powders, lycopodium stands at the head, although in some cases either rye or buckwheat flour has a more soothing effect.

It seems needless to say that a child with eczema should be handled as little as possible, but it is a fact that is constantly disregarded by mothers and nurses.

Feeding.—The feeding of infants is a matter that tries the skill of the medical profession; and the difficulties are multiplied when the child is suffering from eczema.

It is a matter of common observation that the majority of eczematous children have been or are fed on artificial foods; these starch compounds have so upset the intestinal tract of the child that after repeated insults the skin becomes reflexly irritated, and eczema is the result.

The proper food for an infant, especially one with a sensitive skin showing a predisposition to eczema, is human milk. If this mode of feeding is impossible, cow's milk, either plain or properly modified, is the best substitute.

I have found that children fed upon sterilized or pasteurized milk are more subject to reflex eczemas from disordered digestive organs than those fed the plain or modified milk, and if pasteurized or sterilized milk is given to infants already suffering from eczema the disease is aggravated. The possible explanation of this is expressed by a remark of Jensen, quoted by Piffard in an article on milk in the *New York Medical Journal*, January 4, 1908. "The bacteria surviving pasteurization are, for the most part, the quick growing bacteria of putrefaction which are inhibited in raw milk by the lactic acid bacteria, but in pasteurized milk they multiply very fast, and undoubtedly they are capable of generating poisonous substances."

I have found the best modification of milk for children with eczema is the one formulated by Professor Bartley, and with his kind consent it is given in full:

"Strain off from the bottom of a bottle of fresh milk of good quality three fourths of its contents, leaving the cream and upper part of milk undisturbed in the bottle. This may be easily done with a piece of small rubber tubing, previ-

ously filled with water, to start the siphonage. Pinch one end of the rubber tube and hold it firmly, while the other is thrust through the cream and to the bottom of the bottle. Lower the outer end into the inner vessel of an ordinary double boiler, and release it when the skim milk will run out, provided the latter vessel is kept lower than the milk in the bottle. To the milk thus drawn off add a teaspoon and a half of Fairchild's essence of pepsin, or one junket tablet, and warm slowly in the double boiler to blood heat, or until the milk is well curdled. Now continue the heat with rapid stirring, until the thermometer indicates 150° F., when the curd should be well separated. Remove from the fire and strain, dissolve in the whey a heaping tablespoonful of sugar of milk. When cold pour the whey back into a milk bottle, and mix thoroughly with the top milk. In hot weather the mixture can be pasteurized, but it is not necessary in cold weather. If the food should prove too laxative reduce the quantity of milk sugar. It is well to add from one to two teaspoonfuls of lime water to each meal. As the child increases in age the amount of bottom milk siphoned off may be diminished.

After the child has cut its teeth milk should still constitute the bulk of its diet, with the addition of beef juice, cream, dry bread, and zwieback, and in the strumous cases benefit can be derived from the judicious administration of oils and fats; orange juice and baked apple can also be added to the dietary; it is often necessary to direct the mother to give the child frequent and liberal draughts of either soft or boiled water, this assists in the elimination of waste material.

**Constitutional Treatment.**—Most eczematous children are constipated; and various formulas have been devised for relief, but there can be no definite prescription given that will suit all cases. Occasionally a dose of castor oil is indicated; calomel in from one half to one grain doses either alone or combined with small quantities of rhubarb or castor oil will be found useful, this can be followed by magnesium milk or magnesium citrate; cascara sagrada in one of its various combinations is commonly employed by many physicians; while this drug is of undoubted benefit after awhile a tolerance is established and then recourse must be had to other remedies. Phenolphthalein, a recently advised preparation for the relief of constipation, is rather uncertain in its effects; in some instances a quarter of a grain dose will regulate the bowels, and again a much larger dose is necessary, while it often happens that even a small dose will cause intestinal discomfort and even pain.

I have found that malt sugar seems to work well in certain cases; this can be conveniently given in the shape of malted milk, one or two feedings in the twenty-four hours being sufficient to overcome and control the constipation. I know the use of malt sugar is against the teaching of pædiatrists, on the statement that sugar will cause fermentation and acid stools; while this may be theoretically true, I personally have never noticed any bad effects either upon the disease in question or upon the digestive functions of the child to whom it has been given.

No laxative should be given in large enough doses or for a sufficient length of time to cause purgation; the dose should be just large enough to relieve the constipation and regulate the bowels, except in those children that are heavy feeders and poor eliminators, then an initial dose of either calomel or castor oil can be prescribed to rapidly relieve and clean out the intestinal tract.

If the child is still at the breast some of its con-

stitutional treatment can be given through the mother. In the strumous eczema codliver oil and the iron iodide is indicated; if the eczema should be a manifestation of inherited syphilis, minute doses of calomel or bichloride of mercury will often effect a cure when other measures have failed. Calomel, or mercury and chalk in small doses is indicated for eczema in children of the flabby, lymphatic type.

The most troublesome symptom of eczema is pruritus; this can usually be relieved by external applications, if not, small doses of bromide or chloral can be given, but when these drugs are used their action should be closely watched, for the bromides are capable of causing a serious looking dermatitis, and when the skin is already diseased this drug should be most judiciously employed.

The routine administration of arsenic in infantile eczema should be most strongly condemned, for it does little or no good to the cutaneous disease and is apt to disturb the digestive processes; this drug is only indicated when its tonic effect is desired.

The important rule regarding internal medication is to give as little medicine as possible; for if the child is properly bathed, clothed, and fed, its constipation relieved, and the proper external application is used, little else will be required to effect a cure.

**External Treatment.**—The external treatment should be protective; the cardinal principle is not to apply anything to the skin that will irritate it, so, therefore, all ointments, lotions, or powders should be bland and protective.

All scales and crusts must be removed before any medicinal application is used; the scales can be softened with olive or almond oil, to which can be added one to three grains of resorcin or carbolic acid to the ounce. The oil can be used for a few days or until the scales are softened, then the parts should be thoroughly washed with soap and bran water, or water to which a small quantity of sodium bicarbonate has been added; the washing should be repeated as often as is necessary. During the interval between the water baths the parts can be cleansed with oil.

For the erythematous type, where there is little or no vesiculation, the application of some simple protective ointment, such as cold cream, petrolatum, or wool fat, will be all that is necessary; the petrolatum should be the refined white petrolatum, and it is not prescribed with an idea of a medicinal effect, but as a simple protective covering for the skin.

If the child is much exposed to the outer air it is sometimes advisable to cover the unguent with some bland dusting powder.

In eczema rubrum, if there is not much inflammation, benefit can be derived from dusting the diseased part with zinc oxide or bismuth, either separate or combined. If the diseased surface is much irritated and inflamed a mild boric acid lotion can be used until the inflammation subsides, and then an ointment composed of zinc oxide, ammoniated mercury, and cold cream will be found useful.

The physician is cautioned against prescribing the commercial zinc oxide ointment, as it is either too strong for the individual case, or the fatty base has become rancid. Cold cream is a much better oint-

ment base than benzoated lard. While it is not the purpose of the paper to give any prescription, the following combination will serve as an example of prescriptions when used—

- R. Ammoniated mercury, ..... 10 to 15 grains;  
Zinc oxide, ..... 10 to 25 grains;  
Cold cream, ..... 3j.  
M. S.: Externally.

If there is much pruritus carbolio acid or some tar preparation can be combined. If the disease has become chronic oil of cade or beta naphthol in from ten to thirty grains to the ounce of an ointment will assist the cure. In prescribing the tar preparations physicians should use discriminating judgment, for the tars do not act well in all cases; in fact, they frequently aggravate the existing inflammation, and sometimes produce a tar dermatitis. Occasionally cases of eczema resent any fatty applications, then lotions, such as the calamine lotion, must be resorted to.

The physician should examine the genitals, and if any adhesions are found they should be removed.

If the attack of the skin disease appears for the first time during the eruption of the teeth, or if the skin condition seems to be aggravated, appropriate measures should be instituted to assist dentition.

In concluding it is only necessary to reiterate what was said in the beginning, that it is extremely difficult to lay down any fixed rules for the treatment of eczema; for the remedies, be they internal or external, must meet the exigencies of the individual case and condition.

47 HALSEY STREET.

#### THE VALUE OF STAINED SMEARS IN THE DIAGNOSIS OF DIPHThERIA.\*

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I think that it is undoubtedly the opinion of men who are conversant with diphtheria, both in its clinical and bacteriological aspect, that in no case is the specific organism absent from the parts involved. True, there are a few men—fortunately, very few—who still have a tendency to deride or consider of little moment the findings of the bacteriologist, and who insist that mere inspection of the throat, etc., is sufficient for diagnosis, the aid of the microscope not being essential. These men either cannot or will not accept what are facts, not theories merely, and that is that organisms other than the Klebs-Loeffler bacillus can produce pseudomembranes identical with this later organism, and I think mainly because they know little about, and have worked less in, bacteriology. That this has been and can be proved beyond the peradventure of a doubt must be apparent to any one who has kept abreast of the literature or has made investigation for himself. Klebs (1) observed a whole family epidemic of false diphtheria which was caused by a large monococcus of the group of monads. Ballouche (2) has shown that typical diphtheritic pseudomembrane can be produced by the streptococcus, as also by the staphylo-

coccus and pneumococcus. Moreover, according to Bourges and Futterer, paralysis identical with that which often follows in the wake of a diphtheria intoxication has been seen as a sequelæ of a pure streptococcus angina. Again, Frankel's pneumobacillus can be responsible, and at times is, for errors of diagnosis. The symbiosis of Vincent's spirilla with the fusiform bacillus gives rise to an exudate, a pseudomembrane, call it what you will, which on more than one occasion, to my knowledge, has caused an individual unfortunately so afflicted to be sentenced to an enforced sojourn in a ward of the diphtheria pavilion. Another organism, which of late years we have been led to strongly believe is the ætiological factor of syphilis, the *Spirochæta pallida*, has been, while not to the same extent, guilty of the same thing. To quote from a report of the local Government Board of London (3), "It must be remembered that membranes produced by bacteria other than the Klebs-Loeffler bacillus may appear in the throat, and that in many cases the clinical phenomena prove it to be of little assistance; in these cases a careful bacteriological examination should always be made." Filatov (4) says: "In the diagnosis of the throat, clinicians are guided, not by the anatomical changes of the mucous membrane, but by the ætiological causes, namely, diphtheria of the throat is an inflammation of its mucous membrane produced by the Klebs-Loeffler bacillus. It is immaterial whether the throat be affected by a croupous exudation or a catarrhal one: as soon as we find that in a given case the cause of the sore throat is Loeffler's bacillus, we should regard such morbid process as diphtheritic and should so characterize it. Since not only Loeffler's bacillus is liable to produce diphtheritic inflammations of the mucous membranes, i. e., membranous exudations, but other microbes may also have similar action, it is obvious that the presence of a membranous coating alone on some of the mucous membranes does not prove that we have to deal in any given case with a case of diphtheria."

Personally I had the privilege and opportunity while at the Municipal Hospital of observing both clinically and bacteriologically many cases in which the inspection of the throat alone was responsible for errors in diagnosis, and I am certainly convinced that without a bacteriological examination one is not justified in saying that this case is one of diphtheria and that one is not. Let me here cite two cases as examples:

CASE I.—Miss C., a trained nurse, while caring for one of her associates who had been sent to the hospital suffering from scarlet fever, was taken ill with headache, rise of temperature, and angina. When her throat was first examined some slight whitish exudate was noticed on both tonsils, which later spread. It was considered a case of diphtheria and particularly in view of a report, by one of the resident physicians who, in my absence, examined a smear, that the Klebs-Loeffler bacillus was present in very large numbers. The patient was transferred to the diphtheria pavilion and antitoxine was administered. On my return to the hospital I was requested to examine the smear, and although it was carefully gone over not a single diphtheroid organism could be found. The first examiner had made the mistake, singularly so common with the inexperienced, of mistaking the *Streptococcus lanceolatus* with the diphtheria germ, this organism being in the smear exclusively, and substantiated by culture control. Although repeated cultures were made, the Klebs-Loeffler bacillus was never found. Twenty-four hours or thereabouts after-



ward the patient developed a cough with some dyspnoea, and while examination of her chest showed little or nothing, her subjective symptoms and her subsequent temperature reading made a diagnosis of central pneumonia more than probable. I may add that two days after the administration of the antitoxine she developed violent pains with swelling of her joints, and later a marked pericarditis with effusion. Whether the pneumococcus was responsible for the entire train of troubles, I am not prepared to say definitely. I believe that it was. A blood culture remained sterile.

Here then is a case where the pseudomembrane was indubitably pneumococcic in origin. It certainly was not diphtheritic, since as I say after repeated cultures the specific organism of that disease was never found.

CASE II.—W. J., a young male, was admitted to the diphtheria ward, suffering from malaise and angina. Examination of the throat showed a dirty white membrane on both tonsils and to a slight extent also on the uvula. Diagnosis other than diphtheria was not entertained at first, and he was, and properly, so treated. However, repeated negative cultures with the persistence of the membrane prompted the physician in charge to look further into the cause of the trouble and accordingly he was sent to the laboratory with a request that a smear be made and examined for the *Spirochaeta pallida*. This was done, that organism found, or what was thought to be the organism, appropriate treatment was adopted, and the exudate promptly disappeared.

And so case after case might be recorded if time and space permitted. To repeat, then, I say that every case of diphtheria, providing the throat be properly swabbed and cultured, the culture incubated at the proper temperature—an important factor—and examined by a competent bacteriologist, will invariably demonstrate the bacillus. Conversely, and I cannot do better than quote Professors Kathnack and Hardy (5): "From the investigations made all over the world, we must refuse to call any lesion diphtheria unless it is associated with the bacillus. The bacillus asserts itself with an authority which must put aside any preconceived notions." There are those, of course, who will argue that the bacteriological investigation in a given case is not necessary, because if so suspicious as to be distinguished with difficulty, it should be for the welfare of the patient, as also for those with whom he might come in contact, that the treatment and precautions against contagion should be in accord with the assumption. Conceded; until the diagnosis can be clinched, as it were, by the microscopist, all this should be done, and promptly. If, however, the subsequent treatment is to be carried along logical and scientific lines; if that chaos in households which a wholesale disinfection entails is to be eliminated; if the perturbed mind of a parent consequent upon the knowledge that her child has diphtheria is to be set at rest, and lastly, and by no means the least, if statistical records are to be open to less criticism than they unfortunately are at the present time, then it is essential that bacteriological studies should be made in every case of exudative angina. Again, the argument has been advanced that since diphtheria organisms are found in healthy throats, as are in many instances with measles and other viral infections, the detection of diphtheria, when, as a matter of fact, that organism may be taking little or no part in the diseased process. This leads us to the question as to how many well persons harbor the organisms in their throats. According to a report of a com-

tee of the Association of the Massachusetts Boards of Health (6) persons not exposed to the contagion revealed the germ on culture in 3 per cent. of cases. In the eastern part of the United States the percentage was lower, or 1.39 per cent. On the other hand, their report says that in the exposed the percentage was from 8 to 50. If this latter is correct, then my experience must be somewhat unique. Smears and cultures from the resident physicians and nurses on duty in the diphtheria wards were taken at the various periods, and of the eighty or ninety so studied, only two gave positive results, or 2.2 per cent. Both were nurses, and singularly newcomers, having been in the hospital but four days, one of whom went down with the disease the day following the issuance of the report. To obviate any prejudice in the matter the cultures were made by one of the resident physicians and sent to the laboratory with those from the patients and under fictitious names. At any rate, the number of well persons whose throats contain diphtheria organisms are so comparatively few that, when found in diseased throats, we are justified in the inference that the case is one of diphtheria.

*The Value of Smears.*—Early diagnosis of pseudomembranous anginas is imperative, firstly, so that prompt remedial measures can be instituted, and secondly, if contagious, immediate isolation or removal of the patient to the hospital effected. That diphtheritic anginas frequently present the typical textbook pictures of follicular tonsillitis is a recognized clinical experience of many practitioners. Indeed, more than one life has been sacrificed because the clinician failed to appreciate this fact. It is not so many years ago that in an orphan asylum on the outskirts of this city such an error cost the loss of five lives and the expenditure of about four thousand dollars. In the following cases the Klebs-Löffler bacillus was undoubtedly responsible for the trouble, although the clinical picture was that of follicular amygdalitis:

CASE III.—A girl of ten years was sent to the hospital from their suburban home, with a request that she be admitted, as she was supposed to be suffering from diphtheria. On admission inspection of her throat revealed two much enlarged and congested tonsils, each having thereon a small membranous patch of yellowish purulent exudate. Her condition was considered as being a case of tonsillitis and not diphtheria, and certainly the appearance of the parts justified such a diagnosis. However, before discharging her to her home, as it was the intention to do if the smear should prove negative, it was deemed advisable to make a smear from the exudate, which was done. This showed an exceedingly large number of diphtheria organisms, and the next day a pure culture of the bacilli. Furthermore, a

CASE IV.—E. K., a druggist, presented all the clinical features of diphtheria. The throat was examined and the tonsils were found to be enlarged and congested, and each had thereon a small membranous patch of yellowish purulent exudate. A smear from the exudate showed a large number of diphtheria organisms, and the next day a pure culture of the bacilli. Furthermore, a

CASE V.—J. A., a young man, presented the clinical features of diphtheria. The throat was examined and the tonsils were found to be enlarged and congested, and each had thereon a small membranous patch of yellowish purulent exudate. A smear from the exudate showed a large number of diphtheria organisms, and the next day a pure culture of the bacilli. Furthermore, a

his initial diagnosis. Only when it was too late did he realize what he had to deal with, and the child died.

The following case was one in which a diagnosis of diphtheria was made but which smear and culture proved undoubtedly to be staphylococcic infection:

CASE VI.—Miss H., a trained nurse, was sent from one of the local hospitals where she was on duty with a diagnosis of diphtheria. On one tonsil was a small, white patch of exudate, about five millimetres in diameter. The tonsils were not markedly congested or enlarged. There was slight dysphagia. A smear was made, but no diphtheria organisms were found after a long and careful search. She was immediately discharged, and the next day, without any treatment whatsoever, she was entirely well, at least to all intents and purposes. The culture made from the same swab from which the smear was made showed on the following day a pure culture of the *Staphylococcus pyogenes aureus*.

We see that in Cases III, V and VI where smears served a good purpose. Had inspection alone been relied upon, it is easy to see how disastrous might have been the results, and particularly as regards Case III, where the child would have been sent home, there to mingle with other children. To have awaited the results of culture would have meant detention in the hospital for at least seventeen hours. Removal of Case IV to the Municipal Hospital was consummated one hour after the visit of the physician, in lieu of being deferred twenty-four hours had culture alone been relied upon, thus obviating the dangers of contagion, as the patient was a resident in an apartment house. The smear saved Case VI from being subjected to antitoxine treatment and forced detention in the diphtheria pavilion unnecessarily. Had a culture or smear been made in the case of the small boy a life might have been saved.

Being desirous of ascertaining the value of smears compared with cultures made and examined, a considerable number of smears were made from the noses and throats of patients admitted to the diphtheria and scarlet fever wards. My conclusion is that they are of great value, indeed, in experienced hands as valuable as cultures, because even the latter, owing to careless culturing for the most part, do not always reveal the true state of affairs. Of special value are they when an immediate diagnosis is required. The experience of Welch and Schamberg (7), who examined a large number of smears also at the Municipal Hospital, is much in accord with my own. It would be a mistake for me, however, to leave the impression that it is easy to positively identify the organisms in smears without some experience, as is demonstrated by the smaller percentage of errors as this experience is augmented. Smears obtained from the nose in particular are oftentimes difficult to interpret. But then I do not believe that either smears or cultures are of much value in diagnosing nasal diphtheria without the clinical evidence or guinea pig tests, because the nose is a frequent habitat of an organism the morphology and cultural characteristics of which—to the exclusion, perhaps, that it renders bouillon slightly turbid—are identical with those of the Klebs-Loeffler bacillus. It does, however, lack virulence. From the nose, also, even in culture, I have observed that virulent organisms only rarely show polar staining or granules, as is so frequently seen in those from the throat. As a matter of fact

polar staining and granules are often absent in organisms from throats as examined by smear. The grouping of the bacillus, rather than their actual morphology, I consider the more valuable in recognizing their presence. In looking over a smear containing the bacillus, they will be found in most part lying together in groups of two or more, parallel to each other or radiating from each other like the spokes of a wheel. This is most characteristic both in smears and cultures.

Of 529 smears examined, only in thirty-one did they fail to correspond with the cultures, and in every instance the smear was made from the same swabbing as the culture. This is a difference of 5.8 per cent. In twelve of these cases the report on the smears was positive when the culture showed no diphtheria organisms, although the case was one of diphtheria, as subsequent cultures proved. In three instances I can account for this as owing to a gas regulator which refused to regulate, and being a warm night in summer the temperature of the incubator rose to 52° F., a degree of heat we know to be prejudicial to the growth of the Klebs-Loeffler bacillus. In the remaining cases the discrepancy was due to the fact that other organisms doubtless predominated and choked out the diphtheria bacillus. Whatever the reason, it showed that here at least the smears were more reliable than the cultures. This, then, leaves twenty-four cases in which the error was on the wrong side, or 4.1 per cent. Six of these, again, were from the nose, a site from which, as I remarked before, it is at times difficult to interpret. In two of these six cases a long search of the smear failed to show any organisms whatsoever, and quite recently I was asked to examine a nose smear from a young physician which showed, and then only after considerable hunting, a single pair of organisms, lying side by side, on which finding he was isolated and later sent to the Municipal Hospital. The culture made from this latter patient showed the organism solely. Withal then, with these results—because even cultures, depending upon personal equation, incubator troubles, or the choking out of the diphtheria bacilli by more rapidly growing organisms, will show a degree of error of at least 4 per cent.—I do not think it is without the pale of consistency to give a value for smears almost as great, if not as great, as cultures. I would suggest, nevertheless, that cultures as controls ought always to be made, and it would be time well spent if every young clinician would make himself conversant with this means of diagnosis.

#### Conclusions.

No pseudomembranous angina should be considered as one of diphtheria if, after careful and proper culturing and competent examination, the Klebs-Loeffler is absent.

Cultures and smears should be made in every case irrespective of the appearance of the parts involved.

Typical pictures of follicular amygdalitis frequently show large numbers of virulent bacilli.

When in doubt, and until smear and culture can be examined, all cases should be treated as diphtheritic in origin.

That without clinical evidence or guinea pig tests, smears and cultures from noses are not of much value.

The grouping of the bacilli, rather than the

morphology, is the more valuable aid in the identification of the bacillus in both smear and culture. For immediate diagnosis smears are of great value; indeed, from the results obtained in the cases mentioned, it would tend to show that on the whole they were as valuable.

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## SYMPTOMATOLOGY AND DIAGNOSIS OF NEPHRITIS.\*

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More than one hundred years ago Nicholas Cotingo discovered a coagulable substance in the urine of persons afflicted with dropsy. To Richard Bright (1827), however, is due the credit of having produced the first evidence of the association of dropsy as a symptom, albuminuria as a sign, and altered kidney structure as a cause. Any one who has had the good fortune to have examined a copy of Bright's original monograph cannot fail to be impressed by his remarkable appreciation of the relationship of diseased kidneys to albuminuria and the clinical features of the affection which now bears his name. Equally wonderful are the beautiful colored plates illustrating lesions of the kidneys as he saw them at the post mortem table. Since Bright's time a certain knowledge of organic and functional disturbances of the kidney has been acquired, but were he to return to-day he would find us deeply perplexed over many of the same problems that confronted him.

It is generally conceded that the term "nephritis" includes certain diseases of the kidney associated with, or dependent upon, an altered state of metabolism and a defective condition of the blood, so that the disease is always bilateral. It is characterized by inflammatory changes in the various tissue elements which do not, however, lead to suppuration; and is manifested clinically by various features in which albuminuria, dropsy, and cardiovascular changes are prominent.

A satisfactory classification of nephritis to include the different clinical forms as well as the various pathological pictures of the disease has never been made. The subdivisions proposed by Senator, however, offer a working basis for both clinicians and pathologists.

1. *Acute nephritis*. (a) parenchymatous; (b) diffuse.

2. *Chronic diffuse nephritis, without induration* ("chronic parenchymatous nephritis").

3. *Chronic indurative nephritis*: (a) secondary induration (secondary contracted kidney); (b) primary indurative ("chronic interstitial") nephritis; (c) arteriosclerotic induration.

### 1. *Acute Nephritis.*

Acute nephritis is a simple inflammation which may only involve the parenchyma, or functional elements, of the kidney (tubular and glomerular epithelium); or it may be diffuse, so as to involve the interstitial as well as the parenchymatous tissues.

#### a. *Acute Parenchymatous Nephritis.*

*Symptomatology.*—This form of nephritis not infrequently exists without any distinctive clinical manifestations, either in the urine or elsewhere, as has been so graphically demonstrated by Cabot (R. C. Cabot, *Clinical Examination of the Urine*, *Journal of the American Medical Association*, March 18 and 25, 1905).

In many instances only the epithelium of the tubules is affected, while the glomeruli are not involved to any extent. In the mildest cases the only lesion found is a cloudy swelling and degeneration of the epithelium, such as is common in the infectious diseases accompanied by "febrile albuminuria." The urine contains only a small amount of albumin, and usually presents the characteristics of "fever urine," is scanty in amount, deep amber in color, strongly acid in reaction, of high specific gravity, with little or no sediment, in which only an occasional tube cast is found. This usual textbook picture of the urine in febrile conditions is not seen so commonly now as heretofore, however, because of the hydrotherapeutic measures with increased fluid intake that are instituted in our treatment of fevers at the present day. Dropsy and uræmic symptoms do not occur, and the only subjective symptoms are those due to the primary intoxication or infection. The albuminuria usually disappears with the subsidence of the fever.

#### b. *Acute Diffuse Nephritis.*

In acute diffuse nephritis the changes in the tubules are accompanied or followed by changes in the glomeruli and interstitial tissue which are more frankly inflammatory in character, and symptoms of renal insufficiency appear that are wanting in acute parenchymatous nephritis. Acute diffuse nephritis is seen most commonly during or following infectious fevers, especially scarlet fever, after the ingestion of soluble poisons such as corrosive mercuric chloride, etc. It is the usual form of nephritis which characterizes the "kidney of pregnancy." Sometimes, particularly in those cases following exposure to cold, acute diffuse nephritis may rank as a distinct clinical entity, having the character of an acute infectious disease, with the only symptoms referable to the kidneys.

*Symptomatology.*—The onset is often abrupt, but may be gradual when the kidney lesion develops during the course of an acute infectious disease.

The most prominent symptom is dropsy, which is often the earliest evidence of the renal condition. Its appearance is usually coincident with the alterations in the urinary secretion. The œdema first appears about the eyes and ankles, but may rapidly progress

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to a condition of general anasarca, associated with effusion into the various serous cavities of the body. In severe cases, particularly in children and in pregnant women, the first symptom may be a uræmic convulsion.

With the exception of dropsy, no other symptom is constant or characteristic in acute diffuse nephritis. Very often a pronounced anæmia develops quickly, with the low color index of a typical secondary anæmia. General constitutional symptoms are more or less marked. The patient looks ill, is often apathetic, if not somnolent. Fever, associated with a polynuclear leucocytosis, is often present.

The condition of the cardiovascular apparatus varies. In many cases the pulse tension is much increased, and, according to observations reported by Riegel, the rise in blood pressure in acute nephritis occurs early. This may be followed by a distinct hypertrophy of the left ventricle as shown by the increased area of cardiac dullness to the left and the accentuated second aortic sound. In other cases, especially severe ones, in which the strength of the myocardium is impaired by the toxic agent, the right ventricle becomes dilated, and the blood pressure may not be increased. This may be a factor in the occasional occurrence of acute cardiac dilatation. Pulmonary œdema may follow upon a gradual cardiac insufficiency or may be associated with a rapid effusion of fluid into the pleural sacs. As has been well said, the only vessels which do not leak are those of the skin, kidneys, and the intestines. The skin is dry and harsh, the urine scanty or suppressed, and the bowels constipated.

Gastrointestinal disturbances are inconstant, but the occurrence of nausea and vomiting always makes one apprehensive of approaching uræmia. Visual disturbances and retinal hæmorrhage may appear with the development of uræmia, but are rare as compared with their frequent occurrence in chronic nephritis.

*The urine* in acute nephritis is characterized by a diminution in the amount of the twenty-four hour secretion, the presence of albumin and tube casts, and usually red blood cells. But this usual urinary picture does not invariably obtain, however, as is well shown by the statistical reports of Emerson (C. P. Emerson, Cylindruria, *Journal of the American Medical Association*, January 6 and 13, 1906) and Cabot (*loc. cit.*).

The scanty urinary flow is sometimes the first symptom that attracts attention, and this is often coincident with the appearance of dropsy. In severe cases anuria may occur at the beginning. The total amount in twenty-four hours is commonly less than 500 c.c. and the specific gravity is normal or distinctly high. Albumin is almost constantly found, occasionally only in traces, but often in larger amounts, although it rarely exceeds 1 per cent. Tube casts are practically always present, and may be of any form, including epithelial, blood, and leucocyte casts. The urine occasionally contains much blood, and some red blood cells are almost constantly found on microscopical examination. The solids of the urine, particularly sodium chloride and phosphoric acid, are reduced, and the nitrogen excretion is said to be diminished.

*Diagnosis.*—The existence of an acute nephritis

can be positively affirmed in only a certain proportion of cases. When this renal condition is dependent upon an already existing acute infectious disease the symptoms of this complication may be entirely masked by those of the primary condition, especially if dropsy is absent. The urine will show the presence of albumin, it is true, but unfortunately this does not prove that morphological changes have taken place in the kidneys. If, in addition to the albumin, the urine (catheterized in females) contains more than the occasional epithelial cell, and a moderate number of red blood cells and leucocytes, additional data are present on which to base the diagnosis of nephritis. The occurrence of even slight œdema about the eyes and ankles is strong corroborative evidence.

In some cases the diagnosis is only too apparent. Other causes of albuminuria or of dropsy have to be excluded, however, such as chronic passive congestion of the kidney, amyloid disease, cachexia, and anæmia. A considerable degree of œdema of the ankles is very commonly noted when a patient who has been bedridden for several weeks, as with typhoid fever, first begins to walk. This is generally referable to the weakened state of the cardiovascular apparatus, and is only of a few days' duration.

The question whether the symptoms are due to an acute nephritis or to an acute exacerbation of a chronic kidney lesion is not always easy of solution. The clinical history may offer the most valuable data, while the absence of marked cardiovascular changes, together with normal eye grounds, speak for an acute process.

A difficult problem is presented in many cases of hæmaturia. Aside from such conditions as calculus, neoplasm, and tuberculosis of the urinary tract, and malaria, blood in the urine may be present in acute and chronic nephritis—so called hæmorrhagic nephritis—or occur idiopathically as an acute renal hæmorrhage—renal epistaxis. The diagnosis of nephritis cannot be made from the examination of the urine, as the presence of the blood not only makes the urine albuminous, but also causes any casts that may have been present to disintegrate because the specimen becomes alkaline so rapidly. The diagnosis will rest on the history, symptoms and the physical examination of the patient—dropsy, fever, changes in the heart and bloodvessels and eye grounds, and uræmic symptoms. Renal hæmorrhage is very apt to be intermittent, so that a bloody urine may alternate with one entirely free from blood and albumin. Very often the diagnosis cannot be reached until a specimen entirely free from blood cells is obtained, when chemical and microscopical examination will tend to show whether we are dealing with a normal secretion, or one from a pair of diseased kidneys.

The distinction between acute parenchymatous and acute diffuse nephritis is not easy. In typical cases the former condition is characterized by absence of œdema and a smaller percentage of albumin in the urine, while dropsy and more or less marked albuminuria indicate the more severe diffuse process. If albumin persists after the fever becomes normal we cannot be said to be dealing with a simple case of febrile albuminuria, and such an occurrence may be our only criterion of more or less extensive damage to the kidneys.

## 2. Chronic Diffuse Nephritis, without Induration.

Chronic diffuse nephritis was at one time considered to be the "second stage of Bright's disease" and so to form a connecting link between acute nephritis and the chronic indurative forms of the disease. While the careful study of the ætiological factors, course, and termination has shown that the different varieties of nephritis cannot be so arranged, yet in many respects, both clinical and pathological, chronic diffuse nephritis does occupy a position intermediary between the acute and chronic indurative types of nephritis.

**Symptomatology.**—The onset of chronic diffuse, or parenchymatous, nephritis is always insidious. While the one dominant symptom of this lesion, as in acute diffuse nephritis, is dropsy, yet prior to its appearance the patient usually suffers from a train of indefinite symptoms such as frequent headache, vertigo or "blind staggers," persistent gastrointestinal disturbances which do not yield to appropriate medication, a gradually increasing anæmia which is more or less uninfluenced by iron and arsenic, or recurring attacks of bronchitis. Not infrequently the lesion is discovered when the individual applies for life insurance, and in many cases only a general feeling of ill health associated with weakness and slight shortness of breath, causes the sufferer to consult a physician.

In a well developed case the appearance of the patient is most typical. The more or less widely spread œdema, the striking pallor, the mental hebetude, and the dyspnoea on slight exertion combine to form a clinical picture that suggests the disease at a glance. Other symptoms are inconstant and not at all characteristic. The heart is often enlarged, but here the factor of dilatation is of about equal importance with that of hypertrophy, and this so called eccentric hypertrophy differs from that form which occurs in indurative nephritis. The pulse is not characteristic, as it may be rapid and weak at the height of the disease when œdema is marked, while in other cases the tension is distinctly increased, which leads us to suspect that indurative lesions are developing in the kidney. Digestive disturbances are often the most distressing symptom early in the disease and quite apart from uræmic conditions, being dependent in all probability on an œdematous infiltration of the gastric and intestinal mucous membranes. Diarrhoea is not uncommon. Albuminuritic retinitis and cerebral hæmorrhage do not occur early in the disease, but are not so infrequent toward the end. At any time œdema of the brain or meninges may occur and give rise to many of the symptoms of uræmia. A papilitis, which may be confined to one eye, occasionally develops, or a condition of so called congestive neuritis and dropsy of the optic sheaths. In typical cases of chronic parenchymatous nephritis acute uræmic symptoms are not prominent except at the terminal stage of the disease. A certain number of the symptoms of chronic uræmia (see below), however, are as common as in chronic interstitial nephritis.

The urine is generally diminished in amount, although not necessarily so, as an increased secretion may accompany the rapid disappearance of dropsical effusions, or develop gradually coincident with indurative changes in the kidney structure. The specific

gravity, while usually high, varies with the daily quantity of urine excreted. The urine becomes ammoniacal very quickly on standing owing to the ready decomposition of its increased albumin content. Albumin is a constituent that is rarely absent in this form of nephritis. Except in those cases in which the lesion approaches the indurative type, the quantity of albumin is large, often ranging from 0.5 to 1 per cent. The sediment shows about the same constituents as in acute nephritis, but red blood cells are not so numerous unless there is a special tendency to hæmorrhage, or an acute exacerbation occurs. Casts are usually abundant, especially the coarsely granular, waxy, and fatty casts, but the urine must be examined promptly on voiding, as the casts go to pieces quickly in an alkaline urine.

**Diagnosis.**—In the majority of instances chronic diffuse nephritis cannot fail to be recognized, and, as Cabot says, the success in the diagnosis of this type of case is in striking contrast with the large percentage of failures in other forms. He further calls attention to the fact that the diagnosis may depend as much on the clinical features as on the urinary examination. From acute diffuse nephritis it is distinguished chiefly by the history of onset and clinical course, as well as by other points mentioned in discussing that lesion. Amyloid disease of the kidney may be very difficult to distinguish from chronic parenchymatous nephritis, and in some cases this cannot be done. The absence of causes which usually lead to amyloid degeneration is against the assumption of that disease. An acute exacerbation of a chronic interstitial nephritis may simulate a case of the parenchymatous form very closely, and only the history of the case, or possibly the cardiovascular condition, or often the subsequent course, may allow us to speak with any degree of assurance on this point. Chronic passive congestion of the kidney due to cardiac insufficiency, emphysema, etc., can usually be distinguished by discovering a cause for the congestion, but not infrequently we have equally good reasons to suppose that the heart condition may be of the nature of a relative insufficiency secondary to the kidney lesion. In such a dilemma we have to be satisfied with the diagnosis of a "cardiorenal" case.

## 3. Chronic Indurative Nephritis.

"Diffuse indurative nephritis may develop either primarily as the product of a protracted, or oft repeated, extremely insidious inflammatory irritation, or it may follow acute, subacute, or subchronic so called parenchymatous inflammatory states and represent their terminal stage—i. e., as so called secondary induration or contracted kidney. The primary form again may be either the result of some irritant acting directly on the renal parenchyma on account of some abnormality in the blood, or indirectly through the mediation of arteriosclerosis. The former is designated 'genuine (primary) renal cirrhosis' or simply 'chronic interstitial nephritis'; the latter is known as 'arteriosclerotic contracted kidney' or 'sclerosis of the kidney'." (Senator.)

**Symptomatology.**—The onset of chronic indurative nephritis is always gradual, except in the small proportion of cases that are secondary to acute nephritis. The patient experiences difficulty in describing either the time or the nature of the earliest

symptoms that may be attributed to the altered kidney function. I am in the habit of asking them when they were last perfectly well, but the information so obtained does not really give the exact duration of the process for the reason that the earliest evidence of the disease may be found in the urine for a certain period of time before symptoms manifest themselves.

As has been well demonstrated, there are two stages in the development of primary chronic indurative nephritis; the first, aside from certain variable and inconstant symptoms, is characterized only by changes in the urine, while the second has to do with the more characteristic clinical symptoms, chiefly referable to the vascular and nervous systems.

In arteriosclerotic indurative nephritis symptoms on the part of the cardiovascular apparatus are the first to appear, and definitely precede the changes in the kidneys and the appearance of abnormal constituents in the urine. So here, also, two stages may be distinguished, occurring in reverse order to those of primary indurative nephritis. While this arrangement of the symptoms is convenient for purposes of clinical or pathological distinction, yet it must be remembered that it applies only to typical examples of the two processes, and that many transitional or intermediary forms occur.

The changes in the heart and bloodvessels are in many respects the most important, both from the standpoint of diagnosis and prognosis. It is this very fact that makes the examination of the eye grounds of such great value, for in many cases the actual condition of the vascular apparatus is depicted more clearly by the ophthalmoscope than by any other available means of examination. In a clinically doubtful case I know of no greater comfort than the absolutely negative opinion of a competent eye specialist, while I certainly would hesitate to give anything but a most generally worded prognosis in the chronic disease of interstitial nephritis without the ophthalmoscopic report before me.

The ordinary subjective symptoms on the part of the cardiovascular system are dyspnoea, palpitation, and general precordial distress, vertigo, tinnitus aurium, and interference with vision. The objective features are hypertrophy of the heart, increased pulse tension, and hæmorrhage.

The frequent occurrence of cardiac hypertrophy, without valvular lesions, in chronic nephritis was first insisted on by Richard Bright, although his views were much contested until put on a firm basis in the classic treatise by Traube, in 1856. It is now a well established fact that the enlargement of the heart does not appear until after the urinary changes, particularly polyuria and albuminuria, have already existed for some length of time; and, furthermore, that the hypertrophy exists for some time without dilatation, and that it affects the left ventricle primarily and exclusively, or, at least, more than any other chamber.

The rise in blood pressure, which has now become of such importance in the diagnosis that progressive insurance companies have seen fit to include the manometric readings in the examination of all risks over forty years of age, apparently develops *pari passu* with the hypertrophy of the heart. The at-

tempts to explain the real cause of the increased pulse tension and cardiac hypertrophy have led to the promulgation of a great number of theories. While this problem still remains unsolved, yet it may be said, in short, that the various theories based on physical considerations are not tenable in view of the experimental studies on animals, and that the remaining theories either rest upon the assumption of unproved physiological factors, or an altered state of the blood which acts as an irritant to the vascular endothelium. Senator concludes that in primary chronic interstitial nephritis, owing to the insidious onset and slow course, the irritation of the vascular apparatus is no doubt more feeble than in parenchymatous nephritis. Accordingly the injury to the vessels in interstitial nephritis is not, as in the parenchymatous form of the disease, severe enough to allow the transudation of serum and dropsy; but that the persistent irritation eventually results in contraction of the vessels. The result is increased pressure in the whole aortic system and hypertrophy of the left ventricle. Further discussion of this phase of the subject will only lead us to theorize as to the yet unknown cause of nephritis in general, and serve to bring up the question as to whether the source of this supposed irritant is in the kidney, liver, or other organ of the body.

A very important group of symptoms referable to the vascular system is due to hæmorrhage. Cerebral hæmorrhage is, of course, the most serious form, and statistics show that it occurs in from 6 to 18 per cent. of cases. Retinal hæmorrhage is probably the most common lesion that we can demonstrate, and is therefore of special significance in diagnosis. Hæmorrhage from the kidney may be a feature of some cases of chronic interstitial nephritis. Epistaxis is not very uncommon. Rarer forms of hæmorrhage are metrorrhagia, hæmatemesis, hæmoptysis, and hæmorrhage into the intestine, tympanic cavity, pharyngeal and laryngeal mucous membranes, hæmorrhages into the skin, and lastly a condition of hæmorrhagic diathesis. These vascular features of nephritis are well set forth in a valuable paper by Riesman (David Riesman, Hæmorrhages in the Course of Bright's Disease, etc., *American Journal of the Medical Sciences*, November, 1907, page 709).

Symptoms on the part of the digestive system are not prominent in chronic nephritis except when due to passive congestion of the intestinal tract, or when associated with uræmia. The same may be said for the respiratory apparatus, except that patients are often subject to catarrhal inflammations of the upper air passages, or attacks of "renal" asthma, and that, with the general lowered resistance, the terminal event in chronic nephritis is not infrequently a pneumonia. When cardiac insufficiency develops there is passive congestion in the lesser circulation, with all its attendant symptoms.

Subjective symptoms referable to the nervous system are very common, such as headache, insomnia, neuralgia, retinitis, and papillitis, etc. Some of these symptoms assume special importance in regard to their relation to uræmia (see below).

The organs of locomotion, the skin, and the genital organs show no noteworthy changes that are not due either to hæmorrhage or uræmia.

The general state of the health may remain fair-



ly good for some length of time, and no pronounced alterations in metabolism are noted early in the disease. With the advent of chronic passive congestion of the intestinal tract, and in chronic uræmia, malnutrition becomes manifest and results in distinct loss in weight and strength and of the general resistance of the organism to various acute infections. The blood shows no important changes that are at all constant or characteristic.

The urine in chronic indurative nephritis, in the great majority of cases, shows characteristic changes which may be readily explained. The first change is the appearance of small quantities of albumin. This albuminuria for some length of time is distinctly intermittent, and the albumin may be entirely absent in the urine voided in the morning after a night's rest, but be found in a specimen passed in the evening after the ordinary physical exertions of a day's routine. This slight and distinctly periodic excretion of albumin later becomes more persistent, although it is never large in amount. More or less coincident with the albuminuria hyaline casts begin to appear, but they are often scanty in number and difficult to find. This intermittent albuminuria and cylindruria may occur for months, or even years, before subjective symptoms are noted. The first of these is a slowly developing polyuria, which gradually becomes more marked until the patient has his attention directed to the increased frequency of micturition, which is especially conspicuous when he finds that he is compelled to get up once or twice during the night to empty the bladder. When the nephritis is well developed the daily secretion of urine amounts to two to four litres or even more. The urine is pale, clear, definitely acid, with a constantly low specific gravity varying from 1.005 to 1.010, the albumin is seldom more than a distinct trace—0.05 per cent.—and casts are few.

The urinary changes in arteriosclerotic indurative nephritis differ from those in the primary interstitial form in that the polyuria is the earliest change, and an increased secretion of urine having a low specific gravity is the most constant sign of this disease. Albumin and casts may never be found until the kidney lesion, as well as the clinical symptoms, become marked. In other instances a slight trace of albumin may be found in the evening urine, and only prolonged search will reveal one or two hyaline casts.

At any time during the course of a chronic nephritis an acute exacerbation may occur with corresponding changes in the urinary findings. Also, when the heart begins to fail, the broken compensation gives rise to chronic passive congestion of the kidneys and other viscera, and distinct deviation from the usual urinary picture is found. Particular attention has been directed to these anomalous urines, because very often the patient only consults a physician when an acute exacerbation has caused the appearance of slight dropsy, or the failing heart brings about an unusual degree of dyspnoea. It is only after these transitory conditions have cleared up that the typical urinary findings reappear.

Other qualitative or quantitative changes in the urine are either inconstant or not necessarily characteristic of chronic indurative nephritis. The ques-

tion of the urea excretion shall be referred to in discussing the diagnosis of this affection.

The reasons for the changed character of the urinary secretion can be understood when the anatomical and physiological alterations in the kidney, heart, and bloodvessels are considered. It is a well accepted fact that the kidneys are, generally speaking, the first to suffer from any injurious substance circulating in the blood. Now, the action of the irritant, which is supposed to be the underlying cause of nephritis in general, first manifests itself in slight damage to the parenchyma, or secreting portions, of the kidney, and this accounts for the early albuminuria and cylindruria. The further action of this irritant, as has been already pointed out, brings about a general rise of blood pressure in the systemic circulation accompanied by hypertrophy of the heart. It is then quite conceivable that the increased pressure and velocity of the blood flow through the kidneys may be the cause of the increased urinary secretion, particularly water, characteristic of chronic indurative nephritis.

*Chronic Uræmia.*—The careful examination of the cardiovascular system and of the urine usually suffices to establish the diagnosis of chronic indurative nephritis. In spite of this it may be safely stated that a large proportion of cases are not diagnosed, and this is often due, I believe, to the failure on the part of the physician to fully appreciate the various symptoms that are due to chronic uræmia, so that he does not have his attention directed to the renal insufficiency as the cause of the patient's ill health.

Chronic uræmia is a toxæmia which occurs to a greater or less extent in all cases of chronic nephritis and with a symptom complex of considerable diversity. Most of the disturbances to which it gives rise are on the part of the nervous and digestive systems.

The motor symptoms, convulsions, etc., which are so prominent in acute uræmia, are replaced to a certain extent by psychic manifestations in this chronic toxæmia. The patients are for the most part apathetic, and frequently somnolent. Restful sleep, however, is not assured to these sufferers, and pronounced insomnia is a feature of some cases. Some patients, who have believed themselves perfectly well, may suddenly lapse into a condition of mental confusion, so that they experience difficulty in remembering their names or recognizing familiar faces. I saw such a case not long ago in a man of fifty-six, who was suddenly seized with severe gastric symptoms, to be followed by the mental condition just described; his blood pressure was 210 mm., and the ophthalmoscope revealed a unilateral papillitis. His symptoms slowly cleared up in about two weeks' time. In other cases distinct mental symptoms develop, such as profound melancholia, or mental depression, with delusions of persecution.

Headache, recurring and persistent, is undoubtedly the commonest symptom of chronic uræmia. It is an early feature, and may continue, with short periods of freedom, for many months. While it is frequently occipital, yet it varies in different cases, and also in the same one from time to time. A patient under my care at present describes his pain.

which is limited to the vertex, as if an object the size of a lead pencil were boring into one particular spot. This same patient complains of attacks of sharp pain in the "bones" of the arm and leg, about three inches above the wrist and ankle, which are severe enough to wake him up at night. Headache is often so predominating a symptom that patients state that they would feel perfectly well if they could only be relieved of it. This symptom is of special importance when it develops in an individual who has not been subject to headache.

Tonic contractions of different groups of muscles are prominent in some cases. Most commonly one sees cramps in the calves of the leg, especially at night, but a not infrequent symptom in some cases is severe and recurring abdominal colic. In one interesting case of mine this symptom caused the patient, a day laborer, to stop work and seek medical advice. During the four months he has been under treatment directed to the renal insufficiency this symptom has entirely gone, and he has insisted on resuming his usual occupation.

Among the eye symptoms of chronic uræmia myosis is commonly observed, although in acute uræmia the pupils are usually dilated. Retinitis is a relative common finding, and in some cases is associated with an optic neuritis, but many of these changes may be partly attributed to lesions of the bloodvessels of the fundus. Sudden and transient amaurosis may occur without visible changes in the nerve.

Disturbances in the sense of hearing are rather rare, except tinnitus, which is probably vascular rather than uræmic in nature. Vertigo, however, is a frequent complaint, and may be due to disturbances in the inner ear.

Other nervous phenomena consist of various forms of palsies which are associated with the uræmic state, but their character points to a focal brain lesion. In view of their transitory nature, they are probably due to œdema of the brain rather than either uræmia or hæmorrhage. These palsies include strabismus, monoplegia, and hemiplegia, paralyzes of the bulbar type associated with difficulty in speech and in mastication, etc. Numbness and tingling in the extremities is sometimes observed.

Chronic uræmia very frequently manifests itself in disturbances of the gastrointestinal tract. Distinct indigestion is an early sign, and probably ranks only second to headache as an important symptom of renal insufficiency. Loss of appetite is a feature of some cases of chronic nephritis, and the patients usually state that the slightest indiscretion in diet upsets the stomach very promptly and often induces nausea and vomiting. These early gastric symptoms, like the headaches, are usually periodic, as on some days the food is relished and retained without difficulty, while at other times the patient has absolutely no desire for food, and attempts to eat bring on nausea and vomiting. The tongue is often heavily coated, and much complaint is made of the foul taste in the mouth. Such symptoms as these occurring in persons of the age at which chronic interstitial nephritis is common should always direct attention toward this lesion, and the presence of in-

creased pulse tension, accentuated second aortic sound, and the history of increased frequency of urination make the diagnosis very probable even before the urine is examined. I remember just such a case as I have described which I saw last summer in a woman, sixty years old, who had been under the successive care of three physicians, and had probably been given digestive mixtures *ad nauseam* (literally). Under appropriate medication directed to the kidney condition her improvement was most prompt and striking, and when I last heard of her she considered herself practically well. I have a patient in the hospital at present with well marked interstitial nephritis. He is unable to definitely fix the onset of his ill health, but it is very instructive to note that he consulted a physician in the spring of 1906 for "stomach trouble," and that he was referred to a specialist for a gastric analysis, etc. The bowels are regularly constipated, and this is often so marked that one of my former teachers used to declare that a patient will not die of uræmia as long as one can keep his bowels open. It is said, however, that severe diarrhœa may be a feature of uræmia, but I rather believe that this occurrence is of the nature of a terminal infection of the bowel, as the dysenteric symptoms may be marked, and on post mortem are often found to be associated with ulcerative processes in the intestines.

Respiratory disturbances dependent on uræmia are rare, as they are due to the associated cardiac insufficiency and consequent passive congestion in the lesser circulation. The occurrence of Cheyne-Stokes respiration is likewise due to insufficient aeration of the blood and its direct effect on the respiratory centres.

The skin is usually dry, but this does not indicate that the patients cannot be made to sweat profusely. Intolerable itching is said to be a frequent symptom, which is sometimes attributed to overloading of the blood with urinary constituents, so that the sensory nerves are irritated. I have failed to observe this symptom in chronic nephritis, except in patients who were receiving morphine.

*Diagnosis.*—There are three essential points to be considered in the recognition of chronic indurative nephritis: First, the physical examination of the patient, with special regard for the condition of the cardiovascular apparatus; second, the examination of the urine, bearing in mind the apparently slight variations from normal early in the disease, or even after it is well established; and, lastly, the full appreciation of the significance of the symptoms that may characterize the condition of chronic uræmia.

The cardiovascular features of chronic interstitial nephritis, while not the earliest signs of the disease, are, nevertheless, prominent and important from the diagnostic standpoint. Increased pulse tension is usually indicative of a kidney lesion, though not necessarily so. Even in the absence of dyspnoea the tongue often shows a distinct cyanotic tint, and the second heart sound over the aortic area is found to have a sharp, ringing, accentuated tone. The apex beat is displaced downward and to the left, and is strong and heaving. If any degree of dilatation

has occurred the relative insufficiency of the mitral valve is denoted by a systolic bruit over the mitral area. The condition of the radial and temporal arteries may suggest the arteriosclerotic basis for the nephritis.

The ophthalmoscope may reveal most important evidence in the diagnosis of nephritis, and the large number of cases that are first recognized by the eye specialist will always stand to the general practitioner's discredit. Chronic nephritis should certainly be diagnosed before retinal hemorrhage has occurred, although in some few cases interference with vision may be the symptom that first seriously affects the patient, so that he consults an oculist rather than his family doctor. In any doubtful case the eye picture may settle the question, and it would be well for every medical man to be sufficiently versed in the use of the ophthalmoscope so that he can recognize the grosser retinal lesions. The instrument that is equipped with an electric incandescent light is a most convenient one to use, as it requires very little dexterity in its handling, and the patient can be examined while lying flat in bed in a room not necessarily darkened. Slight degrees of neuroretinitis are, of course, more safely left to the judgment of the specialist. As I have stated before, I regard the retinal changes as being of special value not only in the recognition of the disease, but also in enabling us to give a more definite prognosis in many cases.

The most important features of the urine in chronic indurative nephritis are the total amount in twenty-four hours, the specific gravity, and the presence of a small amount of albumin and a few tube casts. Are we justified, however, in making a positive diagnosis in view of such findings? Most certainly not. Urines presenting just such characteristics may occur in other conditions, and it should be emphasized that the urinary examination is only of value when considered with the clinical history and physical findings. Just by way of illustration, the urine from a patient with typhoid fever who is drinking large quantities of water will be increased in amount, of low specific gravity, show febrile albuminuria and often a few casts.

Polyuria is a constant feature of chronic interstitial nephritis, and is usually most marked during the night. A certain amount of discretion should be used in placing valuation on this symptom, as the patient must not be on a forced water consumption. If physicians would insist on having the twenty-four hour amount recorded in all their urinary examinations, early cases of chronic interstitial nephritis would not be overlooked. The low specific gravity is associated with the polyuria, but it is always advisable to determine the weight of a mixed specimen of the twenty-four hour secretion. A low specific gravity, 1.005 to 1.010, of the early morning urine is especially suggestive, as single voidings at other times may show greater density.

The albuminuria of chronic interstitial nephritis is distinctly intermittent or periodic in the very early stages of the disease. When subjective symptoms first begin to appear the albumin occurs more constantly, and will be found in nearly all cases. I need not say, just in proportion to the care with which it

is sought. Contrary to the teaching in many textbooks, I do not regard one of the most commonly employed tests—Heller's reaction when nitric acid and the urine are brought into contact—as at all sufficient to demonstrate the small, but distinct, traces of albumin in the urine of chronic interstitial nephritis. Only a short time ago a physician brought me a specimen of urine from a woman in whose eyes an oculist had discovered an albuminuric retinitis. He was rather inclined to question the eye specialist's judgment, for the reason that he could not find the albumin ring by Heller's test. I could not, either, even by making use of the horismascope. By boiling the upper part of the urine in a test tube three fourths filled, however, a slight but distinct cloud appeared, which persisted on the addition of a few drops of five per cent. acetic acid. In addition, the urine was of low specific gravity, and the sediment obtained by centrifugalization showed the presence of a few hyaline casts.

In the heat and acetic acid test the albumin is precipitated by boiling as coagulated albumin. The cloud that is produced can be easily recognized by comparing the upper boiled urine with that in the lower part of the tube which is held in the hand. The cloud may be due to phosphates or carbonates, but these are immediately dissolved on adding a few drops of the acetic acid. The acid should always be added after boiling, even if no cloud has appeared, as the urine may not be sufficiently acid for the precipitation of the albumin until the acetic acid is added. Any great excess of acid should be avoided, as it produces soluble acid albumin. When this cloud is faint enough so as to become doubtful we are probably dealing with a normal urine, and this "faintest possible trace" is due to the so called nuclealbumin. This substance is equally well precipitated in the cold by dilute acetic acid, however, and does not often occur in sufficient amount to cause the very distinct cloud that albumin produces. Hastings (T. W. Hastings, Albuminuria, *Medical Record*, July 7, 1906) advises that there be added to the urine one fifth to one sixth its volume of saturated sodium chloride solution before it is heated. This procedure not only serves to bring out the serum albumin in a urine poor in neutral salts, but also holds in solution any nuclealbumin that may be present.

It is very important that the urine to be tested for albumin should be perfectly clear. It is best to examine only a comparatively fresh specimen, but if the urine is at all turbid from the presence of bacteria these can be mechanically removed by mixing the urine with *Kieselguhr*, or infusorial earth, and then filtering. The presence of any quantity of pus or blood in the urine always makes the urine albuminous, and may be very misleading, as no satisfactory method has been devised by which we can estimate how much of the albumin in such a specimen can be attributed to these foreign elements.

The urinary sediment is very scanty in chronic indurative nephritis, and may pass by the way of being even on centrifugalizing. Casts may be found in most cases, chiefly of the hyaline and finely granular variety, but are rarely numerous. Casts of this variety, have but little diagnostic importance, as



the lesion causing cylindruria may be a slight or temporary irritation of the renal parenchyma. The continual presence of casts is of far greater importance. In discussing the significance of casts, Emerson, in his excellent paper on Cylindruria, already referred to, says: "Casts . . . are of much importance in following a case of nephritis or other renal disturbance. For them to be present temporarily and then to disappear entirely means, no matter how alarming their number and variety may have been, a temporary and probably harmless disturbance; for them to continue for days, weeks, or months, no matter how few and how insignificant the onset of the trouble, means chronic nephritis; and for them to remain two years means, it is said, an incurable case." In order to find casts the urine should be as fresh as possible, as they go to pieces more or less rapidly, and in an alkaline urine the search for casts is time thrown away, for they will not be found.

The estimation of the amount of urea excreted in twenty-four hours has been shown to be not only fallacious, but also useless in the diagnosis of nephritis. To refer to the latter contention first, it has been well demonstrated that the urea is not constantly reduced in the urine of chronic interstitial nephritis, but that its excretion is subject to periodic alterations. I have not infrequently found a total excretion of over 40 grammes per twenty-four hours in well developed cases. As a rule the urea excretion is below normal, but such a finding by no means indicates the functional power of the kidney to excrete this substance. The amount of urea that is carried in the blood for excretion is the important factor, and this depends on the amount of nitrogenous food absorbed, and on many other factors, such as presence or absence of fever, vomiting, and diarrhoea, the amount of exercise and sleep, and, in fact, the general catabolism of the whole body. It is only by the most elaborate experiments, with due regard to a large number of conditions, that urea estimations of any value at all can be made.

Attempts to estimate the functional activity of the kidneys by cryoscopy, the degree of glycosuria after the use of phloridzin, and the rapidity of the excretion of methylene blue, cannot be said to have made for themselves a place of value among our diagnostic aids for the recognition of nephritis.

The relative value of the different urinary features of nephritis, as well as the relative importance of the urine compared with the other signs and symptoms of this disease, demand much study and consideration. In the main, one must agree with Cabot when he says: "In my opinion the microscopical and chemical examinations of the urine are of much less significance than the physical. Microscopic and chemical changes are relevant rather to temporary alterations in function than to alteration in anatomic structure. When we are concerned chiefly with the question Has this patient a nephritis or not? what we need most to know is simply how much urine does he pass, by day and by night, and what is the weight of that urine? These facts, together with the presence or absence of dropsy, retinitis, cardiac hypertrophy, and uræmic manifestations, constitute nearly all the evidence at our disposal."

(To Be Continued.)

## THE QUESTION OF SOUR MILK

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### *History of Sour or Curdled Milk.*

Nothing is older than curdled milk or sour milk, and nothing seems newer than the application which has been made of it.

It is to be noted that civilized people are the only ones to drink milk fresh or boiled, while fermented milk is almost the only kind used outside the pale of our civilization. The use and origin of curdled milk are older than history. Thus, at the time of the patriarchs, whose longevity was remarkable, mention is made in the Bible of sour milk: "When Abraham saw three men approaching he invited them to enter and offered them some sour milk and some sweet milk and some veal that had just been brought." (Genesis, xviii, 8.)

Later the Greeks and Romans also recognized the strengthening and tonic effects of sour milk, and they performed veritable cures with the special kind of curdled milk called "schiston."

In our time fermented milk is in common use as a daily diet in eastern countries. The writer has seen in Egypt, the Holy Land, and Syria a kind of sour milk called "leben"; in Anatoly, Turkey in Europe, and Greece a kind of sour milk called "yaghourt." Under the name of raiel, he found a kind of sour milk in use in North Africa. He visited in Tunis, North Africa, the bacteriological experiment station under the supervision of the French government, where the preparation of sour milk is scientifically conducted, in order to propagate this wholesome product.

It is said that a kind of sour milk under the name of "yaghourt" is used in Bulgaria; of "leben" in Arabia; of "matzoon" in Armenia; of "gioddu" in Sardinia; of "prostokvasha" and of Varruetz in Russia. Mr. Herman V. R. Ande, from Denmark, wrote to the writer that in Denmark, Norway, and Sweden the people enjoy a dish of sour milk called "tyk moelk," translated, thick milk. The milk is put away in dishes to sour and curdle; then it is eaten usually with rye bread crumbs and sugar.

The following reference has been given by Mr. Chacravarty, of Dacca, Hindustan: "The 'dahi' is a kind of sour milk used as a beverage in India. There are various kinds, and the bacteria bringing about these fermentations have not been studied in detail. It is usually sour, used as a cool beverage, and is supposed to help digestion. Sometimes, Indian and European physicians recommend it as a diet for persons suffering from diarrhoea." Explorers say that sour milk is used by numerous tribes of negroes in Africa.

In almost all these countries, besides being used as a food, sour milk has played and still plays a great part in empirical medicine. The use of fermented milk as food among these people must be the result of judicious observations and experience of numerous generations. This empirical observation may have a scientific explanation, for it is well known how quickly foods decay when exposed to tropical heat. When ingested, germs of putrefac-

tion enter with them, which may continue to develop in the large intestine. Unwittingly these people have used for many centuries, in order to combat intestinal putrefaction, the best and the most efficacious method which is known to science for only a short time.

It is only within a few years that the question of sour milk, as a wholesome food, has attracted the attention of the physicians; and since many studies on the different kinds of fermented milks have been made by various peoples; and on account of satisfactory results of numerous investigations and experiments these wholesome products came into use again.

The first investigations had to do with the "kefir" and "kumyss," which were highly recommended for their great digestibility and tonic effect. Since other similar beverages are known to contain no alcohol, these latter are preferred in most cases.

Sour milk, after being recognized as a wholesome food possessing medicinal properties, has been proclaimed by some people as a remedy for prolonging human life. In connection with this, we shall quote the following few lines, resuming the opinion of Metchnikoff, one of the greatest authorities on the subject:

The fact that many people in all countries and in all ages have consumed large quantities of sour milk, and are so much benefited by its use, is a testimonial to its value. The distinguished African explorer, Negueria, in a letter to me has described his astonishment upon beholding the well preserved appearance and absence of senility among the natives of Massamedes, whom he had not visited for a period of many years. Dr. Lima affirms that among the natives of the region south of Angola there is to be found a very large number of individuals noted for their extraordinary longevity, and although they are thin and dry, the old people are active and capable of making long voyages. Grogoroff, a Bulgarian student, has reported an astonishingly large number of centenarians encountered in a region of Bulgaria where sour milk constitutes an essential element of diet. A long list of centenarians has been collected by chemists in many countries using sour milk as an article of daily diet, etc.

For many years these sour milks have been prepared by first sterilizing milk and afterward inoculating it in a pure culture of lactic acid microbe. I have taken a liberal ration of this sour milk daily and have been exceedingly gratified with the results that I have experienced. After this long trial, I feel justified in expressing a favorable opinion. Many of my friends, among them some who suffered from gastrointestinal troubles and serious kidney diseases, have followed my example. In view of all that has been stated I am naturally led to the opinion that in the struggle against intestinal putrefactions the lactic acid producing bacteria are undeniably serviceable. Finally to proclaim that in this specially prepared sour milk, we possess a remedy against old age, or a means of prolonging human life we must let time, experience, and observation answer this question.

**Sour Milk in Therapeutics.**—The antiseptic action of the lactic acid ferments is a fact commonly known for a long time, and numerous applications of it have been made. Thus, everybody knows the simple process used in many countries since the most remote times of preserving vegetables such as cabbage, cucumbers, beets, fresh beans, olives, etc. The vegetables are placed in jars or other receptacles full of water, to which is added a little salt, and then are kept well sealed. After some time these vegetables, which exposed to the air would have decayed and become unfit for food, undergo by this process the favorable modifications in color, smell, and taste, in their digestibility and preservation, all appreciable

qualities. These products in order to acquire these qualities have undergone a fermentation; and it is proved today that the principal agent of this fermentation is lactic acid ferment. The salt is used only to check temporarily the growth of injurious bacteria which may be present, until the lactic ferments are able to develop freely and in sufficient number to carry on their useful action. The writer has seen in certain Eastern countries and in North Africa people using the same process for preserving lemons, green tomatoes, etc. In the preservation of beets in silos, lactic acid is, in this case too, the principal agent of the process of fermentation. When, for some reasons, the lactic acid fermentation does not take place, the silage has a very disagreeable odor, which causes the cattle to reject this food. The animals feeding on a product of this kind show symptoms of gastric troubles. The continued feeding of such food may cause serious troubles and even threaten the health of the animals.

Metchnikoff tells us that in many countries in which they use sour milk the latter is used for preserving meat. In America older people often sweeten tainted meat by the use of buttermilk, as well as using it for preserving meat for a short time. All these facts, although empiric, are nevertheless significant of the antiseptic power of the lactic ferments.

It is to-day proved that lactic ferment causes the preservation of all these products by preventing the development of the germs of putrefaction. First by the production of lactic acid from hydrocarbohydrates substance, and thus rendering the medium unfavorable to the growth of many species of bacteria preferring neutral medium; second, by its high power of growth, capable of checking and combating the development of other germs.

One of the simplest and most easily demonstrated experiments showing the antagonistic action of lactic acid fermentation towards harmful germs has been made by Dr. Ed. de Freudenreich. Following is his own account:

When sterilized milk is inoculated simultaneously with one platinum loop of cioddu (a kind of sour milk used in Sardinia and one of typhus and cholera cultures, the latter do not develop; the microbes of the cioddu (lactic acid bacteria) rapidly invade the entire field.

Along the same line Conn has made an analogous experiment, which we quote. If sterilized milk is inoculated with putrefactive bacteria it will be badly decomposed and putrefied in a few days. If, however, lactic acid bacteria are present, the putrefaction of the milk by these peptonizing bacteria is prevented.

**Industrial Applications.**—Certain industries, as the manufacture of beer, butter, and cheese, have been the first to profit by these discoveries and by their successful application. Thus, Ducaux in his reputed work, *Microbiology*, iii, expresses himself as follows in speaking of the rôle of the lactic acid ferments in the manufacture of beer:

We know that nearly neutral liquids are easily invaded by countless germs in the same manner as food. The question is how to give in this case, at least as regards the production of the lactic ferment, which in making the liquid acid protect it against other ferments that might produce undesirable changes. The lactic acid fermentation thus becomes an effective fermentation.

The application of the use in pure culture of lactic

acid to the manufacture of butter has contributed to regulate the ripening of cream, to obtain a product uniform throughout the year and capable of being kept longer.

*Application in Medicine.*—It has only been since investigations on the human intestinal flora were begun and the existence of their useful bacteria was recognized that scientists asked themselves whether the beneficial action of sour milk was not due to the presence of lactic acid ferments. Experiments have been conducted by bacteriologists and physicians in order to know whether the presence of lactic acid organisms in the intestine is capable of preventing the development of putrefactions. I shall now give a general summary of these experiments. Before taking up this question, however, I should like to quote the following passage from a work of Metchnikoff:

We ought to try to transform the wild intestinal flora of man into a cultivated flora represented by species that are useful or at least harmless. Numerous attempts are being made to regulate different fermentations by the aid of pure cultures and to improve the manufacture of beer, cheese, butter, etc. It is high time to apply similar methods to perfect the intestinal fermentations of man.

The same learned professor of the Pasteur Institute, in his researches in the problems of old age, undertaken in 1889, observed that the birds which live to be old have no large intestine. His observations had to do with birds which live more than fifty years and with one parrot who died at the age of eighty-four years. By this fact he was led to study the action of the microbes of the large intestines of the human organism. He was struck by the direct analogy existing between the deterioration produced by the toxins of certain harmful microbes of this organ with that produced by alcohol, lead, or mercury. He performed experiments upon young chickens and frogs, and demonstrated conclusively that there exist harmless and harmful intestinal microbes, and that it is necessary to fight the latter and multiply the former. He further proved that young chickens brought up without intestinal microbes waste away and die.

After establishing this point, he showed that the microbes of the human large intestines constitute, in general, a harmful flora. These microbes, by the poisons they secrete and pour into the system, cause various troubles, such as intestinal intoxication and others. At the time of Metchnikoff's experiments gastrointestinal troubles were being treated by anti-septics. But this treatment had the disadvantage of depriving the large intestines of useful microbes and was, therefore, useless or injurious. The problem to be solved, then, was to check the intestinal putrefactions, together with the microorganisms which cause them, without introducing poisonous products into the system, and to leave the useful microbes in the intestine.

While in Bulgaria, Metchnikoff had his attention arrested by the extraordinary longevity of the Bulgarians and the diet of these robust mountaineers, which consisted almost exclusively of curdled milk. After ten years of experiments, Metchnikoff came to the conclusion that the lactic ferments are the most powerful antagonists of the harmful microbes which infest our intestine.

An important point is that these bacteria pass through the stomach, and the gastric juice does not

affect their vitality. It will be seen, therefore, that the result of using this food containing these ferments is the inoculation of the intestinal mucous membrane. Dr. Cohendy (*Comptes rendus de la Société de biologie, C.*) has demonstrated that in case of a person under treatment the lactic acid bacteria is found in the intestine from the third to the fifth day after ingestion; and its presence has been observed there from the twelfth to the twenty-fourth day after the last taking of the ferment.

The practical application of this treatment in cases of intestinal intoxication has produced the results to be expected from the theory. And in cases of infantile diarrhoea, where putrefactive microbes are the cause of troubles, this treatment by inoculation of the large intestine with the lactic acid ferments has met with great success (*Annales de l'Institut Pasteur, 1905*). One more happy application of the use of sour milk as a healthy diet has been made by Hayem, Dujardin Beaumetz in feeding their typhoid fever patients almost exclusively with fermented sour milk. Lately Dr. Litchfield, a noted physician of Pittsburgh, Pa., had, from his own initiative, made some conclusive experiments and acquired valuable experience in the same line. An interesting paper on his experiments has been read before the meeting of Pennsylvania State Medical Association.

We shall set forth the result of Ed. de Freudenreich's studies (*Revue générale du lait, 1905*) on the gioddu, which he has propagated in Italy. In this connection he has made some conclusive experiments on animals. In inoculating guinea pigs with culture of *Bacillus prodigiosus* he saw that these are found in great numbers in the fæces. He fed gioddu to these animals while still continuing to introduce the bacillus, and gradually the latter became very rare in the fæces. He found that the virulence of the *Bacillus coli* in his own intestines was diminished so long as he made use of gioddu. These facts confirm the opinion of Metchnikoff, Huchard, Hayem, and other authors that lactic acid bacteria are the most powerful antagonists of the harmful flora which infest our intestine.

*Sour Milk and Similar Products.*—In this chapter I shall endeavor to define sour milk and to point out the differences between it and similar products.

*Spontaneous Sour Milk.*—Everybody knows that milk kept in a moderate temperature for a short time (longer in winter than in summer) becomes sour and takes a consistency more or less dense. This is spontaneous. Sour milk curdles by natural agents, with a disagreeable taste and smell. Moreover, this product, in the absence of any control in its fermentations, may contain toxic poisons and may present serious dangers of autointoxications. Dr. Bufour de la Rochelle cites such a case (*Bulletin général de thérapeutique, 1907, No. 8*) occurring in a convent where thirty-three out of forty-one nuns were rendered suddenly ill by the use of spontaneous sour milk. So much may be easily understood. The milk when left to itself requires one to one and a half days in summer, and two to three days in winter to sour and curdle. This long time is required because lactic acid bacteria are not usually found in milk freshly drawn from the cow, but appear later. So, before their appearance in



the first period, other species of germs, from the hay, dust, air, body of the cow, etc., appear, some of which in their development secrete toxic poisons, but most of them contain substances which alter the taste and odor of the milk. When lactic acid bacteria appear they find a medium already badly corrupted and in which they cannot carry on any useful action.

**Sour Milk with Pure Culture.**—Sour milk, as it is recommended at present, possessing salutary properties which have been proved, is milk which, after having been freed of all living germs by sterilization, is started with a pure culture of specific ferments. I may add, in connection with this, that there exist numerous bacteria, some even pathogenic, which can produce lactic acid with the hydrocarbon and proteid substances, especially the *Bacillus coli communis*, bacillus of fowl cholera, bacillus of Friedländer, *Bacillus prodigiosus*, etc. The specific lactic acid ferments include a great number of species, differing from each other not only by their morphology, cocci, diplococci, streptococci, rods, but also by their physiological properties. Although there are some which may convert all of the sugar lactose into lactic acid, there are others which can convert but a small quantity. Some render milk sour without curdling it, while others render milk acid and at the same time curdle it by means of an enzyme analogous to rennet. Others, after having curdled the milk, partly liquefy it by another enzyme, discovered by Euclaux, which he called casease. There are some which liquefy gelatin, produce gas, aromatic flavors, etc. Add to this all of the natural factors capable of influencing the work of fermentation, even for one single bacterium such as the kind of milk, its richness, climatic conditions, adaptations, selection, and we may understand why there exist so many varieties of sour milk. This fact is not peculiar to sour milk; there are as many different wines as countries that manufacture them.

In general specific lactic acid ferments, in their work of fermentation, act as follows on the three elements of milk:

a. The casein is coagulated in minute particles, which adhere together, and a certain part of it is dissolved. The following, according to M. Tousart, chemist of the Pasteur Institute, are the quantities of casein and soluble calcium phosphate produced during the fermentation, 5.54 amount of casein in 100 grammes of product.

Test of casein soluble during fermentation:

Time.	Quantity of casein soluble in 100 grammes of product.	Relation of casein soluble.
2 hours	2 grammes 02	37. 81 per cent
8 hours	2 " 08	38. 05 "
24 hours	2 " 24	41. 94 "
48 hours	2 " 40	47. 10 "
54 hours	2 " 64	49. 43 "

0.38 amount of phosphate calcium in 100 grammes of product. Test of the phosphate calcium soluble during the fermentation:

Time.	Quantity of phosphate calcium soluble in 100 grammes of product	Relation of the phosphate calcium soluble.
2 hours	0 grammes 20	68. 41 per cent
24 hours	0 " 27	71. 08 "
48 hours	0 " 28	73. 08 "
54 hours	0 " 30	78. 94 "

His experiments have to do with the ferments of the yaghourt. The casein coagulated by the lactic acid ferment is entirely different from that coagulated by any other acid; in the latter case the casein is in the form of large lumps, sharply separated from the serous portion. And this difference is even more distinguishable by taste and microscopical examinations. Casein coagulated by lactic acid ferment does not assume a compact mass, nor does it precipitate in lumps even with the addition of acids. The casein in this case, we may say, has undergone, by the action of the lactic acid ferment, a partial digestion, and this will explain why sour milk does not curdle in as large masses in the stomach as raw or boiled milk does.

b. In sour milk, one part of the fat is saponified under the action of lactic acid ferment. Thus, in sour milk under certain conditions, the cream does not rise to the top, and its presence is only perceived by the taste, more or less unctuous, according to richness of the milk in fat. A drop of such sour milk under the microscope shows very plainly the number of fat globules to be much less than that of whole milk under any other form. We know that the fat, in order to be assimilated, must undergo the action of pancreatic juice, which saponifies it, and we see that in sour milk one part of the fat is already in an assimilable form.

c. By means of one lactase discovered by Büchner, the sugar of the milk is converted into lactic acid, a product which does not need any previous digestion in order to be assimilated into the body. It will be seen from the preceding that the modifications of the elements of the milk during fermentation give us a product quite different from the milk with which it is made. The changes will explain the high digestibility of sour milk, a well known fact recognized by all experimenters. Dr. Montreius says in regard to this "that sour milk has the advantage over fresh milk in that it has a stimulating effect on the intestine, and thus prevents inconveniences, and I should say even dangers of a milk diet." While raw or boiled milk needs six to seven hours to be digested, sour milk needs only three to five hours. Besides this high digestibility sour milk is not only free from harmful bacteria, but is in the meantime a pure culture of the lactic acid. One c.c. of sour milk may contain 500,000,000 of bacteria and more.

**Rôle of Yeast in Sour Milk.**—Analysis in almost all kinds of sour milk, as they are found in their original countries, shows, besides the lactic acid bacteria, which may be of one or more species, the presence of yeasts. The yeasts, according to the mode of preparation of the sour milk, are utilized for the aromatic products, or, still more, for the alcohol they are able to produce. Thus in the gioddu, leben, yaghourt, besides the lactic acid bacteria, there are yeasts; and these sour milks under usual conditions contain only traces of alcohol, practically we may say none at all.

These quantities of alcohol vary between 0.01 and 0.014 per cent. The same is true for the alcohol when freshly made. But they all possess a *vin* generally flavor with an agreeable taste, due mainly to the individual qualities of the yeast.

The flavor of the zoolak is distinctly different from that of the yaghourt, and this difference depends on the species of yeast. The fact is well demonstrated when these two different yeasts are isolated and started separately in milk or in any other medium, the flavor of the zoolak can be perceptibly changed by taking out its original yeast and replacing it by that of the yaghourt. This has been done in the laboratory.

*Sour Alcoholic Milk.*—In some sour milks the yeasts, which are found with the lactic acid bacteria, are mainly utilized for the alcohol they are able to produce from the lactose, or from any other sugar previously added to the milk. These beverages, according to the mode of preparation, may contain from 0.5 to 1 per cent. of alcohol; they are fresh, sour, effervescent, have a biting taste due to the presence of carbon dioxide, which is in solution. These beverages are much enjoyed by some people. This is the case with the kefir used by the mountaineers in the Caucasus, and the kumyss used by the Tartars and other tribes of eastern Russia and Asia.

It has been alleged that in the grains used for the preparation of kefir are found some undesirable bacteria and that nothing could be done to make these grains pure, i. e., including only the bacteria necessary and indispensable for the work of fermentation. In his experiments in the Dairy Bacteriology Laboratory of Cornell the writer has prepared kefir without using the original grains sold for this purpose. We proceeded in the following manner: After milk previously boiled and inoculated with pure culture of lactic acid was sour, a pure culture of yeast was added in order to develop the alcoholic fermentations. With this process there was no chance of inoculating undesirable bacteria and we could have the kefir ready in a shorter time.

*Medicinal Sour Milk.*—Some authors have recommended for hospitals and medicinal purposes a kind of sour milk made with a pure culture of lactic acid, excluding all yeasts. This is the case with the giöddu which Dr. de Freudenreich has popularized in Italy. There are in this original product a lactic acid bacterium and a species of yeast. He has isolated the lactic acid ferment and prepared with this his special sour milk, which is in use to-day in many hospitals in Italy. The same has been done with the bacillac by Dr. Metchnikoff. These products are undoubtedly as wholesome as the originals, but they do not possess the particular flavor and agreeable taste of the original sour milk from which they are derived. In trying in the laboratory to prepare zoolak from which all yeasts were excluded, we meet the same difficulties. We do not think it worth while to deprive these original sour milks of the appreciable qualities in taste and flavor, for at no time—as far as we know—have traces of alcohol in any food been considered detrimental to health.

*Frauds.*—Unfortunately the public, unfamiliar with the different kinds of fermentation which milk can undergo, is incapable of distinguishing the qualities of the numerous products put upon the market. In consideration of the interest taken by the people in those products, especially in Europe, it has been attempted in many ways to manufacture certain beverages which would more or less resemble sour milk in taste. Such beverages as the following have been

placed upon the market: Milk to which a sufficient quantity of any acid has been added to coagulate it, and afterwards, as it is practised in soda water drinks, adding carbonic dioxide under pressure of 1 to 2 atmospheres. In another case a similar beverage was obtained by adding to milk some sugar and baker's yeast and keeping until fermentation had occurred. In order to prevent such undesirable practices, the public ought to be very careful in their choice and preference should always be given to those possessing the guarantees necessary in such cases. No matter whether the product is manufactured by or under the supervision of a physician, the product should be registered with guarantee of a definite chemical standard and standard of bacteriological compositions, according to the regulation of the pure food law.

#### TRACHOMA—CLINICAL ASPECTS AND SUCCESSFUL TREATMENT

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In view of the facts that trachoma is a contagious and not uncommon disease; that recently collected statistics show that about 75 per cent. of untreated cases of trachoma result in blindness<sup>1</sup> and that in some localities (European) 60 per cent. of all cases of blindness result from trachoma<sup>2</sup>; that among cases treated absolute and satisfactory cures have heretofore been altogether too infrequent, and that in many cases long under treatment by approved methods pannus, xerosis, trichiasis, and entropion, with concomitant permanent reduction of vision, have supervened—in view of these facts, it seems entirely unnecessary to offer any apology for calling attention to improved methods of treatment—or, at least, modifications of technique in the application of recognized methods—that are capable of yielding better results than have heretofore generally been attained.

A discussion of the history, ætiology, and general aspects of trachoma is foreign to the purpose of the present paper. Available literature pertaining thereto is already voluminous. Before considering the treatment of the affection, however, we desire to urge consistency and simplicity in classification. Trachoma has been described as acute and chronic; as simple and complicated; as papillary, miliary, and diffuse; as follicular, granular, and mixed; as true and vesicular; as inflammatory and noninflammatory, etc., etc., and has been referred to by different writers under a variety of names, as: Egyptian ophthalmia, granular ophthalmia, granular conjunctivitis, trachomatous conjunctivitis, syndesmitis granulosa, granulated lids, etc. Thus have different observers and teachers endeavored to express their conception of the stages and aspects of the disease; but it is more than a conjunctivitis, it is more than a syndesmitis, and while it may be an "ophthalmia," this word has justly fallen into disuse (or, rather, retained to apply to a definite acute

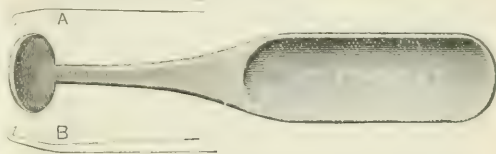
<sup>1</sup>Scherrenschewsky, *ibid.*

<sup>2</sup>Clark, U. S. Public Health and Marine Hospital Report, 1907.

infectious disease which, when occurring in the newborn is called *ophthalmia neonatorum* and, otherwise encountered, gonorrhoeal ophthalmia), and even though it be not always "rough" (*τραχος*), the term "trachoma" is both distinctive and convenient, and by this simple term this affection should be universally known. Whether the granules be large or small; crowded, coniluent, or diffuse; whether they are in the retrotarsal folds or overlying the tarsus; whether there is present connective tissue hyperplasia or cicatricial contractions—the disease is still one and the same, whatever the variations in clinical aspect resulting from duration and activity of the morbid process, or attributable to idiosyncrasy, racial peculiarity, age or environment of the patient. There is no "acute trachoma"—it is always a chronic affection, though it may, and frequently does, present symptoms peculiar to acute inflammatory processes. Cases of "acute trachoma," resulting in spontaneous cure, are reported, though our own experience—covering hundreds of cases of the disease—would suggest that at least some of the cases thus recorded have been cases of acute follicular conjunctivitis or simple adenomatous conjunctivitis, and not trachoma. Trachoma is always "true"—always seriously real. It is a distinct, local disease, and while its clinical aspects may, in a measure, call for variations in the details of treatment, its successful cure, like that of other definite local pathological conditions, requires the institution and execution of a certain, quite distinctly defined plan. There is unquestionably a tendency on the part of Nature to overcome the disease, and time alone will doubtless effect a termination of the active process in many cases of trachoma, but at what a cost! The low grade of inflammation induced by the disease itself operates so slowly and in such a diffuse manner that, ere the absorption of the products of exudation is effected, serious connective changes have taken place and the destructive process has extended not only to the hyperplastic material but also involved the proper tissues of the lids, occasioning contraction and deformity in these appendages and irreparable damage to the eyeball. Thus, in its natural course, the disease presents three characteristic stages which merge more or less into each other, to wit: (1) a stage of exudation and granulation, (2) a stage of hyperplasia, with connective tissue formation, and (3) a stage of sclerosis and cicatrization.

The treatment of trachoma has long embraced both therapeutical and mechanical measures—the end in view always being to occasion or hasten absorption, destruction, or removal of the products of exudation and hyperplasia. To this end, inflammatory action has generally to be stimulated rather than retarded, and while the usual method is to stimulate persistently and guardedly, decidedly heroic measures have at times been adopted, as the medication of an affected eye with secretion from a purulent ophthalmia or gonorrhoea, or the local use of jequirity or similar active irritant. Bluestone (copper sulphate), directly applied to the granular conjunctiva, has been used, perhaps, the longest and most widely of all chemical agents in the treatment of trachoma, though just why is difficult to understand. Theoretically, it would seem to be an ideal remedy, being both actively stimulating and irritant,

gent, but practically—and we have observed its regular and persistent use on many, many cases for periods of years—we cannot recall a single satisfactory cure resulting from its use. Moreover, our own personal observation and experience with this remedy is by no means exceptional. Nearly thirty years ago a famous Glasgow ophthalmologist wrote: "Sulphate of copper used to be, and I suppose is still, considered the standard remedy for granulations, for in every case of Egyptian ophthalmia, out comes the bluestone, mechanically, as it were. I have seen patients rubbed with bluestone for eight or ten years, until no trace of transparent cornea was left: and I have never seen any satisfactory result accruing from the use of argentum nitras, or any other caustic." In spite of such facts the use of the bluestone goes on, as does the use of other caustics and astringents. There is *one* element of benefit—though an entirely *indirect* one and largely buried beneath the injurious effects of such treat-



ment—that does accrue from the rubbing of trachomatous lids with smooth crystals of bluestone, alum, etc., and that is a mechanical stimulation to absorption from the tissue massage. This mechanical stimulation to absorption and restoration is a feature of the rational and successful treatment of trachoma which we are about to present, but it is much more wisely and satisfactorily accomplished by other agents than copper sulphate crystal or allied substance.

Ordinary lotions and collyria are, alone, utterly inefficient in the treatment of trachoma, though having a definite sphere of usefulness in conjunction with other methods of treatment.

Operative (mechanical) procedures have long been employed by various oculists in the treatment of certain cases of trachoma. The following methods have been practised: Linear scarification of the conjunctiva with subsequent squeezing out of the granules; grattage of the conjunctiva, with or without preliminary sacification; crushing the granules and expressing their contents by means of special forceps, rollers, etc.; excision of the superior cul-de-sac; removal of tarsus and retrotarsal folds. In addition to these operations upon the lids might be mentioned peritomy and peritomy—operations upon the eyeball for the relief of pannus.

Rubbing the granular and hyperplastic conjunctiva with cotton or soft brushes dipped in certain solutions has been found beneficial in the treatment of trachoma, and a 1 in 500 solution of biiodide of mercury is being thus employed by not a few practitioners with more or less satisfactory results. The stimulation from the medication employed is doubtless of benefit, though we are quite certain that the manipulation is the most important feature of the treatment, having obtained excellent results in certain long-standing cases (cases in the second



and third stages of the disease) from massage of the tissues of the lids by rubbing the conjunctiva with a smooth, glass spatula. In carrying out this procedure, it is our practice to thoroughly irrigate the conjunctiva with warm boric acid solution—taking care to include the superior cul-de-sac—and everting the lids, rub the involved portions of conjunctiva—both over the tarsi and in the retrotarsal folds—with the glass spatula, after which the conjunctiva is again thoroughly irrigated. Previous to this treatment, however, most cases require operation for the opening and emptying of all granules and the removal of hyperplastic material. For accomplishing this, we have devised a special curette—or, rather, two curettes, one sharp and one blunt—which are herewith illustrated. These curettes are so constructed that all portions of the involved conjunctiva, including the superior fornix and retrotarsal folds, can be reached, and the edge is so fashioned that while all granular and hyperplastic material can be readily removed, there is little danger of injuring smooth, healthy tissue. The edge of the sharp instrument points downward and backward (toward the handle) to an angle of about 45° and, when the instrument is drawn by the handle, readily engages and removes the abnormal tissue. On the sides of the spoon the edge merges into the flat metal, so as to prevent side cutting or laceration.

In using these curettes, the upper lid is everted over a horn or metal spatula and the sharp curette, the handle of which is held between the thumbs and the first and second fingers much as an ordinary spoon is held, with edge upward, is pushed over the eyeball well up into the superior cul-de-sac and then drawn downward from all directions of a segment of a circle similar to that outlined by the brow. Firm, though gentle pressure, is necessary, and the curetting must be thoroughly done. The blunt curette is now substituted for the sharp one, and the process repeated with slightly more pressure, till the tissues feel smooth under the instrument. The up-turned portion of the conjunctiva is next similarly treated—the edge of the curette now, of course, being turned downward. The lower lid is then likewise freed from all granules. The eye is then thoroughly irrigated with boric acid or normal salt solution, and the other eye operated on—or that may be left until inflammatory reaction in one eye has subsided. Light, iced compresses should be applied to eyes thus operated on during the succeeding twenty-four hours. These should, of course, be intermittently applied lest freezing of the cornea occur. Their continued application for periods of fifteen or twenty minutes every hour will answer well. The lid spatula is not essential, though it will be found of value in many cases, especially in obtaining proper pressure with the blunt curette.

The operation of curetting with the sharp instrument, when done thoroughly, will seldom require repetition, though stimulation through rubbing with the blunt instrument is frequently called for at intervals to promote resolution in the diseased area. This rubbing and massage may often, however, be advantageously carried out by means of the glass spatula.

Local medication is of doubtful value, as already

stated, in the treatment of trachoma. The bichloride of mercury solution (1 in 500) may be applied to the conjunctiva at the time of massaging, and a collyrium of zinc and boric acid given the patient for daily use, to limit and control the general conjunctivitis.

748 MAIN STREET.

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## HOW TO ESTIMATE THE FUNCTIONAL POWER OF THE HEART.

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If the functional power of the heart sinks below a certain minimum necessary for overcompensating to a certain degree all the resistances to the circulation, then cardiac failure ensues. Thus prophylaxis, efficient therapy, and prognosis of cardiac disease depend on the estimation of the functional power of the heart. Can this be done, and how? The answer is: Only approximately, and by taking into account all different factors that give evidence as to the heart's capacity for its work.

1. *Blood pressure*.—The height of pressure in the arterial system depends on the total of driving forces and resistances. The former are constituted by the contractions of the ventricles and the elasticity of the arterial walls. The conclusion, therefore, is: in absolute insufficiency of the heart blood pressure must fall. Facts, however, show that this is the rule, but not one without exception. And yet mere fall of the blood pressure is, on the other hand, no criterion of cardiac weakness. Far less is high pressure a sign of a strong heart. The reasons for this are that the former may be due to undertension, the latter to undertension in the arterial system. So far, therefore, the value of blood pressure is minimized as a means of judging the cardiac power. Nevertheless, Gräupner has managed to develop a method of using the changes in blood pressure after specialized exercises in certain groups of muscles (extensors, flexors of the upper and lower extremities) as an aid to estimating the heart's power.

2. *Pulse*.—Frequency, rhythm, and volume of the pulse are quite useless in themselves as criterions of the heart's strength, for they are subject to nervous influences.

3. *Respiration*.—Dyspnoea in rest speaks for cardiac failure. But the reverse, its absence, is no guarantee for a sound heart.

4. *Urine*.—Scanty urine, high specific gravity, and albuminuria are signs of a weak heart, if other sources are excluded. But the absence of these signs is no proof of a sound heart.

5. *Cyanosis*.—This, in a person with sound lungs, is a valuable adjunct to the diagnosis of a weak heart.

6. *The size of the heart*.—As a rule a heart of sufficient functional capacity is nondilated, and when incompensation sets in begins to dilate. So, naturally, the size of the cardiac diagram is in some degree a means of forming an opinion as to the organ's functional capacity. But for this purpose, of course, only the most exact measurements can be relied upon. Such ones can only be made

by x rays, viz., by "orthodiagraphy," or, of late, by "teloröntgenography."

Of all methods and signs which I have mentioned, Gräuper's method, and those by x rays, are the most valuable in themselves. Yet, in my opinion, even in taking all symptoms and methods into account, there is no absolutely exact way to arrive at an opinion regarding the functional power of the heart; it can only be estimated with more or less accuracy.

## Therapeutical Notes.

**Ointment of Yellow Oxide of Mercury.**—If it is desired to prescribe the ointment of yellow oxide of mercury so as to insure the use of a freshly precipitated oxide it is recommended to order that it be made according to the following procedure:

R Corrosive sublimate, ..... gr. xxvii;  
Fused sodium hydroxide, ..... gr. x.

Dissolve the corrosive sublimate in two ounces of warm distilled water and filter. Dissolve the sodium hydroxide in cold distilled water, and into this solution pour slowly, with constant stirring, the mercurial solution. Set the mixture aside in a warm place until the precipitate all subsides. Then decant the supernatant clear liquid, and wash the precipitate by decantation, or on a linen filter, until the washings cease to give any reaction for chloride. Mix the moist precipitate with a sufficiency of a mixture of hydrous wool fat (1) and white petrolatum (3) to make ten drachms. Each drachm contains two grains of yellow oxide of mercury.

**Methods of Administering Salicylic Acid and Sodium Salicylate.**—Salicylic acid is seldom used alone because of its insolubility and its irritant properties, remarks Pouchet in *La Quinzaine thérapeutique*. Internally it is best given in solution as follows:

### I.

R Salicylic acid, ..... gr. xv;  
Glycerin, ..... ʒss;  
Distilled water, ..... ʒiiss.  
Ft. solutio.  
Sig.: One tablespoonful three times a day.

### II.

R Salicylic acid, ..... ʒii ʒii;  
Potassium citrate, ..... ʒss;  
Glycerin, ..... ʒii;  
Aromatic elixir (U. S. P.), ..... q. s. ad. ʒiv.  
M. Sig.: One teaspoonful three times a day.

(The foregoing is supplied when "elixir of salicylic acid, N. F.," is ordered.)

It is mostly in antiseptic applications for external use that salicylic acid is used nowadays, as in the following:

R Salicylic acid, ..... ʒss;  
Starch, ..... ʒiiss;  
Talc, ..... ʒi.  
M. Sig.: Dusting powder.

Other topical applications are:

### I.

R Salicylic acid, ..... ʒss;  
Alcohol, 90 per cent., ..... ʒi;  
Wool fat, ..... ʒi.  
M.

Dissolve the acid in the alcohol and incorporate with the wool fat.

### II.

R Salicylic acid, ..... ʒss;  
Absolute alcohol, ..... ʒiiss;  
Castor oil, ..... ʒv.  
M.

### III.

Oil of turpentine is combined with salicylic acid in ointment form when quick absorption and irritant and hyperæmic effects are desired at the same time:

R Salicylic acid, ..... ʒi;  
Oil of turpentine, ..... ʒi;  
Wool fat, ..... ʒi;  
Benzoinated lard, ..... ʒvii.  
M.

### IV.

For the abortive treatment of boils salicylic acid is used in combination with soap and diachylon plaster as follows:

R Salicylic acid, ..... ʒss;  
Soap plaster, ..... ʒi;  
Diachylon plaster, ..... ʒi.  
M.

Sodium salicylate is the preparation of salicylic acid that is most commonly prescribed for internal use. It is absorbed very rapidly and circulates in the blood in an unaltered condition. According to the *British Pharmaceutical Codex*, when taken internally it increases tissue breakdown, and the nitrogen (urea, uric acid, etc.), sulphates, phosphates, and chlorides in the urine are all increased, but the uric acid is increased out of all proportion to the urea. It is so rapidly absorbed that it is useless as an intestinal antiseptic, and a less soluble form, such as salol, is therefore preferred. Sodium salicylate is usually given in solution in mixture form, as elixir of sodium salicylate, N. F. Pouchet (*loc. citat.*) says the disagreeable and persistent taste of the salt is masked in the following formulas:

R Sodium salicylate, ..... ʒiii;  
Rum (old), ..... ʒii;  
Syrup of orange peel, ..... ʒss;  
Distilled water, ..... ʒi.  
M. Sig.: One tablespoonful every hour.

In combination with extract of licorice it is better tolerated by the stomach:

R Sodium salicylate, ..... ʒi to ʒii;  
Extract of licorice, ..... ʒi to ʒii;  
Distilled water, ..... ʒi.  
M.

## The Value of Antimony in Bronchial Catarrh.

In *The British Medical Journal* for February 20th, page 488, Eustace Smith directs attention to the value of tartarated antimony in the treatment of bronchitis and bronchial catarrh. In catarrhal states of mucous membrane, antimony, he says, is of pre-eminent value. Because in full doses it produces profound discomfort and depression it does not follow that the drug, if given in more moderate and prudent quantity, is not of the utmost efficiency. According to his way of thinking the most erroneous views regarding the treatment of bronchitis prevail among the younger generation of medical practitioners, and he illustrates his point as follows: "A young house physician will order a patient who is suffering from a severe pulmonary catarrh a mixture

containing ammonium carbonate and other stimulating expectorants as a matter of course and in total disregard of the stage of the derangement or the character of the symptoms. But in the management of a bronchial catarrh each class of remedy has its own time for serviceable action and is useless or worse than useless if given out of its due season. The whole treatment of this derangement consists in unloading the congested vessels and setting up free secretion as a first and indispensable step before any attempt to reduce the amount of expectoration can be made. To give ammonia, squill, paregoric, and other stimulating and antispasmodic drugs in the early stage of the catarrh is to make the cough harder and the chest tighter, and greatly to aggravate the discomfort of the patient, if not to produce worse ill consequences. By such means I am convinced that what should have been a mild indisposition has often been aggravated into a serious illness by driving the catarrh further and further into the minuter tubes, and that in children a moderate bronchitis has not seldom been turned into a bronchopneumonia. The use of these remedies should be reserved strictly for the later stages of the catarrh when the cough is perfectly loose from a free secretion of mucus. The earlier remedies have then finished their work, and the time has come for stimulants and astringents to take their place and begin their task of bracing up the relaxed mucous membrane and guiding the complaint to a satisfactory issue." Tartarated antimony acts most efficiently when given in small doses frequently repeated. The most convenient form is the *vinum antimoniæ*, of which a dose of from two or three to ten or fifteen minims, according to the age and condition of the patient, may be given every hour or two hours as long as the symptoms are acute. The drug may be combined advantageously with potassium nitrate, ammonium acetate, spirit of nitrous ether, or similar diaphoretics.

**Paste for Soft Chancre.**—Balzer (*Journal de médecine de Paris*, December 20, 1907) uses the following combination:

R	Zinc chloride, .....	1 part;
	Zinc oxide, .....	9 parts;
M.	Water, .....	q. s.

Use sufficient water to make a paste, which is allowed to remain in contact with the ulcer for twenty-four hours, when it is renewed if necessary.

**For Asthenic Dyspepsia.**—The following aromatic bitter tonic is recommended in *Bulletin général de thérapeutique*:

R	Tincture of cardamom, .....	.3ii;
	Compound tincture of rhubarb, .....	.3ii;
	Sodium bicarbonate, .....	.5i;
	Infusion of calumba, .....	ad .3iv.

M. et Sig.: Dessertspoonful three times a day.

**Harrington's Solution.**—From Dr. Francis B. Harrington, of Boston, we are in receipt of a communication in which he disclaims credit for the introduction of "Harrington's solution," attributed to him in a note on the subject published in this column on March 7, 1908. He advises us that this valuable solution was first brought to the notice of surgeons in general by Professor Charles Harrington, of the Harvard Medical School, and refers us to

*The Transactions of the American Surgical Association*, 1904, vol. xxii, pp. 41 to 51, asking at the same time for a correction of the credit, which we gladly make.

**Local Applications for Orchitis.**—The following local applications are cited in *Bulletin général de thérapeutique*: (1) During the first six days apply the following ointment, rubbing it in gently, and covering the parts afterward with a layer of charpie:

R	Guaiacol, .....	.3iiss;
	Lard, .....	.3ii.

Envelop the testicles in cotton and support them in a suspensory bandage.

(2) At the end of the first week apply the following ointment:

R	Mercurial ointment,	} . . . . .aa 5i.
	Belladonna ointment,	
	Ichthyol,	
	Wool fat,	
M		

**Hæmoptysis**, according to Hirtz and Simon (*Thérapeutique médecine d'urgence; La Tribune médicale*, February 22, 1908), is treated best by complete repose in bed in a well aired room, with appropriate medication for the relief of cough and to check the hæmorrhage. If the hæmorrhage is severe solid food should be withheld and the diet confined to cold liquids such as milk, clear soups, etc. Opium may be given in small doses to allay coughing, according to the indications, as in the following:

R	Syrup of codeine,	} ..... aa 3ii;
	Syrup of belladonna,	
	Orange flower water,	
	Distilled water,	

To control the hæmorrhage ergotin may be given either hypodermatically (ten to fifteen minims of ergotin Yvon) or by the mouth in the following mixture:

R	Ergotin, .....	.5i;
	Syrup of rhatany, .....	.3viiss;
	Orange flower water, .....	.3iiss;
	Cinnamon water, .....	ad .3iv.

M. Sig.: One tablespoonful when required.

Ergotin may also be given in combination with calcium chloride, as in the following mixture:

R	Ergotin,	}	. . . aa 3i;
	Calcium chloride,		
	Orange flower water,		3iiss;
	Cinnamon water,		ad. 3iv.

If the hæmorrhage continues as at first at the end of three or four hours recourse may be had to adrenalin, which is given hypodermatically in doses of five to eight minims of a 1 in 1,000 solution of the chloride repeated three times a day.

To allay the coughing that sometimes comes on after the hæmoptysis is stopped, the following pill is prescribed, to be taken night and morning:

R	Tartarated antimony, .....	} . . . . .aa gr. 1½;
	Extract of hyoscyamus, .....	
	Dover's powder, .....	gr. v;
	Confection of roses, .....	q. s.
M.	ft. pil. No. xii.	

Particularly obstinate cases are treated with doses of ipecac sufficient to cause slight nausea, and by injections of gelatin serum.



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## A VALUABLE MODE OF TEACHING.

To interrogate a student at a clinic is doubtless a very efficacious way of compelling him to take in the features of a case to the limit of his capability. Hardly less effective from the point of view of enforcing observation—such observation as Sherlock Holmes always insists upon—while allowing more time to be taken by the student for reflection, is a method set forth in the March number of the *Canadian Practitioner and Review*. Professor Adam Wright, of the Medical Faculty of the University of Toronto, presented the fourth year students of a clinical class with the following extract from Smellie's *Textbook of Midwifery*, and directed them to criticise the treatment recorded as having been employed in the case.

"I was sent for to see a woman, aged forty, who had borne several children before, in 1749. When I came I found the head expelled. I slipped up my fingers and found the os tincte contracted about the neck of the child (which was dead), and endeavored to pull it away, but in vain. I then sent for Dr. L., and I desired him to see what he could do, as my fingers were numbed. He first got one hand in the uterus, and then slipped up the fingers of the other and brought away the child. The woman's pulse before delivery was strong, and she had little flooding. The os had been long gone a quarter of an hour when we were sent for again. They told us that immediately after we went away, which was five minutes after delivery, she was seized with a chill, grew cold, and died. We found her in a room, and told her to lie down, but she could not breathe and died about half an hour after delivery.

As was manifestly due to Smellie's military Dr.

Wright informed the class that the case was not one of Smellie's own, but had been reported to him by another practitioner, whose account he was simply quoting. A student's criticism is appended. For the most part it is judicious, but in the treatment suggested the student wrote: "On arrival, give anæsthetic, dilate the os, and then remove the child." In his remarks Dr. Wright said: "While the administration of an anæsthetic would have been very desirable, this case occurred in 1749." This simple comment should have been quite enough, and doubtless was, to recall the student from any confusion into which he may have fallen as to whether he was expected to suggest what the eighteenth century practitioner should have done in the conduct of the case related or to intimate what he himself would think it proper to do in a similar case occurring at the present time. We venture to say that the student will remember the remark for the rest of his life, and by reason of it will grow to be a better thinker and a better physician than he might otherwise make himself. Retrospective practice, if we may use such a term, has its uses, and the material may come from another man's experience almost as well as from one's own.

## THE GRAND LEGION OF THE RED CROSS.

It is not creditable to us as a people that, whereas the Japanese Red Cross has a membership of 1,300,000, our own has only 10,000 members, and that number is said to be thirty times as great as the membership was three years ago, when the American society was reorganized and placed under government supervision. Perhaps this enormous disparity is due to the great war in which Japan has but recently been engaged. Our own organization seems to have done better in the matter of obtaining money than in that of enlarging its numbers, for we are informed that since the year 1905 it has raised \$4,000,000 and spent that sum in relief work.

There has now been initiated an included organization which appears likely to aid materially in increasing the membership of the Red Cross while doing its own beneficent work in the community. It is known as the Grand Legion of the Red Cross. As a grand legion is made of "four or more legions," we presume there will be a number of grand legions, for each legion consists of only 256 men and 104 officers. Multiplying these numbers by four, we have 1,024 men and 416 officers. In Europe all add, to a grand legion—a partial parallel to serve "in the succor of the sick and injured everywhere and in the prevention, by education, of death by accident and disaster." Perhaps, however, the sympathy from which we are drawing our

information pertains only to the State of New York and its branch of the National Red Cross, but, even at that, what can 1,040 men do "in the succor of the sick and injured everywhere"? They can do much, of course, but not a tithe of what ought to be done. Therefore, we repeat, there will probably have to be many grand legions, even in the State of New York, though the statement that a grand legion is made up of "four or more legions" gives us the hint that a great number of legions may be included in a grand legion.

The objects of the organization are said to be: To help the sick and injured when physicians are not at hand, and also to assist the latter; to help care for those sick or injured in great public celebrations; in time of war to serve under the Army Medical Department in field, hospital, and camp; to spread a knowledge of simple hygiene and assist in the struggle against tuberculous disease; to teach ordinary care and forethought for the prevention of accidents; to teach what to do in moments of danger in order to prevent injury or loss of life, as in panics and street crushes; and to help establish a higher regard for human life. Each legion is commanded by a director in chief, and each relief column (of which there are four in a legion) by a director, and these officers must be physicians.

The objects stated are certainly such as all good citizens have at heart, and we hope that enough legions will be organized to assure their accomplishment, also to swell the membership of the National Red Cross, for every member of a legion must also be a member of that body.

#### IRON IN CHLOROSIS.

To those who would view chlorosis in the light of a severe anaemia and nothing more the hypothesis that it is in reality a specific disease, due to a mechanism differing essentially from others which lead to a condition of grave anaemia, will come as something new. Yet such is the point of view adopted by a number of modern students, the most recent expression from whom comes to us in a study by F. W. Warfinger, formerly director and senior physician of the Sabbatsberg Hospital, of Stockholm (*Nordiskt medicinskt Arkiv*, 1907, 3).

For years chlorosis has been grouped with the grave constitutional disorders, due to fundamental nutritional disturbance, and formerly often associated with tuberculous or leprosy processes. According to this view, the derangements of the function of nutrition lead to the grave anæmic changes which are present in this disorder. The present author, on the contrary, says that chlorosis should

not be included among the chronic anæmias, with which it has been allied, and to which it has few resemblances, save that of a modification of the constitution of the blood, but that it is to be considered as an entirely specific, independent disease, arising spontaneously, particularly in young women, without any apparent cause, and presenting a definite clinical picture. This view of the nosological position of the disease is of the utmost importance from the standpoint of treatment.

Inasmuch as it is a matter of clinical knowledge that the disease appears very frequently in persons of good nutrition, and that experience shows that the best of dietetic means are usually inefficient, it would appear that chlorosis, as has been held in so many quarters, is not to be regarded as an inanition anæmia. Neither is the author disposed to accept the idea of its being of nervous origin, or Rokitansky's hypothesis that it is due to an insufficient development of the circulatory and genital systems. For other good and sufficient reasons he rejects heredity and digestive disturbances as essential ætiological factors. Clinically, true chlorosis is characterized by certain very striking features. Its appearance practically only in young women about the period of puberty, a peculiar whitening of the skin and of the mucous membranes, the lack of alteration in the nutrition of the body, a cardiac murmur, and a striking change in the constitution of the blood are the most marked symptoms.

The cause of the lowering of the hæmoglobin percentage and of the diminution in the number of red cells is still unknown, but the author believes that his study has demonstrated that there is a defect in the internal composition of the plasma of the red blood cell by which an interference takes place with the assimilation of the necessary amount of hæmoglobin. This change in the constitution of the plasma is due to a poison of some nature which reduces the catalytic power of the protoplasm of the red blood cell, in which is brought about the formation of hæmoglobin from the hæmatogens of the food. This poison, according to the hypothesis of the author, arises as a consequence of an acute infectious disease, probably of parasitic origin, since the disease is characterized by a febrile course, a tendency to recurrence, and epidemic features.

The therapeutic efficacy of iron he adduces as an argument in favor of his hypothesis. Its action is not local, and hypodermic injections are as efficient as its internal administration. Organic as well as inorganic preparations are valuable, but only when they give a distinct chemical reaction of iron. The pharmacological action of iron takes place in the fluids of the body, and only after dissociation of the iron ions, which ions act as catalyzers, hastening

the reduction of the already existing toxic substances which hinder hæmoglobin formation. The iron should be given for at least six weeks in order to counteract all the poison thoroughly, and, in the author's opinion, should be administered in large doses, since by far the greatest amount passes through the gastrointestinal canal unabsorbed.

### THE ESSENTIAL IDENTITY OF TUBERCLE BACILLI.

In rather a long article on the variability of the tubercle bacillus, published in the February number of the *Revue de la tuberculose*, Professor S. Arloing argues in favor of its essential identity, however great may be its temporary variations in morphology, virulence, and other characters. He reminds us that in the year 1884 he maintained the variability of human tuberculous disease in virulence, and that his contention was opposed more or less vigorously until 1902, when the bacteriologists suddenly became agreed on the main question, differing only as to the limits of variation beyond which the bacilli ought to be arranged in distinct groups. Were there, for example, it was asked, a human type and a bovine type, rigorously defined, among the tubercle bacilli of the mammalia, and were there also special types for birds and for fishes, impossible of inclusion under either of the others?

Arloing now declares himself more and more convinced that the tubercle bacillus is a single entity, that the species or types recognized and insisted on by many observers are only temporary strains or varieties, and that their apparent lack of change lasts no longer than the conditions in the matter of media under which they were formed. In effect, he says, the facts now adduced by him demonstrate the greater or less facility with which the types admitted by many authors are modified in every particular, and at what point types at first distinct come to resemble each other in many respects under the influence of natural or experimental modifiers.

In conclusion, he thinks it must be admitted: 1. That types are rarely perfect in distinguishing features. 2. That they are accompanied by an almost indefinite series of individuals which, by their growth, their form, and their virulence, are capable of passing the one into the other. 3. That natural variability is sufficient to explain the usual characters of virulence in the bacilli of mammalia and in those of birds. 4. That there would be positive danger, from the medical and the hygienic point of view, in basing principles to be applied in the prevention of tuberculous disease upon differences that are essentially changeable.

If M. Arloing is correct in his contention, the inference can hardly be avoided that the tuberculous disease of human beings may be conveyed to cattle and that of cattle to the human subject. Such an inference, coupled with the growing evidence to support the view that human infection is incurred more commonly through the digestive tract than was until lately supposed, must accentuate our endeavors to eliminate tuberculous meat and milk from our food supplies, and that elimination, indeed, ought to be effected as a mere matter of precaution, quite apart from final solutions of the problems of bacteriology.

### PLAGUE INVESTIGATIONS IN INDIA.

In our issue for September 7, 1907, we called attention to the special number of the *Journal of Hygiene* devoted to the report of the India Plague Commission. The December number of the same journal is devoted to further reports of the Plague Commission. The first article is a digest of the recent observations on the epidemiology of plague. Then follows the original work of the India Plague Commission. They first describe the epidemiological observations in the city of Bombay; then they report observations made in the villages of Sion, Wadhala, Parel, and Worli, suburbs of Bombay; then follows a discussion of the manner of the spread of the infection in Bombay and of the infectivity of houses; and, finally, there is a description of epidemiological observations made in the villages of Dhand and Kasel in the Punjab.

The entire work is, of course, done from the viewpoint of the epizootics in *Mus decumanus* and in *Mus rattus* and their conversion into human epidemics by the agency of the rat flea, *Pulex cheopis*. The methods of the examination of rats are similar to those described by Kitasato in a paper published in the *New York Medical Journal* for July 7, 1906. The method of collecting fleas for examination is ingenious and original.

The names of the writers of the reports are suppressed, most unjustly, we think. It appears to us that the important points are these: First, there are distinct *Mus decumanus* epizootics and *Mus rattus* epizootics, which are followed by distinct human epidemics. Second, these epizootics are followed by the epidemics in from seven to ten days. Third, the rat flea is the agent of spread of the epizootic from *Mus decumanus* to *Mus rattus*, and of the conversion of the latter epizootic into a human epidemic. Fourth, the way to stop plague is to exterminate rats.

These facts are those that are guiding our own authorities in their efforts to stop the spread of



bubonic plague on the Pacific coast. While no cases of human plague have been discovered there for more than a month, the work of exterminating rats goes on at the rate of seven thousand a week in San Francisco alone. Rats continue to be found infected with *Bacillus pestis* (*Public Health Reports*).

### "DR. MAGNUM."

"Dr. Magnum," it may be allowed, has a festive sound, but to see it substituted for *Dr. Magnan*, of the Ste.-Anne, in a Paris press dispatch "by telegraph to Clifden, Ireland, thence by wireless," as it was in one of the newspapers last Sunday, inclines one to wonder whether the error is to be imputed to the cable or to the Marconi system. From the substance of the dispatch it is to be gathered that Dr. Magnan's jubilee was to be celebrated on Monday, but throughout he is called "Dr. Magnum."

### Obituary.

MR. DANIEL SIDNEY APPLETON,  
of London.

Mr. Appleton died on Wednesday, March 18th, at his residence, in London, at the age of forty-seven years, of cardiac disease. He was a member of the firm of D. Appleton & Co., and during the latter years of the many that the *New York Medical Journal* was published by that house he was particularly devoted to its interests. He was of the third generation of those Appletons who were engaged in the publishing business. Some seven years ago he became the London representative of the firm, and he also entered upon a publishing career of his own in that capital. With the ready adaptability of our countrymen he took kindly to life in London, where he made many friends. The deceased gentleman was a wise man of business, and, above all, he was personally most attractive and amiable.

### News Items.

**Changes of Address.**—Dr. Thompson J. Trueman, to 209 Bridge street, Brooklyn, N. Y.; Dr. B. Franklin Ross, to 35 South Nineteenth street, Philadelphia.

**The Society of Physicians of the Village of Canandaigua, N. Y.**, held a meeting on the evening of March 12th. Dr. O. J. Hallenbeck read the paper of the evening on Spinal Injuries.

**The Franklin District, Mass., Medical Society.**—At the March meeting of this society, which was held in Greenfield on Tuesday, March 10th, Dr. Clara M. Greenough read a paper on Functional Dysmenorrhœa.

**Buffalo Academy of Medicine.**—The regular meeting of the Section in Pathology was held on Tuesday, March 17th. The programme included a paper on Gangrenous Inflammation of the Appendix with Spontaneous Discharge into the Small Intestines, by Dr. A. L. Benedict, and a paper on Epithelial Tumors of the Skin and Exposed Mucous Membranes, by Dr. A. H. McGlannan, of Baltimore.

**American Urological Association.**—The New York Society will hold a stated meeting at the New York Academy of Medicine on Wednesday, March 25th, at 8:30 p. m. The paper of the evening will be read by Dr. Ramon Guiteras on Tuberculosis of the Kidney.

**Rochester, N. Y., Academy of Medicine.**—A meeting of Section III, which embraces obstetrics, gynecology, and pædiatrics, was held on Wednesday evening, March 18th. Dr. C. S. Starr reported a case of chorea at term, two cases of eclampsia, and an alleged case of abortion.

**Hartford, Conn., Medical Society.**—The Surgical Section of the society will meet on Monday, March 23d, at 8:30 p. m. Dr. Roswell Park, of Buffalo, will deliver an address on the Modern Aspect of the Cancer Problem, which will be followed by a general discussion. At the close of the meeting a reception will be tendered Dr. Park.

**American Medicopsychological Association.**—The sixty-fourth annual meeting of this association will be held in Cincinnati, Ohio, on May 12th to 15th. The programme includes a long list of papers by eminent neurologists, and the meeting promises to be one of especial interest. Dr. Charles W. Pilgrim, of Poughkeepsie, N. Y., is the secretary of the association.

**Statistics of Operations for the Cure of Aneurysm.**—Dr. Rudolph Matas, of No. 2255 St. Charles avenue, New Orleans, writes that he is compiling the statistics of operations for the cure of aneurysm by the intrasaccular method (endoaneurysmorrhaphy), and will be obliged to all surgeons who have had experience with this operation for brief reports of their cases.

**Syracuse, N. Y., Academy of Medicine.**—A meeting of this academy was held on Tuesday evening, March 17th. Dr. J. C. Palmer read a paper on the Inspection of Schools in Syracuse, Dr. Jesse Heiman read a paper entitled Personal Experiences in School Inspection, and Dr. D. M. Totman read a paper on Milk Inspection. The general discussion, which followed the reading of the papers, was opened by Dr. Nathan Jacobson.

**Charitable Bequests.**—By the will of William B. Scott, of Bryn Mawr, Pa., St. Christopher's Hospital, of Philadelphia, receives \$25,000 for a permanent fund. The Children's Seashore Home, of Atlantic City, the Bryn Mawr Hospital, and St. Christopher's Hospital are reversionary legatees.

By the will of Mrs. Sarah E. Thomas, the Presbyterian Eye, Ear, and Throat Charity Hospital, Baltimore, receives \$100.

**The Norfolk, Va., Antituberculous League.**—At a recent meeting of the board of directors the plan of establishing a separate hospital for tuberculosis patients at the city almshouse was endorsed, and it is believed that the necessary appropriation will be made by the council. Clinics are held daily under the auspices of the league, and are conducted by Dr. J. W. Hunter, Dr. J. J. Miller, Dr. W. P. Smith, and Dr. Charles R. Grandy, each taking a turn in regular order.

**Medical Society of the County of Kings.**—At a meeting of the Section in Pædiatrics, held on Friday evening, March 20th, the programme included the following papers. A Review of English Pædiatric Literature for 1907, by Dr. John F. Crawford; A Review of the German Pædiatric Literature for 1907, by Dr. Alexander Spingarn; Chronic Intestinal Infection in Infants and Young Children, and Report of a Case of Rudimentary Fingers, by Dr. E. H. Bartley.

**The Mortality of Connecticut.**—According to the Monthly Bulletin of the Connecticut State Board of Health for the month of February, 1908, there were during the month 1,511 deaths from all causes, a decrease of 44 from the preceding month, and an increase of 8 over the same month in 1907. The annual death rate in 1,000 of population was 17.5 for the large towns, 18.6 for the small towns, and 17.7 for the whole State. There were 282 deaths reported from infectious diseases.

**Alumnæ Association of the New York Medical College and Hospital for Women.**—The regular spring meeting of this association was held on Wednesday, March 18th, in Brooklyn, at the residence of Dr. J. V. H. Baker, 512 Bedford avenue. Dr. Clarice J. Parsons, of Springfield, Mass., read a paper on Women Physicians in Small Cities, which was followed by a general discussion. Dr.

**The Health of Philadelphia.** During the week ending May 11, 1918, the following communicable diseases were reported to the Bureau of Health: Malarial

whooping cough, 10 cases, 4 deaths; pulmonary tuberculosis, 137 cases, 77 deaths; pneumonia, 98 cases, 67 deaths; erysipelas, 10 cases, 3 deaths; puerperal fever, 5 cases, 2 deaths; cancer, 13 cases, 18 deaths; mumps, 15 cases, 0 deaths; tetanus, 1 case, 0 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 12; diarrhoea and enteritis, under two years of age, 14. The total deaths numbered 562, in an estimated population of 1,532,738, corresponding to an annual death rate of 19.01 in 1,000 of population. The total infant mortality was 115; under one year of age, 92; between one and two years of age, 23. There were 36 stillbirths; 22 males, 14 females.

#### Society Meetings for the Coming Week:

**Monday, March 23d.**—Medical Society of the County of New York.

**Tuesday, March 24th.**—New York Otolological Society; New York Medical Union; New York Dermatological Society; Metropolitan Medical Society of New York City; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology).

**Wednesday, March 25th.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society.

**Thursday, March 26th.**—New York Academy of Medicine (Section in Obstetrics and Gynecology); Brooklyn Pathological Society; Hospital Graduates' Club, New York; New York Celtic Medical Society; Brooklyn Society for Neurology.

**Friday, March 27th.**—New York Clinical Society; Academy of Pathological Science, New York; New York Society of German Physicians.

**Saturday, March 28th.**—New York Medical and Surgical Society; Harvard Medical Society, New York; Lenox Medical and Surgical Society, New York; West End Medical Society.

**College of Physicians of Philadelphia.**—At a meeting of the Section in Otolaryngology, held on Wednesday evening, March 18th, the following papers were read: Tertiary Syphilis of the Pharynx, Tonsil, and Soft Palate, Epiglottitis and Vestibule of the Larynx, with Membranous Formation Simulating Vincent's Angina, by Dr. D. Braden Kyle; Position of the Patient in Operations on the Nose and Throat, by Dr. Arthur A. Bliss; Some Laryngeal Complications of Typhoid Fever, by Dr. Joseph S. Gibb.

The Section in Ophthalmology held a meeting on Thursday evening, March 19th. The programme was as follows: Dr. Howard F. Hansell read a paper on Burn of Both Eyes by Electricity, and exhibited a patient; Dr. William Campbell Posey reported a case of paralysis of the extraocular muscles in exophthalmic goitre, and a case of homonymous hemianopsia in the macular regions. Dr. S. D. Risley reported two cases of interstitial keratitis associated with cretinoid conditions; Dr. Wendell Reber read a paper entitled A Probable Congenital Circumscribed Defect in the Choroid with Anomalous Pigment Arrangement; and Dr. William Zentmayer read a paper entitled Restoration of the Contracted Socket.

**Over Seven Thousand Dollars in Prizes for Exhibits and Essays Relating to Tuberculosis.**—Five prizes of \$1,000 each and seven of \$100 each are offered by the International Congress on Tuberculosis as follows: 1st, For the best evidence of effective work by a voluntary association for the prevention or relief of tuberculosis; 2d, for the best exhibit of a furnished house for a family, or a group of families of the working class; 3d, for the best exhibit of an existing sanatorium for the treatment of tuberculosis among the working classes; 4th, for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor; 5th, for the best exhibit of a hospital for advanced pulmonary tuberculosis. The Congress also offers prizes of \$100 each for seven educational leaflets of from one to two thousand words, addressed to (a) adults generally, (b) teachers, (c) mothers, (d) indoor workers, (e) dairy farmers, (f) grammar school children, and (g) primary school children, the latter to be pictorial in character. The Smithsonian Institution offers a prize of \$1,500 for the best treatise submitted on the Relation of Atmospheric Air to Tuberculosis. Numerous medals are also

offered for exhibits in allied lines. Full details regarding the forms in which essays are submitted will be furnished by Dr. Thomas G. Ashton, 1814 South Rittenhouse Square, Philadelphia, secretary of the Committee on Prizes.

**The American Society of Tropical Medicine.**—The fifth annual meeting of this society will be held at the Johns Hopkins Hospital, Baltimore, on Saturday, March 28th. At the morning session Dr. James M. Anders, of Philadelphia, will deliver the presidential address on a Brief Review of the Year's Progress in Tropical Medicine; Dr. Joseph McFarland will read a memoir of the late Dr. James Carroll; Dr. Charles Wardell Stiles, of Washington, D. C., will read a paper, the subject of which is not announced; Dr. Bailey K. Ashford, of Washington, D. C., will read a paper entitled Puerto Rico as a Field for Research in Tropical Medicine; and Dr. R. H. Strong, of Manila, will read a paper on Vaccination against Plague. In the afternoon the election of officers and members will be held, and the following papers on the prophylaxis of malaria will be read: Quinine Prophylaxis, by Dr. William S. Thayer, of Baltimore; Mechanical Prophylaxis, by Dr. Charles F. Craig, of Fort Leavenworth, Kansas; Mosquito Extermination, by Dr. L. O. Howard, of Washington, D. C.; Strongyloides Intestinalis in Philadelphia, by Dr. Judson Deland, of Philadelphia; Twenty Years' Experience with the Hypodermic Use of Quinine and Urea Hydrochloride in Malarial Infection, by Dr. S. Solis-Cohen. The following papers will be read by title: A Biographical Note of Dr. Louis Beauperthuy, by Dr. Aristides Agramonte, of Havana; Some Notes on a Collection of Entozoa Made by Dr. F. Creighton Wellman in Portuguese West Africa, by Dr. Henry B. Ward, Lincoln, Neb.; The Pathogenesis of Pernicious Malaria, by Dr. William H. Deaderick, of Marianna, Ark.; Clinical Charts of a Case of Quartan Malarial Fever observed in West Africa, by Dr. F. Creighton Wellman, of Breyella; and a History of a Case of Malarial Fever, Algid Form, Choleraic Type, by Dr. R. H. von Emdorf, of New Orleans.

**Meetings of Sections of the New York Academy of Medicine.**—A meeting of the Section in Ophthalmology was held on Monday evening, March 16th. The paper of the evening was read by Dr. E. S. Thomson on the Diagnostic Value of Tenderness in the Ciliary Region.

At a meeting of the Section in Medicine, which was held on Tuesday evening, March 17th, Dr. Lawrason Brown, of Saranac Lake, read a paper on Cardiac Complications in Pulmonary Tuberculosis; Dr. Thomas B. Fletcher, of Baltimore, read a paper on the Cerebral Complications of Ulcerative Endocarditis; and Dr. Alfred Stengel, of Philadelphia, read a paper on the Clinical Features of Myocardial Disease. The discussion which followed was participated in by Dr. W. Gilman Thompson, Dr. Alexander Lambert, and Dr. Henry Koplik.

The Section in Genitourinary Surgery held a meeting on Wednesday evening, March 18th. Dr. Eugene Fuller read a paper entitled A Reminder that Fatal or Serious Results May Follow Operative Treatment of Bubo, and Dr. L. Levin read a paper entitled Renal Pyuria Without Apparent Lesion in the Kidney.

A meeting of the Section in Orthopaedic Surgery was held on Friday evening, March 20th, and papers were read as follows: Some Observations on Suppurative Conditions in the Joint Regions in Infancy and Young Children, by Dr. Linnaeus E. La Fetra; Serotherapy in Infectious Arthritis, by Dr. John Torrey; and the Diagnosis of Joint Infection, by Dr. P. William Nathan.

The Section in Obstetrics and Gynecology will meet on Thursday evening, March 26th. The following programme has been prepared for the meeting: Dr. Eden V. Delphey will present a unique specimen of an asexual monster, Dr. H. J. Boldt will present a specimen of tubal abortion, and Dr. C. C. Sichel will present a specimen of carcinoma of the uterus complicated by pus tubes and adherent appendix. Dr. Eugene C. Savidge will read a paper entitled The Problem of Uterine Cancer, and the following reports of cases will be given: Inverted Appendix, reoperated, with microphotograph, by Dr. H. D. Furniss; Amputation of the Cervix under Hypnosis, by Dr. C. F. Adams; Right Ovarian Cyst Complicated by Appendicitis and Distended Gallbladder, by Dr. C. C. Sichel; Serous Fluid (Pelvic) encapsulated two months after Supravaginal Hysterectomy, by Dr. Le Roy Broun; and Small Ovarian Abscess. Rupture while Removing, by Dr. Le Roy Broun.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

March 12, 1908.

1. The Genesis and Nature of Hysteria: A Conflict of Theory. By J. W. COURTNEY.
2. Some Clinical Observations on the Diagnosis and Treatment of Exophthalmic Goitre. By JAMES MARSH JACKSON and LOUIS GRAY MEAD.
3. Strictures of the Esophagus Dilated through the Esophagoscope. Report of a Case. By T. PAYSON CLARK.
4. A Case of Gastric Symptoms of Reflex Origin. By RICHARD F. CHASE and JOHN T. BOTTOMLEY.

**1. The Genesis and Nature of Hysteria: A Conflict of Theory.**—Courtney reviews the theories of Freud, Babinski, Janet, Prince, and Pullier, and gives the definition of hysteria put forward by these authors. He states his own ideas as follows: He believes that hysteria is the clinical expression of a simple adynamic condition of the brain, and that in our part of the world we rarely see more than a *forme fruste* of the classical picture. By this he means that the somnambulistic phenomena (which, Janet says, constitute more than half the so called accidents of hysteria), the complete abulias, the deliria, the paralyzes, and contractures, even the absolute hemianesthesias and amauroses, are genuine rarities. In view of these observations he is firmly convinced that the generally unfavorable prognosis laid down by American writers on hysteria represents the teaching of the French school rather than an independent conviction based on their own experience. He is also satisfied that in environment and psychotherapy we have two agents that are absolutely adequate for the cure of practically every case we meet in our daily work. His conception of psychotherapy is based on this fact, that the infusion of force and activity into brain cells is by no means a purely endogenous process. This truth was obvious to the mind that first conceived the idea of placing a band of music at the head of a regiment of soldiers; and we are all familiar with the tremendous dynamogenic capabilities of a patriotic tune. A waltz measure, for some of us, possesses the same energizing quality; for others the spoken or written word, the personal example, are all sufficient. Psychotherapy stands for anything and everything that acts upon the intellect and the emotions in a way to recharge depleted brain cells. As to the etiology of hysteria he held that it is logical to assume that from a remote period in history, down as far back as the time when the misbegotten term "hysteria" was conceived in the medical mind, human beings of both sexes have been the victims of bodily injuries, and that these injuries have been incurred under circumstances quite as harrowing to the emotions as any which obtain today. In the face of this logical assumption, it seems to him nothing short of marvelous that medical history should be so absolutely barren of reference to trauma as a cause of hysteria, and to the time when surgeons had begun to direct the great commercial enterprises of the world and were held responsible by law for the safety both of those in their employ and of those

whom they undertook to convey from one place to another. There is to our author a sinister significance in the rapid growth in importance attached to bodily injuries in the causation of hysteria from that time to the present, and a sinister significance in the facility with which bodily injuries of the most trivial sort appear to be capable of producing this untoward result in persons previously unemotional and whose family history is so universally free from everything that might suggest nervous or mental deviation.

**2. Some Clinical Observations on the Diagnosis and Treatment of Exophthalmic Goitre.**—Jackson and Mead are not in favor of sending early cases to the surgeon. The results of medical treatment are too favorable, from 70 per cent. to 80 per cent. of the cases being cured by it. This is especially true in the rudimentary forms; better in the form which develops gradually than in the form which develops suddenly with full force; better in the old than in the young. But notwithstanding the good results from medical treatment there will always remain a certain number of cases for the surgeon, viz., when the thyroid gland becomes so large that it produces symptoms of compression or when the patient gets rapidly worse on medical treatment. Organic heart changes and bad general condition are surely contraindications to operation.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

March 12, 1908.

1. The Chemical Control of the Body. By ERNEST H. STARLING.
2. Passive Hyperæmia by Means of the Cupping Glass of Igar and Kopp. By B. M. BENNETT.
3. The Frequency and Significance of Endometritis from the Speculum at Treatments. By ROBERT M. ANSON.
4. Delirium During and After Tetanus. By CHARLES W. LEEK.
5. A Typhoid Fever Epidemic from Infected Milk. By CHARLES NAHUM HASKELL.
6. Removal of a Subcortical Cystic Tumor at a Second Stage Operation Without Anesthesia. By H. M. THOMAS and HARVEY CUSHING.
7. A Simple Method of Water in the Light of Recent Research. By JAMES K. COOK.
8. The Chemical Basis of the Treatment of Diabetes Mellitus. By JAMES B. HERRICK.
9. The Importance of an Ocular Examination in Pregnant Women Manifesting Constitutional Signs of Toxicæmia. By W. C. COOPER.
10. The Use of Anthracite Coal Ash as a Surgical Dressing. By W. IRVING CLARK, JR.
11. Fistulous Tracts, Tuberculous Sinuses, and Abscesses. By J. H. HARRIS.

**1. The Chemical Control of the Body.**—Starling, in his review of the physiological and chemical investigations, we may assert that in the employment of these investigations, the method employed by Nature herself, and, indeed, that a large share in the wonderful coordination of the activities of different parts of the body, which determine their mutual co-operation for the common weal of the organism, is secured by the presence and regulation of chemical substances which are strictly analogous to the drugs administered therapeutically to the human body.

treatment of diseases. As an illustration of this fact he cites secretin, a chemical substance that excites pancreatic reaction. This body can be regarded as a type of a whole group of chemical messengers, which, formed in one organ, travel in the blood stream to other organs of the body and effect correlation between the activities of the organs of origin and the organs on which they exert their specific effect. For these chemical messengers the name of "hormone" has been suggested. Ehrlich divided the chemical agents which act on the organism into two classes, the toxins and the drugs. There is one marked distinction between the two groups: The toxins cause the formation in the organism of antibodies, tending to produce immunity, while in the case of the drugs, though with some a limited degree of tolerance may be produced, there is no evidence of the production at any time of antitoxic substances in the treated animal. The hormones, acting constantly as chemical messengers from one organ to another by way of the blood, cannot produce antibodies that would abolish their function, and must necessarily, therefore, belong to the class of drug substances. Their action must also, in all probability, be ranked with the purely chemical processes, rather than with those mixed chemical and physical processes which determine the formation of absorption compounds and distinguish the interaction of one colloid with another, as well as of toxins with the animal cell or with their corresponding antitoxine.

**7. American Mineral Waters.**—Crook compares the analyses of American commercial mineral waters, recently published in *Bulletin 91* of the Bureau of Chemistry, of the United States Department of Agriculture, with those of the advertised analyses. He comes to the conclusion that a great majority of the advertised analyses of our mineral waters were made many years since when methods were not so exact as they are at the present day. Some mineral springs are sensibly influenced by the wetness or dryness of the season, both in strength and in volume; the greater the volume of the water the weaker it is in mineral ingredients; examinations of such springs at different stages would undoubtedly yield dissimilar results. While many springs are of deep origin and show no apparent fluctuations in their rate of flow, we have no positive proof that even these have not become more or less modified in character during the long period since the old analyses were made. The subterranean aqueous current, which constitutes a spring when it reaches the surface, cannot be counted on continuously to come in contact with earth strata which yield a uniform product to its solvent power. Underground streams, as well as those on the surface, are liable to change their course, and, while losing certain of their former contents, may acquire new ones. The fact must not be overlooked that the government analyses were made in each case from samples purchased in the open market. It is, therefore, possible that some of the waters examined by the bureau chemists were spurious or adulterated. All of our medicinal springs should, therefore, be submitted to analysis at least once in ten years until we are able to arrive at a correct estimate of their potency, and

whether they are gaining or losing in strength. No enterprising mineral spring proprietor, animated by a desire to put forth a reliable product, can object to the expense, repeated at intervals so widely separated. The decennial revisions of our works on *matéria medica* and pharmacy should present a brief account of the mineral waters conforming to ethical rules, so that the medical practitioner may be in possession of as authentic and authoritative a source of information regarding these as he has in case of other therapeutic agents.

**8. The Oatmeal Diet in the Treatment of Diabetes Mellitus.**—Herrick confirms von Norden's statement for the oatmeal diet. While occasionally the stomach will rebel and refuse to tolerate this food for any great length of time; while the diet is not suited to all cases, being of least avail in the milder forms; while it fails even in some of the severer types, and while no claim for a cure of diabetes can be made, this diet still remains a most valued therapeutic agent for the warding off of impending coma in the severer types of diabetes and for assisting in the establishment of a tolerance for carbohydrates. In the milder types of diabetes he has so far seen no ill effects follow its use, but the benefits have been trifling. His experience in using it in the diabetes of moderate severity has in general been favorable, it being of especial help in establishing tolerance for carbohydrates. In the diabetes of children, if employed early, it seems to exert a usually favorable influence.

**10. The Use of Anthracite Coal Ash as a Surgical Dressing.**—Clark has made experiments with anthracite coal ash pads as surgical dressings. He concludes that in cases where gauze cannot be obtained or the expense is too great, ash pads form a good substitute. In freely discharging sinuses and suppurating wounds the discharge will be well taken care of. When the discharge is thick and gummy, or where weight or bulk of dressing is contraindicated, they should not be used. They are particularly applicable to discharging wounds of the axilla, popliteal space, and palm of the hand, because they fit snugly and tend to splint the part. They are also well suited to varicose ulcers and discharging sinuses of the abdomen. The ash pad is made in the following manner: The ash collected from the furnace is placed in a flour sifter and thoroughly sifted. It will be found to fall on a sheet of paper as a soft, brownish, floury powder. This is all the preparation necessary. A piece of old sheet or well washed linen is cut in rectangular shape and of any desired size. The square is placed on a table and a small pile of the ash is placed in the centre. The sheeting or linen is then folded over it, as in making a poultice. Such a pad can be made rapidly, and when examined will be found soft, compact, and absorbent. It can be nicely adjusted to any part of the body with adhesive plaster straps. After an ash pad has been applied to a discharging wound for some time it becomes moulded to the part, as the ash loses its powdery consistency owing to absorption. It has then the consistence of dough, and acts as a partial splint, being more comfortable than otherwise.

## MEDICAL RECORD.

March 14, 1906.

1. Some Observations on the Effects of Tobacco in Surgical Practice. By L. BOLTON BANGS.
2. Preliminary Report of a Case of Cerebrospinal Meningitis of Streptococcus Origin Apparently Cured by Subdural Injection of Antistreptococcus Serum. By GEORGE L. PEABODY.
3. Sæptal Hæmatoma and Abscess. By JAMES E. NEWCOMB.
4. Renal and Ureteral Calculi Complicating or Simulating Appendicitis. By JOHN F. ERDMANN.
5. Retrodeviation of the Uterus and Treatment by Shortening the Round and Sacrotuberine Ligaments. By C. F. KIVLIN.
6. Traumatic Rupture of the Spleen with Report of a Case. By V. E. WATKINS.
7. Relapsing Fever with a Report of Two Cases. By SAMUEL J. GOLDFARB.

1. **Some Observations on the Effect of Tobacco in Surgical Practice.**—Bangs cites some such cases and thinks that, as the heart has become accustomed to, and dependent upon, the tobacco, sudden withdrawal should not be counselled. These observations strengthen the opinion that the restlessness, depression of vital force, and melancholia of some of our ward patients may be due to the deprivation of their accustomed stimulant. Dr. Larabee, of Harvard University Medical School, says that emotional strain, overexercise, insufficient or improper food, and indulgence in alcohol will predispose to some of the ill effects of tobacco, and states that a series of cases of angina appeared on a French man of war where the men, debilitated by scurvy and poor food, smoked to excess in a small, close apartment. It is possible that some of these predisposing influences may, and they probably do, exist in many of our hospital patients, but nevertheless the relation of tobacco to the individual ought to be considered more than we are in the habit of doing.

3. **Sæptal Hæmatoma and Abscess.**—Newcomb, in speaking of the treatment of sæptal hæmatoma and abscess, says that it is simple in case of hæmatoma alone. The usual cold applications may be made over the nose and its interior kept clean. If the contents seem fluid they may be aspirated and firm bilateral pressure made by some form of tube or tampon, preferably the former. Serous cysts should be incised and their cavities scraped. The incision should be a generous one. In case of abscess the sooner and the more freely the incision is made, the less liability to destruction of cartilage and deformity. At times it is extremely difficult to keep up proper drainage. Strips of gauze or tubes inserted through the incision will not stay in place. Ernest Waggett has suggested the thrusting through the incision of a knotted loop of horsehair. A seton may also be employed. The abscess cavity should be thoroughly flushed with peroxide solution followed by some alkaline antiseptic, but it should never be packed. In some instances of pus accumulation he has opened the cavity with the galvanocautery. In case of multilocular abscess it is of value to rupture the mucosa against that of the opposite side, either protective being placed in contact with the mucosa. The cavity is thus obliterated by anastomosis.

4. **Renal and Ureteral Calculi Complicating or Simulating Appendicitis.**—Erdmann describes his mode of operation thus:—When, a great deal

the stone is in the ureter, it is a decidedly simple matter to approach it either by the transperitoneal route through a Deaver or Kammerer incision, removing the appendix, palpating the course of the ureter, and finding the location of the stone. Then by a narrow extraperitoneal dissection from the outer margin of the incision one rapidly reaches the site of the stone, the ureter and stone being held transperitoneally and pushing upwards. Then through the retroperitoneal dissection the ureter is incised over the stone, the stone expelled, and the ureteral wound sutured or not, a small drain put down to the trauma in the ureter. The peritonæum is then sutured and the muscles and skin sutured to the emergence of the drain. There is no necessity of suturing the wound in the ureter. The author prefers the transperitoneal localizing method, as it is rapid: one can hook the fingers under the ureter and push it up without contusing it, as is done with the usual instruments required in the retroperitoneal method. In the retroperitoneal method one must make a very long incision and dissect up a large amount of the pelvic and abdominal anatomy before arriving at the site of the stone. When the stone is situated high in the abdomen or is in the hilum of the kidney, the incision is either the oblique lumbar or the incision of Israel. One need not hesitate in either of these operations, provided the renal association is not ineffective, to explore the appendix through a nick in the peritonæum, and remove it, as it is readily found even in the usual incision of Edebohl for nephrorrhaphy.

6. **Traumatic Rupture of the Spleen, with Report of a Case.**—Watkins describes the symptoms as follows: They are essentially those of an abdominal injury associated with internal hæmorrhage. The shock is pronounced, as evidenced by the anxious facies, the pallor, feeble and rapid pulse, and collapse. Consciousness is usually retained in all abdominal injuries. The pain is severe and may be more pronounced in the splenic region. If the case is seen early, before the effusion of blood fills the peritoneal cavity, the dullness can be localized in the left flank, otherwise it will be general over the abdomen. An unusually pronounced contraction of all the abdominal muscles has been reported as a diagnostic sign, but it does not occur in all cases and cannot be considered pathognomonic. In fact, it may not be more marked than in other abdominal conditions. Vomiting may or may not occur. From this résumé of the symptoms it will be seen that they are essentially those of internal hæmorrhage, and the diagnosis is usually not made until after abdominal section. The symptoms are obscure so far as enabling us to distinguish whether the spleen or some other abdominal viscera is ruptured. However, there should be no difficulty in recognizing the existence of hæmorrhage into the abdominal cavity, and when this condition is recognized, abdominal section is indicated. The incision should be made over the region of greatest dullness, if this can be determined. It is more common to make a single cut in one flank than in the other, a valuable hint as to the nature of hæmorrhage has been obtained. Should the hæmorrhage be sufficiently severe to give peritonæal rigidity and tenderness in all regions the indication is to make the incision in the middle line.



The treatment is essentially surgical, the object being the control of hæmorrhage, and all authorities are agreed that this end is most certainly accomplished by splenectomy. The mortality following removal of the healthy spleen for rupture is about 40 per cent., whereas that of nonoperative treatment is probably 100 per cent. Ligation of the bleeding vessels has been recommended, but is invariably followed, in animal experiments, by necrosis. Control of the hæmorrhage by suture has been advised and has succeeded in some cases, but in the large majority the sutures have failed to control the hæmorrhage and the patients have died. Tamponade is certainly a quicker and better method than suture, according to the results thus far published, yet some authorities reject this treatment as suitable only when the tear is small, or in cases in which the condition of the patient necessitates a speedy ending of the operation, or in those in which extensive adhesions make the removal of the spleen too long an operation.

## BRITISH MEDICAL JOURNAL.

February 29, 1908.

1. Multiple Serositis: Illustrated by a Case in which the Abdomen Was Tapped Seventy Times.  
By W. H. WHITE.
2. A Plea for a Neglected Remedy,  
By E. SMITH.
3. Sudden and Unexpected Deaths,  
By W. W. WESTCOTT.
4. An Unusual Case of Suicide by Suffocation,  
By J. M. RENTON.
5. Case of Remarkable Striæ Atrophicæ Due to Cachexia,  
By H. D. ROLLESTON.
6. On the Production of Pseudoarthrosis of the Hip without Disarticulation of the Head,  
By R. JONES.
7. Scarlatina Associated with Pyrexia in Apparently Healthy Contact Cases,  
By B. THORNTON.
8. Note on the Treatment of Experimental Trypanosomiasis,  
By A. Castellani.
9. An Unusual Deformity of the Foot,  
By B. KILMINGTON.
10. A Note on Dr. Mulligan's Paper, "The Treatment of Chronic Suppuration of the Middle Ear without Resort to Radical Mastoid Operation,"  
By O. KLOTZ.
11. A Fatal Case of Infectious Jaundice in the Federated Malay States,  
By W. B. ORME.
12. Experiments Towards the Prevention of Malaria in the Federated Malay States,  
By M. WATSON.

1. **Multiple Serositis.**—White reports a case of this remarkable affection occurring in a woman, thirty-one years of age when she first came under observation, complaining of swelling of the abdomen, due to ascites, and for which she had then been tapped some thirty times. The first tapping took place in 1902. There was no disease of heart, lungs, or kidneys. She died in 1906, having been tapped in all nearly seventy times, and nearly two thousand pints of fluid withdrawn in all. This chronic affection of the various serous membranes has had many names given it—polyorrhomenitis, multiple serositis, polyserositis, progressive serositis, and Concato's disease. The peritonæum, pleuræ, and pericardium are chronically inflamed and thickened. The serous membrane may become centimetres thick; it has a dense opalescent appearance, and consists of several stratified layers. It can always be peeled off the subjacent organs. No case should be regarded as an example of multiple serositis unless, after careful examination, neither tubercle or growth can be discovered. The disease may occur at any age. It is equally common in men and women. There is often a history

of previous acute infectious disease which strongly suggests that the serositis is bacterial. Out of fourteen cases the peritonæum, pericardium, and both pleuræ were all affected in seven cases; one or more of these serous membranes, but not all, were affected in the remaining seven cases. Perihepatitis is always present, and perisplenitis nearly always. In the great majority of cases the disease begins in the peritonæum; in a few the pericardium is the first membrane involved; in these cases there is apt to be indurative mediastinitis, the lungs being bound in one mass to the pericardium, and there being no cirrhosis of the liver. The kidneys are often granular. The prognosis is very bad, but cases may last for years. The ascitic fluid contains a large amount of albumin. The histology of the thickened membrane clearly shows it to be inflammatory. Little can be done as regards treatment; diuretics hardly seem to restrain the accumulation of the fluid. The only thing seems to be to remove the fluid frequently.

2. **Antimony.**—Smith puts in a plea for antimony and potassium tartrate, a remedy of great value, which has been strangely neglected of late years. With our present views we should not prescribe the salts of antimony with any desire to produce a profound sedative effect upon the vascular and muscular systems, but should limit our efforts to obtaining free secretion from the mucous surfaces and the skin. For this purpose antimony remains preeminent, but it should always be prescribed in small doses given frequently, for it is only by this means that its full effect can be obtained without any danger of lowering the patient and giving rise to unwelcome signs of depression. In cases of bronchial catarrh and bronchitis there is no drug to take its place. Great severity in the attack is no bar to the use of the drug. In the early stage of bronchopneumonia in children it is of undoubted value, being most useful at the period when the consolidation is still in patches. Belladonna is also of value at the same period, and the two remedies may be combined. Laryngitis stridulus is another disease in which antimony is of great benefit; it should be given as wine of antimony in doses of 15 to 20 drops, so as to induce a slight feeling of nausea. Hot fomentations to the throat aid materially. Very small doses of antimony act as a gastric sedative, and are also of value in inflammatory conditions of the skin, especially in eczema. To its quality as a hepatic stimulant antimony owes its inclusion in "Plummer's pill," where it is combined with calomel and guaiaicum.

3. **Sudden Death.**—Westcott holds that in cases of sudden death, sixty per cent. are of cardiac, thirty per cent. of cerebral, and ten per cent. of pulmonary origin. Among the causes of cardiac syncope are hæmorrhage (external and internal), perforation of the bowel in typhoid fever, valvular disease of the heart, angina pectoris, rupture of the heart, sudden changes in pressure on the bloodvessels (as in paracentesis, etc.), severe burns, simple fatty degeneration of the heart muscle, etc. Mental impressions, sudden violent pain, sudden blows on the testis or epigastrium are also occasional causes of sudden death from cardiac syncope. As regards pulmonary causes of sudden death, the im-

portant ones are the arterial hæmorrhage of phthisis, diffuse pulmonary apoplexy, and complications of pleurisy. Asphyxia may also be due to œdema of the lungs, to pulmonary embolism, to overdense or overrarefied air, to illuminating gas poisoning, etc. Persons may die asphyxiated from hydrophobia, tetanus, and strychnine, or other poisoning. Sudden deaths accompanied by coma are mostly due to diseases of the brain or to apoplexy. Kidney disease has no fourth type of death to supplement syncope, asphyxia, and coma. Sudden death in convulsions may occur in epilepsy.

**5. Cachectic Striæ Atrophicæ.**—Rolleston reports the case of a boy, aged sixteen years, suffering from malignant disease, in which extraordinarily well marked lineæ atrophicæ began to appear on the back about ten days before death. The factors concerned in their production were (1) malnutrition, due to cachexia, which disposed the dermis to rupture on slight provocation; and (2) traction exerted on the dermis in the process of turning the patient in bed. Osler divides lineæ albicantes into three groups: (1) Those due to distension—the ordinary lineæ gravidarum; (2) the post-febrile, especially those occurring after typhoid and scarlet fever; and (3) the idiopathic form.

**7. Scarlatina Without Eruption.**—Thornton states that in a community affected with scarlatina, in addition to those showing definite signs of the disease, there are others affected by the poison to a minor extent, as shown simply by an elevation of temperature. It might be a useful precaution to take the temperature of contacts, with a view to keeping under special observation those who, while otherwise quite well, show a moderate degree of fever.

# LANCET

1908, MARCH 20, 1908.

1. Acute and Chronic Infections of the Urinary Tract Due to the Bacillus Coli (Fleming's Wason Lecture). By F. S. DUNNAN.
2. The Radical Cure. Contribution of Indicators. By T. C. SHAW.
3. A Case of Acute Intoxication Following the Administration of Chloroform. By H. CHASE.
4. Three Cases of Delayed Chloroform Poisoning. By F. D. HARRISON.
5. A Report on a Case of Delayed Chloroform Poisoning. By F. M. BONE.
6. A Fatal Case of Delayed Chloroform Poisoning. By H. C. WILSON.
7. Three Cases of Fractures of the Lower End of the Humerus. By F. C. WALLIS.
8. The Pathology and Pathology of Intussusception from S. S. S. at Leeds. By D. C. L. FLETCHER.
9. The Case of Anthrax. By J. S. GARDNER.
10. Tausim Method for the Cure of Cancer of the Breast. By F. FLETCHER.

**1. Colon Infection of the Urinary Tract.**—Dunnigan states that in most acute infections of the urinary tract due to the colon bacillus, the onset is sudden, a chill being the first indication. The fever may reach 104° to 105° F. There is frequency of micturition, with pain, and the passage of small quantities. Nausea and vomiting are often present. Tenderness of both kidneys may be detected, usually much more marked on one side. In some cases the spleen is distinctly enlarged, which, with the fever, may lead to a diagnosis of typhoid fever. The

urine is acid and turbid from the presence of bacilli. In the chronic cases the symptoms may vary from a few apparently unimportant facts to a condition of considerable severity. In women the bacillus coli may multiply in the urine, causing bacilluria and sometimes pyuria, without causing any symptoms pointing to an infection of the urinary tract. When fever occurs in such cases the diagnosis is apt to be malaria, tuberculosis, or influenza. In men such cases are less common. So called gouty urethritis may be due to an infection of the urine and urethral mucous membrane by the bacillus coli. Incontinence of urine in children is sometimes associated with the presence of bacilli in the urine. In by far the larger number of cases the urine is acid. The presence of colon bacilli in sufficiently large numbers to give rise to turbidity causes a characteristic "shimmering" appearance. A nucleoprotein substance is present in the urine in most cases, usually albumin. Casts do not occur in uncomplicated cases. That the colon bacillus is often present in apparently normal urine is shown by its being found in the urine of ten out of forty-five cases of pregnancy, in four out of twenty cases of peritonitis, and in five out of fourteen cases of prostatic enlargement. These facts serve to explain how infection of the urinary tract may occur. There is no evidence that the urine in these cases contains either an excess or a deficiency in opsonins—the substances which render the bacilli more or less susceptible to phagocytosis. That there is little systemic immunity is shown by the fact that it is extremely rare to obtain a well marked agglutination reaction of the colon bacillus with sera obtained from all classes of cases of bacillus coli infection. Indeed, in most instances patients suffering from an infection of the urinary tract due to the bacillus coli, whether it is acute or chronic, show a low opsonic and phagocytic index. The prognosis of the acute cases is usually excellent, as long as the infection remains uncomplicated. As regards treatment, medicinal treatment is of little, if any, avail. Urotropin, which produces such wonderful results in other classes of cases, is useless here. Cure, when it occurs, is usually spontaneous. Good results have, however, been obtained in the acute cases with anti-colon bacillus serum. In five out of twelve cases the results were rapid and permanent, while in four more considerable benefit ensued. In the subacute cases the serum is also useful, but not as much so as in the acute cases. Twenty-five cubic centimetres of the serum should be given each day for three days. Calcium lactate in doses of twenty grains three times a day will diminish the objectionable effects of the serum, such as joint pains and rashes. In chronic cases the Wright treatment by means of vaccines should be tried. Unfortunately the cases due to the colon bacillus do not give as satisfactory results as are obtained in the case of staphylococcus aureus and albus.

**3. 4. 5. 6. Delayed Chloroform Poisoning.**—Thorp reports a fatal case of delayed chloroform poisoning or renal intoxication, occurring in a boy aged three years and ten months. The child was anaesthetized upon ten phlebotomies and was given chloroform for seven minutes, about two drachms being used. Thirteen hours later symptoms of renal intoxication set in, and the child died about twenty-four

hours later. No antiseptics were used such as might contribute to the cause of death. Telford reports three cases, two in boys, aged two and a half and one and three-quarters years, respectively, and in a girl aged eight years. The operations were for tuberculous epididymitis, right inguinal hernia, and double genu valgum. The younger boy recovered. We do not seem any nearer to a solution of these cases—why certain children will develop a state of acid intoxication after the administration of an anæsthetic and die with fatty degeneration of the liver, kidneys, and heart. The condition is not rare, as the writer has seen four deaths out of 1,500 cases of chloroform anæsthesia in a children's hospital. It is not sufficient to seek for a cause in a tabulated list of the diseases for which the children are treated. There must be in such children some common predisposing cause which we are not yet able to recognize. The fatty changes which are found on post mortem examination are probably due directly to the anæsthetic and do not represent an antecedent condition. The naked eye change in such an organ is merely the total of its cellular changes, and such changes may well happen in the last two or three days of life. The writer has never seen the fatty kidneys present in these cases in children dead from other causes, and holds that it is in the highest degree unlikely that such grave alterations could exist in the kidneys without yielding obvious clinical signs of their presence. In a previous paper he has referred to the dangers of anæsthetics in children suffering from rickets. Rickets in an active condition was present in each of the three cases here reported. He has not been able to satisfy himself that the treatment of cases of delayed chloroform poisoning by alkalis or by intravenous saline infusion is of the least value. Bride reports two cases, both occurring in girls, aged three years and fourteen years, respectively, the latter case recovering. The operations were for congenital talipes equino-varus, and for genu valgum. The points of interest were: 1. The absence of any possibility of poisoning by antiseptics. 2. In both cases the operation wounds were surgically clean. 3. Stress has been laid on the fact that codliver oil has been given in such cases. One of the patients had never taken it, and the other only at intervals. 4. Both children were markedly rickety. Wilson reports a fatal case in a girl aged six and a half years, who was operated on for tuberculous disease of the right hip. While acetone was early present on the breath, it did not appear in the urine until three days later. A history of cyclic vomiting prior to admission supports the view that cases subject to that affection are also liable to post-anæsthetic poisoning or fatty acid intoxication. All that can be said at present is that a general anæsthetic must interfere with fat metabolism in such a way that complete oxidation of fat does not take place and the intermediate products of fat metabolism, betaoxybutyric acid and diacetic acid, pass into the circulation and give rise to the symptoms of fatty acid intoxication. Fatty liver is a constant phenomenon in all post mortems on these cases. Some connection exists between this and the symptoms, but the exact relationship is obscure.

10. Tausini's Method in Cancer of the Breast.—Purpura states that Tausini's method for the cure

of cancer of the breast consists, first, in removing all the skin of the breast, compensating the loss of substance by the provision of a perfectly nourished flap, which makes it possible to approximate the skin edges in the region whence it is taken by a lineal suture; the flap is formed from skin rarely invaded by cancer, and with its large pedicle abundantly covers the loss of skin of the axilla. The flap allows the arms to move freely.

#### LA PRESSE MEDICALE

February 19, 1908.

The Diatheses. The Personal Factor in Disease,  
By SIR DYCE DUCKWORTH.

**The Personal Factor in Disease.**—Duckworth protests against the tendency of modern times to neglect the personal factor, which the clinician must ever face in the treatment of disease. He believes the present tendency to adopt new revelations and to ignore or condemn the old to be a dangerous error, and that the diatheses, which cannot be studied in the laboratory, and cannot be attributed to the presence of infectious microbes, deserve careful study and attention. He discusses particularly subjects of arthritic, scrofulous, and nervous diatheses.

February 22, 1908.

1. The Action of Glycolytic Ferments Injected into Man,  
By R. ODIER.
2. Therapeutical Action of Radium in Cutaneous Tuberculosis,  
By LOUIS WICKHAM and DEGRAIS.
3. Poliomyelitis and Ventral Pseudohernias,  
By R. ROMME.

1. **The Action of Glycolytic Ferments Injected into Man.**—Odier endeavors to make clear the difference in the effect produced by the injection of trypsin and of the glycolytic ferments in the treatment of cancer. Trypsin is injected in the vicinity of the tumor in order to produce a local solvent, digestive, or destructive action upon it. The injection of the glycolytic ferments, on the contrary, produces a general effect wherever in the organism may be the point of injection and wherever may be the seat of the tumor. He speaks highly of the results obtained in cases of cancer by the injection of these ferments, and quotes a case in point. He describes more than one way in which these ferments may be prepared.

2. **Therapeutical Action of Radium in Cutaneous Tuberculosis.**—Wickham and Degrais speak of the effects produced by radium on several forms of tuberculous skin disease, and conclude that, in their opinion, radium can render good service in every form of cutaneous tuberculosis, and that it deserves a place in the treatment of granulations, tuberculous ulcerations, lupus of the conjunctiva, of the vicious cicatrices which follow lupus erythematosus.

February 26, 1908

1. Removal of the Thyroid Gland in Exophthalmic Goitre,  
By PROFESSOR GARRÉ.
2. The Transplantation en Masse of the Two Kidneys,  
By J. P. LANGLOIS.

1. **Removal of the Thyroid Gland in Exophthalmic Goitre.**—Garré reports that he has operated in thirty-five cases of exophthalmic goitre, five men and thirty women. Partial excision of the thyroid gland was performed in thirty, ligation of



vessels in eight, resection of the sympathetic with enucleation of the intraglandular nodules in two. In every case the thyroid was very vascular and the vessels very friable; the veins in particular had extremely thin walls. Almost all the operations were performed under ether; in a few cases under local anæsthesia. The immediate results were invariably a diminution in the frequency of the pulse and an improvement in the general feeling of the patients. The exophthalmos was little influenced. The results after five years are thus given: The exophthalmos had disappeared in a third of the cases; in a quarter it persisted in the same degree as before operation; in the balance it was present to some degree. The tachycardia persisted without modification in four cases. In two thirds of the patients the pulse was maintained below 92; in the remaining third it did not descend below 100. The nervous troubles persisted in two thirds of the cases, and traces were present in the other third. The general condition was said to be excellent in fifty per cent. of the cases; in some the weight had greatly increased. So large a percentage of success and such a small mortality as attends the operation seems to the author to urge the adoption of the surgical treatment of this disease.

3. **Transplantation en Masse of the Two Kidneys.**—Langlois practically gives a translation of Carrel's article Transplantation in Mass of the Kidneys in *The Journal of Experimental Medicine*, January, 1908. That author successfully transplanted the kidneys from one cat to another.

## LA SEMAINE MEDICALE

January 26, 1908

The Reality and the Mechanism of the True Reduplication of the First Sound of the Heart.

By Professor L. BARD.

### Reduplication of the First Sound of the Heart.

—Bard reports a case of reduplication of the first sound of the heart met with in a man, twenty-five years of age, suffering from stenosis of the pulmonary artery and tuberculosis of the apex of the left lung, who died of tuberculous meningitis. These diagnoses were confirmed by autopsy, and from the findings at autopsy Bard works out the mechanism by which the reduplication of the first sound of the heart was produced.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

January 24, 1900.

1. Concerning Hypertrophy and Organ Correlation, By **REICH.**
2. Development of X-Ray Diagnosis, By **REICH.**
3. Bacteriocidine in Perhydrated Milk, By **MUCH.**
4. Embryological Analysis of Hyperchaetosis, By **REICH.**
5. Microscopic Tuberculosis of the Pancreas, By **REICH.**
6. The Assessment and Prediction of the New-Pregnancy, The Proceedings of the International Congress of Obstetrics and Gynecology at Frankfurt a. M., By **REICH.**
7. Concerning a Breech Presentation at the End of Pregnancy, By **REICH.**
8. Postnatal Wound of the Abdomen, Importance After Twenty-Four Hours, Recovery, By **HABER.**
9. New Zinc-Cadmium-Battery, By **REICH.**
10. A New Wolf-Arm for the X-Ray, By **REICH.**
11. Comparative Analysis of the Tuberculous Process in Childhood, (concluded), By **REICH.**
12. Observation of Infant with Myopia, By **REICH.**

13. The Centenary Fund of the Society for the Relief of Widows and Orphans of Bavarian Physicians, and the Benevolent and Insurance Methods in Bavaria, By NEUMAYER.
14. Suction Treatment in the Middle Ages, By SCHUSTER.

### 1. Hypertrophy and Organ Correlation.—

Rösse points out that there are different forms of hypertrophy that are induced by different forces. First, there is such hypertrophy as the increase in size of the milk glands during pregnancy induced by a chemical stimulant. Such may also be the explanation of hypertrophies which are of correlative origin and produce a diffuse enlargement of an organ, such as the hypertrophy of the thymus. But local hypertrophies of certain parts of organs or of the vessels cannot be explained in this way. The common factor for all kinds of hypertrophy is to be found in the mechanical and chemical action of hyperæmia in strongly working tissue and the regeneration in excess after replacement of the used tissue. Only one form does not fall under this law, the congenital hypertrophy of organs and parts of organs through excessive formation. While all other forms of hypertrophy originate functionally from the work of the organ and are in a sense correlative, this form is a malformation which occupies the border land between hypertrophy and tumor.

5. **Rheumatismus Tuberculosis.**—Esau reports a case met with in a child six and a half years old, in which acute and subacute attacks of pain followed each other in both knees and ankles, the right hip joint, and the cervical segment of the vertebral column. From time to time there was a high fever, and the general condition became markedly impaired as these attacks went on. Part of the joints showed a tendency to great contracture in flexed positions, and under correcting appliances the disease healed partly in the form of a firm, fibrous ankylosis, the knee, partly in perfect restoration of the functions of the joints, in the ankles and the vertebrae, and in a bony ankylosis in the hip joint. The author believes this to have been a case of tuberculous rheumatism, although he cannot offer further absolute proof of its tuberculous nature. He quotes freely from the writings of Poncet and Leriche, giving their description of this disease and their belief, founded on their investigations, that it is the result of the action of the tuberculous toxine. The diagnosis is difficult, the prognosis not very good. The most favorable form of treatment seems to be that with hyperæmia, particularly that produced by a large suction apparatus.

7. **Breech Presentation at the End of Pregnancy in a Uterus Bicornis.**—Jacoby reports a case of this nature, the second child of the mother, and remarks that the plural occurrence of uterine bicornis is very rare.

8. **Punctured Wound of the Abdomen.**—Hartleb reports a case in which a boy, seven years of age, was stabbed in the abdomen with a table knife, and, under observation, exhibited some fever with normal temperature, pulse 104, no tenderness, and no positive indications that the intestine had been injured. Some hours later the appearance of peritonism was taken to indicate that the intestine had been injured, and laparotomy was performed six or six hours after the receipt of the wound, and

the intestine was found to have been cut in two places. This case shows that it is not always easy to distinguish between those wounds of the abdomen that demand surgical intervention and those which do not.

**II. Comparative Valuation of the Tuberculin Reactions in Childhood.**—Reuschel presents the following summary of his long article: 1. We have in the tuberculin reactions a means which points out to us any form of tuberculosis, active, inactive, or even healed, because, generally speaking, the reactions are produced by antibodies, which, so far as our present knowledge goes, are produced only after the engrafting of tuberculosis. 2. Pirquet's cutaneous reaction is handy and deserves to be used in practice. The positive result always shows a tuberculous infection; the negative is not as certain. 3. A good method of retesting when the Pirquet reaction is doubtful is the injection for observation of Eschrich's puncture reaction in the way recommended. At the same time this calls forth a desirable sensibility in inactive tuberculosis. 4. These two methods should not be looked upon as rivals of the older Koch's method, but the three should be considered supplements each of the other, because there are cases in which the calling forth of a local reaction must be aimed at. 5. It still remains to be determined whether the sensibility mentioned, which is an indubitable result, demonstrates antibodies to the tubercle bacilli material, or, what is very improbable, to the albuminous bodies of the bouillon.

#### ANNALS OF SURGERY.

March, 1908.

1. Tracheobronchoscopy, By C. JACKSON.
2. Trichinous Infection of a Carcinoma of the Lip, By E. A. BÄHLER.
3. Ludwig's Angina, By T. T. THOMAS.
4. Studies in Technique of Cancer of the Breast Operation, By R. H. M. DAWBARN.
5. Rupture of the Lung Without Costal Injury, By R. G. LE CONTE.
6. Acute Dilatation of the Stomach and Arterioesenteric Ileus, By W. B. LAFFER.
7. Unilateral Renal Hematuria Due to Pyelitis Cystica, By I. S. HAYNES.

1. **Tracheobronchoscopy.**—Jackson states that upper bronchoscopy by means of the slide speculum is usually easy under general anesthesia. The bronchoscope is inserted at the first inspiratory movement without difficulty and without injury to the larynx. The operation is more difficult in most cases, under local anesthesia, the resistance and rigidity of the muscles being such that the exposure of the laryngeal aperture for the insertion of the bronchoscope is not easy. This is especially the case in presence of the results of inflammatory action in the trachea and larynx, whether recent or remote. With the author's instrument no gag is necessary until the bronchoscope has passed the glottis. With this instrument it is not necessary to wait for an inspiratory movement or for the subsidence of the glottic spasm. Neither is it necessary to expose the anterior commissure, as its point can be started between the posterior ends of the vocal cords. The mouth of the tube will not catch over the arytenoids, while the point of the slanting extremity can be used as a retractor in the bronchi. The author has performed seventeen tracheobronchoscopies for foreign bodies below the larynx, in fourteen of which the body was removed.

3. **Ludwig's Angina.**—Thomas defines this as a rapidly spreading cellulitis beginning in the region of the submaxillary gland and extending to the floor of the mouth and pharynx. It may originate from a carious tooth, a tonsillitis, or an ulcer in the mouth. The infecting organism is the streptococcus, either alone or combined with staphylococcus, pneumococcus, or bacillus of malignant oedema. Death usually results from invasion of the larynx, the lungs being frequently involved also. The path of invasion is the opening in the muscular buccopharyngeal wall through which the submaxillary gland projects into the floor of the mouth. If the phlegmonous process begins in the pharynx or larynx, the danger is very great, as the tissues cannot be properly inspected, disinfected, and incised. Modern surgical treatment has somewhat reduced the extreme virulence of the septic phenomena. The most favorable incision is over the submaxillary triangle and parallel with the lower border of the jaw. If this does not reveal the abscess, the mylohyoid muscles must be divided and the sublingual tissues exposed. Local anesthesia is preferable when performing the operation.

4. **Studies in Technique of Cancer of the Breast Operation.**—Dawbarn thinks the great number of relapses after cancer operations signifies that further study is to be encouraged. He urges caution in operating when the diagnosis of cancer is not absolutely determined, and narrates a case in which he performed a radical operation only to find that the lesion was a thick walled abscess. He also recommends the procedure of Gerster, who attacks the armpit first and the breast last. By this means the lymphatic communication with the body is severed at the very beginning of the operation and the danger of squeezing infective material into the lymph stream at least lessened. It is also a means of lessening the hæmorrhage. An advantage in subsequent use of the arm will be gained by anastomosing a small segment of the deltoid with the stump of the pectoralis major. Finally he recommends the use of a triangular splint at the patient's side, in abduction, to favor the subsequent use of the hand in the necessary movements to raise it above the head.

### Proceedings of Societies.

#### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany,  
January 27, 28, 29 and 30, 1908.

The President, Dr. FREDERIC C. CURTIS, of Albany, in the  
Chair.

(Continued from page 558.)

**Diseases of the Pancreas.**—This subject was presented in a paper by Dr. WILLIAM J. MAYO, of Rochester, Minn. He referred to the pancreas as the great abdominal salivary gland with but a single defect, that being the association of its excretory duct with that of the liver. In 6.1 per cent. of all biliary operations the pancreas was involved, and 81 per cent. of cases of pancreatitis were due to gallstone disease. The secretion of pancreatic juice was

due to the presence of chyme in the small intestine, stimulating its mucous membrane; fluids were absorbed from the large intestine and solids from the small; thus we ate with the small and drank with the large intestine.

Pancreatitis was always due to infection or to chemical irritation, as from the action of bile which found its way up the pancreatic duct after an obstruction at the papilla of Vater. The weight of this last cause was materially increased by the statement that 62 per cent. of cases of pancreatitis were associated with jaundice of an obstructive nature. But, on the other hand, a large percentage of the simple catarrhal jaundice cases were due to an inflammation of the pancreas similar to mumps.

Pancreatitis, if acute, was said to be usually associated with hæmorrhage; if more chronic in nature it was apt to be purulent. The fat necrosis, he believed, was not due to the action of normal pancreatic juice, but of that which had been called forth by bile or duodenal secretion. Furthermore, he did not believe this fat necrosis to be so fatal as was ordinarily supposed.

This disease, he declared, usually attacked people of about middle life, rather obese, and often patients who had been intemperate in the use of alcohol. The symptoms were seen to come on suddenly with nausea, vomiting, etc., resembling intestinal obstruction high up.

He classified pancreatitis as of two varieties—the interlobular, often associated with gallstones and to the "feel" resembling a malignant growth, and the interacinous, often associated with glycosuria, in which the pancreas was large and smooth. The first type might go on to the development of the second, and the disease extend over a period of years with almost continued jaundice, emaciation, and large pasty stools containing fat or undigested muscle fibres.

He advised clearing out all calculi at an operation and freeing the hepatic ducts thoroughly by the passage of a large probe through the common duct.

**Duodenal and Gastric Ulcers** were the subject of a paper by Dr. J. J. OEHNSNER. He believed the joint consideration of duodenal and gastric ulcer to be proper, inasmuch as they were developed from the same embryological structure, the foregut, *in utero*, and often intimately associated pathologically in the adult. The duodenum was shown to be an extension of the stomach, furthering the processes of digestion, but in an alkaline medium.

He believed the ætiology of gastric ulcer to be: 1. Injury from within. The pyloric end of the stomach had the hardest work to perform, and injuries were most apt to occur there. 2. The lack of production of certain antibodies whose function it was to prevent the digestion of the mucous membrane by the gastric juice. 3. Anæmia. Duodenal ulcer was caused by extension from an ulcer of the stomach by the irritating action of the acid gastric juice upon the mucous membrane of the duodenum, burns of the skin, or by thrombi of the bloodvessels of the duodenum.

He referred to the sphincter muscle in the duodenum, from 7 to 10 cm. below the entrance of the common duct, and to the frequency of relapses after apparent cure, but declared that, if the diet then

could be restored to the normal without the intervention of surgery, it was far better for the patient. He emphasized the facts that even after a so called cure the patients must be careful as to their diet and that, of the patients operated upon, only one third were comfortable unless they were careful in this respect later. The most serious complications he thought to be perforation, hæmorrhage, emaciation, adhesions, and implantation of malignancy. While some cases responded better to surgical treatment and others to medicinal, it was not possible to distinguish between the two types until medicinal treatment had been instituted, and he believed all cases surgical that were not amenable to medicinal treatment.

The pain found in this disease he had observed to come on after eating, especially if the ulcer was at the pylorus, and it might be referred to the middle of the sternum or to the back. In gallstones the pain referred to the back was at a lower level. In duodenal ulcer the pain might come on some little time after taking food or even before, from the escape of acid gastric juice into the intestine due to a relaxed pylorus. Blood in the stools would often help in the diagnosis. The large amount of mucus was believed to act as a protecting coat against the action of the irritating gastric juice, but this would also cover the food ingested and render its digestion slower.

In the early stages of pyloric stenosis the musculature of the stomach was seen to undergo hypertrophy to force the food through the contracted orifice, but this musculature weakened after a time and dilatation followed. In the meantime the ulcer might have crowded a bloodvessel and a hæmorrhage occur, and perforation was not an infrequent complication.

After dilatation had occurred there was usually residual food in the stomach, and even when fresh and wholesome food was ingested it would soon be contaminated and decompose: hence the indication for frequent gastric lavage.

The objects of the surgical treatment were drainage and rest, and the results would vary with the skill of the operator and the strict adherence to good hygiene and dietetics afterward. The directions given were: Inflict as little injury upon the tissues as possible. Expose the other intraabdominal organs as little as possible. Have the patient assume the sitting posture as soon as possible after the operation. The direction of the sutures should be such that the contraction of a subsequent scar will not cause an obstruction. Excise any neighboring lymphatics in case of complicating malignancy. Choose the lowest point for anastomosis. Have no tension upon the sutures. Except in complete obstruction, always preserve the coronary artery. In acute dilatation following an operation, introduce a stomach tube and wash out the stomach with about half a pint of water. In an operative case the simplest technique without any unnecessary mechanical transportation of the patient's habits and diet as long as possible afterward.

#### The Surgery of the Liver and Gallbladder.

This paper was read by Dr. J. C. MASON. First, he begged permission to ask the question if hepatitis of the liver was a surgical disease. He said that



nonoperative cases of liver disease often showed a marked specific history. Gummata were the most common syphilitic lesions of the liver; they might vary in size from that of a pinhead to that of an egg. They might undergo fatty degeneration, be absorbed, and only a scar remain; they might calcify, or they might become infected and form abscesses. He declared that the liver was often affected, but gave rise to no symptoms whatever.

When the peritonæum was involved, pain, limited respiration, ascites, loss of weight, evidence of infection, and jaundice might be found, though the last symptom was not common. The most common site for syphilitic lesions was seen to be near the suspensory ligament. Thus the resemblance to malignant disease could be readily seen. Diarrhoea had been observed by some, but in the writer's experience constipation was the rule. He stated that a tumor might often be felt, and any associated pain was frequently relieved by vomiting, and finally pointed out the conditions which might resemble the present lesion, such as cirrhosis, abdominal tumor, functional dyspepsia, malignancy, cholecystitis, biliary colic, and chronic intestinal obstruction.

Another question that he wished to ask was as to the proper treatment that might have been given to patients that died a few hours or days after an operation, from complete suppression of the liver function. He cited such cases and said that the symptoms usually began much like those of septicæmia or severe hæmorrhage.

He believed that surgeons were coming more and more to consider the question of the preservation of the gallbladder in an operation, because at any subsequent operation which might be necessary the dangers were materially increased by absence of the gallbladder.

**Nonparasitic Cysts of the Liver and Congenital Cystic Liver.**—In this paper Dr. W. G. MACDONALD, of Albany, spoke of the low mortality associated with the abdominal surgery of to-day, and stated that when death did occur it was usually the result of an incorrect diagnosis or the exploratory incision. The best surgical training afforded no adequate preparation for the unexpected in surgery. A false diagnosis destroyed the continuity of an operation, hasty preparation had to be made for a new operation with the patient under the anæsthetic, and the surgeon wandered aimlessly about until compelled to desist, either from hæmorrhage or from some other complication, or went ahead with an original procedure upon general surgical principles. He referred to the many valuable aids in diagnosis that modern medicine afforded, such as examination of the gastric contents, physiological chemistry, the Röntgen ray, the gastroscope, etc.

He presented the histories of three cases of cystic liver. In the first the patient had been treated for ascites, as the abdomen was full of fluid. Under local anæsthesia he opened the peritoneal cavity and evacuated about eight quarts of a clear fluid. Upon the lower surface of the liver he then found a fluctuating tumor. He aspirated it and drew off fluid (about 500 c.c.) of the consistence of glycerin. The ascites did not reappear for some

The second case was one of cyst of the liver. In this case the incision was made in the usual situation for a gallstone operation, and the cyst attached to the abdominal wound and drained. Before the operation the diagnosis had been made of a distended gallbladder, but the gallbladder was found to be normal and the tumor to be a large liver cyst filled with about 6,500 c.c. of clear mucin. It was drained for about three weeks and the patient made an uneventful recovery.

The third case also simulated gallbladder disease. Drainage was used, and recovery followed.

The difficulty in the diagnosis of this condition was pointed out, and the possible reason given was its rarity. The object of this paper was to show that in tumors of the upper abdomen, nonparasitic cysts must be kept in mind. In the three cases above cited the pathological report showed these cysts to be nonparasitic in origin.

**Gastric Neuroses.**—In this paper Dr. D. D. ROBERTS began by saying that, the treatment and cure of disease being the primary end of all the branches of medicine, a study and classification of functional disturbances was also desirable. He believed neuroses gave rise to more symptoms than actual diseases themselves, and the essential question was not *what* function was abnormal, but *why*. He referred to the two schools in the treatment of gastric neuroses, one advocating a meat diet and the other vegetables. Some patients were unduly conscious of any pathological condition, and hysteria varied according to the degree of suggestibility. When the physician failed to spend time in investigating and studying a patient's environment he sent him to seek relief in all sorts of creeds and therapy. The function of the normal and abnormal stomach had been studied well, but in treating it the average practitioner seemed to consider it by itself and not as but a part of an intricate mechanism, the disturbance of any element of which might cause its derangement.

**The Diagnosis and Treatment of Gastric Ulcer.**—Dr. D. ROCHESTER, in this paper, reported a case the clinical symptoms of which were characteristic of gastric ulcer. A hæmorrhage occurred, and the case was treated medically. A few days later another profuse hæmorrhage came on. As soon as the patient rallied sufficiently an operation was performed by Dr. Roswell Park. No ulcer was found on the anterior surface of the stomach. The stomach wall was opened and inspected from within, but still no ulcer could be demonstrated. Since then he had been more skeptical as to the advisability of an operation in gastric ulcer, resorting to it only when there was evidence of perforation. In cases similar to the one cited above he believed the cause to be reflex or some nervous taint.

The symptoms were epigastric pain increased by food and often referred to the back; however, food might relieve the pain for a time. A definite tender spot might be elicited, and sometimes the area of hepatic dulness was decreased. The patients might show a tendency to anæmia, due probably in part to loss of blood from hæmorrhage, which might often be demonstrated in the stools.

The treatment could be divided into three different stages—the treatment of hæmorrhage, the treatment of the patient to cure the ulcer, and treat-

ment of perforation. For the hæmorrhage he advised physical and mental rest on the part of the patient and functional rest for the stomach. This could be best accomplished by a full dose of morphine and atropine, cold to the epigastrium, and possibly a 1 to 1,000 solution of adrenalin. Withhold everything by the mouth but possibly cracked ice. The subgallate of bismuth in milk of magnesia might be given. Food by the mouth was believed to be harmful at any time during the first forty-eight or seventy-two hours, and even by the rectum for the first twenty-four, because it would cause the secretion of gastric juice.

In the attempt at curative treatment he advised the physician to examine carefully the eyes, ears, pelvic organs, urine, etc., and to correct any abnormality found. Constipation and colonic toxæmia must be treated if found to exist. Then rest, graded exercise, and hydrotherapy were advised. As to the direct medication of the stomach, he ordered the exclusion of all coarse meats, liquors, strong tea, coffee, and fruits that did not agree with the patient. Carbonized waters, malted milk, chicken, fresh fish, rice, sago, and tapioca (the last named to be taken with no salt and but little sugar). Three or four hours after each meal he advised drinking about half a pint of diluted milk. He recommended slow eating, thorough mastication, and mental rest at meals.

Good results could be obtained from strontium bromide, sodium bicarbonate, charcoal, and bismuth subcarbonate, all suspended in milk of magnesia. This treatment must be continued for a long time, and in all cases he advised a thorough search for and thorough correction of any reflex nervous disturbance.

**The Modern Conception Regarding Chemical Regulation of Function.**—Dr. GRAHAM LUSK observed in this paper that there was much in the nervous system below the threshold of consciousness. The cause of death in animals after the excision of the adrenals was the removal of their internal secretion from the system and not the shock incident to the operation. The active principle of this secretion was not a ferment, because it could not be heated to boiling without destroying its activity. In tuberculosis of the adrenals, the thymus, spleen, etc., might become secondarily enlarged, thus demonstrating a very complicated and involved problem in physiology at present unexplainable. He referred to the great number and general uselessness of the theories brought forward by fanciful observers anxious of recognition.

He stated that solid substances introduced into the time which had been cut off from its nerve supply would still cause secretion due to the mechanical stimulation of the pyloric receptors. When food was taken into the mouth there were impulses which traveled along the vagi and thus produced a reflex secretion. A secondary secretion might take place even if both vagi were cut. If partly digested food was placed in the stomach

He believed that the secretion of the gastric juice depended upon a substance absorbed from the secretum of the pylorus and taken into the blood. This stimulated the gastric secretion. Hydrochloric acid was stimulating to the duodenal mucosa, causing a secretion of the pancreatic juice

and he cited experimental work of Popeelski proving that fact.

As to the formation of the pancreatic juice, the acid gastric juice from the stomach activated a prosecretin there. This prosecretin was absorbed into the blood and then caused the secretion of pancreatic juice. Nerve reflexes were not necessary, simply the chemical stimulant being absorbed into the blood stream. If portal blood was diverted from the liver, the symptoms of toxæmia resulted, and this was shown to be due to the fact that certain toxins and deleterious substances were rendered innocuous in the liver.

Experiments had shown that if an extract was made of a rabbit's foetus and injected into the blood of a virgin rabbit, the mammae would develop. Also in the human species, it was pointed out, if one kidney was extirpated, the blood pressure was raised and hypertrophy of the left ventricle occurred, which went to prove that ordinarily certain substances were excreted by the kidneys in a definite amount; one kidney could not excrete as well as two, so part of these substances were retained, and by their pressure caused a rise in blood pressure.

In fevers, the xanthine bases were present in amounts corresponding to the height of the fever; therefore the administration of xanthine free milk in febrile patients was declared to have scientific justification.

**The Effect of Alcohol upon Secretions.**—Dr. H. C. JACKSON, in this paper, said that no other substance taken into the human economy had such a variable effect upon digestion. Its effects were divided into that upon the activity of the hydrochloric acid and pepsin, that upon the amount of secretion, and that upon the motion of the stomach. Inasmuch as it was rapidly absorbed from the stomach, its influence was soon removed from the site of activity. In the beaker, alcohol was shown to retard digestion in a direct proportion to the amount present. In the stomach the malt liquors in small amount had no influence upon digestion, but in large amount they retarded it. With liquors containing less than ten per cent. of alcohol its effect was declared to depend upon the solids in solution and not upon the alcohol present. Strong alcohol rendered the pepsin less active and might even coagulate albumin. Experiments upon animals were cited in which the food was introduced through a fistula without the knowledge of the animal, in order to obviate the psychic effect. In the first stage, while alcohol was present in the stomach, pepsin was diminished. In the second stage, when the alcohol had been absorbed, the hydrochloric acid was increased. In these experiments alcohol had the same effect as twenty to thirty minutes; the short time that spirit of less than ten per cent. strength remained in the stomach did not materially affect digestion. If the strength was over ten per cent. it remained in the stomach for the same time as was occupied.

Then the process was shown to be little affected or possibly slightly improved by a single dose of a solution of less than ten per cent. strength. In strength greater than ten per cent. the digestion was retarded, pepsin decreased, mucus increased, and motility lessened. The secondary effect of dry wines was stated to be so far from inhibitory as dry liquors, as the action of their bases with the food, and

so they exerted a marked inhibitory effect. Alcohol was seen to affect the secretory mechanism of the pancreas by being absorbed into the blood, and by means of the circulation stimulating the secretory centres in the medulla. The digestion of fat by lipase was enhanced by alcohol given in any strength. The pathological chemistry of the liver had received much attention, but up to the present time was negative as to results. Alcohol appeared in the bile much sooner than in the urine. Alcohol in the stomach would increase the formation of bile from 50 to 360 per cent. The prolonged irritation of the alcohol exerted in the liver was probably the cause of cirrhosis. The conclusions were that a single dose of an alcoholic beverage of less than ten per cent. strength might benefit the process, but that additional doses were wasteful.

Dr. STOCKTON, of Buffalo, believed that there could only be assent to the conclusions set forth in Dr. Mayo's paper as to the association of pancreatic and biliary disease. He believed that chronic pancreatitis was a more common disorder than was usually supposed, even with no biliary involvement.

He considered the paper of Dr. Ochsner important because it took up the treatment of gastric ulcer both before and after an operation.

As to Dr. Roberts's paper, he believed it of greatest importance that these nervous diseases of the stomach should be well studied, inasmuch as at present they were but poorly understood. He deplored the tendency of the average physician to give so little attention to disturbances the basis of which was known to be functional.

(To be continued.)

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Cancer of the Womb.* Its Symptoms, Diagnosis, Prognosis, and Treatment. By FREDERICK JOHN McCANN, M. D. (Edin.), F. R. C. S. (Eng.), M. R. C. P. (Lond.), Physician to In-Patients, Samaritan Free Hospital for Women, London, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton. Pp. x-172.

In spite of the small array of its numbered pages this is a fairly thick book, for there are forty-six full page inset plates in addition to a colored frontispiece, and we may remark at the outset that the pictures are excellent.

The volume opens with an Anatomical Introduction, rather unnecessary, we think, though very well worked up in the main. An exception to the general clearness of the author's style, as it seems to us, is this sentence: "The ringlike attachment of the vagina is very oblique, having a much lower level in front than behind, and thus the posterior vaginal wall is longer than the anterior."

A general consideration of the subject of malignant disease comes next. As regards the etiology, "the trend of modern opinion," says the author, "is against the parasitic theory," and in support of the latter he quotes from the *Third Annual Report of the Harvard Cancer Commission*, which, he says, "tends to the demolition of

the parasitic hypothesis." He thinks that heredity has a certain influence, but regards the question as not yet decided.

As to the diagnosis of uterine cancer, apart from the local signs, the author remarks that wasting is frequently absent. The one symptom of greatest significance is hæmorrhage, though it is not usually so severe as the bleeding produced by fibroids. "Any loss of blood after the menopause," he says, "is a sign of the greatest importance, and in every case a thorough investigation of the condition of the pelvic organs should be made."

A chapter is devoted to the modes by which cancer of the uterus spreads and to its recurrence after an operation, and the chapter is an exceedingly good one. It includes a consideration of the modes of death from cancer, the chief of which, the author thinks, is by uræmia resulting from changes such as hydronephrosis and pyonephrosis produced in the kidneys in consequence of involvement of the ureters by reason of invasion of the pelvic cellular tissue.

Appropriate operations are advocated for the removal of the various forms of uterine cancer, and they are well described. The author is very hopeful of a virtual cure by operations done sufficiently early. Abdominal hysterectomy, for some years past practically supplanted by the vaginal operation, has again been introduced, he says, and he justly adds that the improvements in the operation are "really all modelled on the original plan adopted by Freund." The transverse suprapubic incision, he thinks, offers considerable advantages in providing more working space and better exposure of the pelvic contents in cases of involvement of the parametrium, but he doubts the advisability of an operation in such advanced instances.

Palliative treatment and the management of inoperable cases are duly considered, though we find no mention of the employment of the Röntgen rays or of radium. In the section dealing with the treatment of the patient after an operation there is no discussion of the length of time for which confinement to bed is judicious. Some of the terms employed are a little puzzling at first—for example, "Brom alcohol" (with a capital B, page 103), though this, without the capital, is said on page 105 to be composed of one part of bromine and five parts of rectified spirit. "Bortannin" does not seem to be explained.

On the whole, the book is a solid addition to the literature of a most important subject, and one of a very practical character. As we have intimated, its usefulness will not be confined to operating surgeons, but will extend to all practitioners.

*A Manual of the Practice of Medicine.* Prepared Especially for Students. By A. A. STEVENS, A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Women's Medical College of Pennsylvania, etc. Eighth Edition, Revised. Illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 558. (Price, \$2.50.)

The first edition of this book appeared fifteen years ago. New material has been added, and many articles, especially in the section dealing with diseases of the nervous system, have been rewritten. The nomenclature in the prescriptions has been changed according to the new (eighth) revision of the pharmacopœia. It is one of the very few books in which the author has taken the trouble of revising the



pharmacological terms in his new edition. The book has thus been brought up entirely to date.

Dr. Stevens's book has always been well known for the practical hints it gives in the treatment of diseases and the great number of good prescriptions it contains. Thus it has become a valuable adjuvant for the senior student and a welcome compendium for the practitioner.

*Diagnostico y Tratamiento de las Enfermedades de las Vías Urinarias.* Lecciones Elementales. Por ALBERTO SUAREZ DE MENDOZA. Profesor de Enfermedades de las Vías Urinarias en la Facultad de Medicina de Madrid. Cirujano de la Casa de Salud de Nuestra Señora del Rosario. Perledo, Paez y Cia, 1908. Pp. 790.

This volume presents a series of lectures on urology delivered to the medical students at Madrid. As might be expected, the author follows largely the French school, that of the Necker Hospital, where Guyon taught so long and where Albarran now holds his clinical courses. The subject is handled with great completeness and thoroughness, and the book will make interesting reading for those who wish to familiarize themselves with medical Spanish and who desire to practise urinary surgery in a Spanish speaking country. In other respects the book offers nothing special to those who have works in French, German, or English on the same subject in their libraries.

*Abell's Laboratory Handbook of Bacteriology.* Translated from the Tenth German Edition, by M. H. GORDON, M. A., M. D. (Oxon.), B. Sc., with Additions by Dr. A. C. HOUSTON, Dr. T. J. HORDER, and the TRANSLATOR. London: George E. Arnold (Oxford University Press) and Hodder & Stoughton, 1907. Pp. x-224.

Bacteriology has become an indispensable aid in correctly diagnosing infectious diseases, and while every physician is required to have a general knowledge of the subject, medical officers of cities or States must be thoroughly conversant with this branch of the medical sciences. The present pocket edition, an abbreviated and condensed translation, provides those studying bacteriology with a guide for practical laboratory work. But not only will medical men find it very instructive, but the veterinary surgeon, the druggist, and the chemist will have in this compendium a handy assistant.

The translation has been well done, so far as we can judge, and several chapters contain revisions and amplifications by the English authors.

The book may be divided into three parts: Introduction and general methods of staining (pp. 1 to 81, chapters i to v); special staining and culture methods for certain bacilli (pp. 82 to 159, chapter vi); chapters vii to xii, pp. 160 to 218, containing synopses of methods of obtaining material from the body for bacteriological examination, methods of examining blood in relation to immunity, inoculation and post-mortem examination of animals, methods of preparing preparations for bacteriological examination of water, milk, shellfish, sewage, soil, dust, air, etc.

*Immunity and Inoculation.* By SCOTT G. M. D. Fellow of the Royal College of Physicians, etc. London: Henry Kimble (Oxford University Press) and Dublin & Glasgow, 1907. Pp. xiv-87.

This is the fifth edition of a very useful and practical book. Although chapters on inoculation and prevention of the chest are to be found in every

textbook of medicine, the methods of physical examination are of such importance that the subject well deserves, as it has amply received, complete treatment in books devoted especially to them. The author has excluded x ray examinations, as he thinks the necessary apparatus is too expensive to be within reach of every practitioner.

The book is divided into two parts. Part I treats of the physical signs in abstract, giving the pure science, while Part II considers these signs in their subservience to the discovery of disease, giving thus the applied science of these signs.

*Laboratory Guide to the Modelling of the Human Bones in Clay.* By VERRAY PAPIN BLANC, A. M., M. D., Associate Professor of Anatomy, Medical Department, Washington University. St. Louis: Cooperative Association of the Medical Department of the Washington University. Pp. 69.

This book is a very interesting one, although we doubt if this new system of teaching osteology will find a place in the already overcrowded curriculum of junior medical students. The method itself seems to be very advantageous, as the student will receive a good idea of the shape and form of the bone he is modelling. Names and descriptions can be easily memorized, and will answer for a theoretical examination. But the old saying *non scholæ sed vitæ discimus* is so often forgotten that this practical course of osteology will be of great help in remembering the normal shape of a bone. But not every medical student can become a modeller, and it needs the skill and the eye of an artist to imitate nature. The medical student will hardly find time to adapt himself to the necessary technique of handling clay and producing models which will really answer the requirements.

*The Treatment of Fractures.* With Notes upon a Few Common Dislocations. By CHARLES LOCKE SCUDDER, M. D., Surgeon to the Massachusetts General Hospital; Lecturer on Surgery in the Harvard University Medical School. Sixth Edition, Thoroughly Revised and Enlarged. With 856 illustrations. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 628.

In this, the sixth edition of Scudder's well known book on fractures, special attention has been paid to obstetrical fractures of the skull in the new born (chapter i); fractures of the zygoma, malar bone, and superior maxilla (chapter ii); of the head and neck of the radius (chapter x); of the neck of the femur (chapter xii), etc., and to the nonunion of fractures. A few illustrations have been added, especially those referring to x ray examinations. The new edition will add to the well merited renown of the book.

*Hospital Training, School Methods and the Home Training.* By CLARETTE A. ALLEN, Art Director at Santa Monica, and Hester W. Morgan, D. C., Art Professor, etc. and London: W. B. Saunders Company, 1907. Pp. xiv-100, 32 plates, 32 cuts.

This is a very interesting book, written by an author who has had much experience in the training of nurses and superintending of hospitals. She very rightly remarks in her preface that "in the beginning of the era of trained nursing in America we were satisfied with a rudimentary training. Little by little this has been added to until at the present time a hospital which admits a pupil to its training department is expected to carry her in at the hospital

garten stage in nursing, and conduct her by a swift high pressure system clear through the university stage all in the short space of two or three years."

Out of her great store of knowledge Miss Aikens discusses the training school problem, speaks about plans that have stood the test, and advises teachers and superintendents of hospitals. Of textbooks on nursing we have a goodly number, but very few, if any, books on the method of teaching and superintending.

The book is divided into two parts: Hospital Training School Methods, and the Head Nurse. Some of the chapters have appeared in the *Canadian Nurse* and the *National Hospital Record*, but are here collected for the first time. Both parts are well constructed and contain interesting material. The author represents the proper viewpoint and is opposed to the new method, which seeks to make a graduated nurse know as much as a graduated physician. The hospital training school should certainly teach nursing from its very foundation, while postgraduate training schools should go beyond these essentials.

*Surgical Applied Anatomy.* By Sir FREDERICK TREVES, Bart., G. C. V. O., C. B., LL.D., F. R. C. S., etc. Fifth Edition, Revised by ARTHUR KEITH, M. D., F. R. C. S., Lecturer on and Senior Demonstrator of Anatomy at the London Hospital, etc. Illustrated with 107 Figures, including 41 in Color. Philadelphia: Lea Brothers & Co., 1907. Pp. 640.

Some sections of this revised edition have been entirely rewritten, while to others much new matter has been added. The illustrations are clear and to the point. A very complete index and the size of the book make it a very handy compendium. Although mainly intended for the use of senior students, it will prove of value to the general practitioner.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

*Lectures on Medical Jurisprudence and Toxicology as Delivered at the London Hospital.* By Fred J. Smith, M. A., M. D., F. R. C. P., F. R. C. S., Physician to and Lecturer on Forensic Medicine at the London Hospital, etc. Second Edition. London: J. & A. Churchill, 1908. (P. Blakiston's Son & Co., Philadelphia.) Pp. xiv+463.

*Woman. A Treatise on the Normal and Pathological Emotions of Feminine Love.* By Bernard S. Talmey, M. D., Gynecologist to the Yorkville Hospital and Dispensary, etc., New York. For Physicians and Students of Medicine and Jurisprudence. With Twenty-three Drawings in the Text. Second Enlarged and Improved Edition. New York: Practitioners' Publishing Company, 1908. Pp. x+258.

*Vorlesungen über Diätbehandlung innerer Krankheiten vor reiferen Studierenden und Aerzten.* Von Dr. H. Strauss, in Berlin. Mit einem Anhang "Winke für die diätetische Küche" von Elise Hannemann. Berlin: S. Karger, 1908. Pp. 340.

*A Textbook of Surgical Anatomy.* By William Francis Campbell, M. D., Professor of Anatomy, Long Island College Hospital, etc. With 319 Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 675. (Price, \$5.)

*Sprachstörungen und Sprachheilkunde. Beiträge zur Kenntnis der Physiologie, Pathologie und Therapie der Sprache.* Unter Mitwirkung von E. Bloch, Boodstein, M. Bresgen, Brühl, Panconcelli-Calzia, F. Frenzel, H. Knopi, O. Lanbi, E. Maschke, Hudson-Makuen, A. Mielecke, Nadolcezný, Oeconomiakís, W. Oltuszewski, H. Piper, G. Golecz, Rouma, A. v. Sarbó, K. L. Schaefer, H. Söder, H. Stern, E. Stötzner, E. Winckler, and H. Zwaardemaker, herausgegeben von Dr. med. H. Gutzmann. Privatdozent

Transactions of the College of Physicians of Philadelphia. Third Series, Volume XXIX. Philadelphia, 1907. Pp. 150

#### Miscellany.

**Resolutions on the Death of Dr. Daniel B. St. John Roosa.**—The following resolutions were adopted at a regular meeting of the Alumni Association of the New York Postgraduate Hospital, held Tuesday evening, March 10, 1908:

We meet to-night under the shadow of a great affliction, so sudden, so unexpected, that we have not yet realized how great it is. It will not be easy to fill the position Dr. Roosa's death has left vacant. It probably never will be filled. The work will continue. The medical school his mind conceived has become an established fact, an integral part of the educational system of the State, while the hospital he founded and over whose destinies he has presided for the past twenty-five years has become an important factor in the charitable work of New York. No one else occupying the position of president will ever be able to hold all those connected with the institution to their duties through sheer loyalty to the president. This Dr. Roosa has done most successfully, binding all together in a determination to carry on the work of our institution, no matter what disappointments were met, no matter what obstacles were put in the way, simply because he wanted it—not for himself, but to attain the great object that he had in view.

Dr. Roosa was a strong man, a man of broad education and culture, and his great success as a teacher, as an administrator, as a practitioner of his specialty, came from the force of his intellect and the power he had of presenting facts clearly and cogently. This made him a natural orator, and led him to take an interest in affairs outside of medicine. He was a national man, a cosmopolitan man.

He will ever be remembered as the founder of systematized postgraduate instruction for medical men. His was the original conception of the idea which has since been copied throughout the world.

We who have served on the house staff of the New York Postgraduate Hospital during the past twenty-five years feel his loss the more keenly because we were made to feel throughout the years of our association with him that he was especially interested in our welfare, not only during our service in the hospital, but during after life. We have all felt his kindly sympathy, and we will all miss the cordial tone with which he used to meet us and inquire of our successes or sympathize with our failures.

Of him we cannot speak as we would. It is said of Sir Christopher Wren, the architect of St. Paul's Cathedral, London, that he did more to beautify the city than all the architects of a hundred years. He lies in a vault in St. Paul's, and above his sleeping dust is a simple slab bearing this inscription: "Here lies Sir Christopher Wren, architect. Would you see his monument? Then look about you." So Dr. Roosa has built his monument in the New York Postgraduate Medical School and Hospital, and in every other institution, the world over, devoted ex-

clusively to the systematic instruction of graduates in medicine. He has put his time, his energy, his brain, his heart, *himself* into the great work. The powers thus set in motion for the uplifting and education of the medical profession and the amelioration of the ills of suffering humanity are as far reaching and immeasurable as eternity.

We thank God that Dr. Roosa lived. We thank God that we have had our medical training under the influence of his precept and example.

To Mrs. Roosa and his family we offer not the perfunctory sympathy of a medical society, but the sympathy of those who loved, admired and revered him.

His memory will live with us as long as any of us may survive.

For the association,

FRANKLIN A. DORMAN,  
EDWARD W. PETERSON,  
DOUGLASS W. CAIRNS,  
SAMUEL LLOYD, Chairman.

**Vivisection.**—The subjoined letter was recently forwarded to each member of the Judiciary Committee of the Senate and Assembly of New York by Dr. J. Leonard Corning, of New York:

DEAR SIR:—The undersigned respectfully requests that you will use your influence as a member of the Judiciary Committee of the Assembly to prevent the recommendation or passage of any bill in restraint of the liberty of physicians to conduct experiments on living animals with the purpose of augmenting medical knowledge, and thereby conducing to the welfare of the public.

My reasons for putting forward this request are as follows:

1. Experiments on animals, vivisection, as it is sometimes called, are absolutely indispensable expedients to physiologists, pathologists, physicians, and surgeons. By their aid physiologists are able to discover the nature of the vital processes; pathologists to determine the effects on the different organs and on the organism as a whole of various disease breeding agencies, and devise means for the counteraction of such agencies; physicians to test the effects of remedies on the animal organism before venturing to prescribe them for their patients, whether in hospitals or in private practice; while surgeons are enabled to devise and perfect new and salutary operations, and thus insure the success of the latter before performing them on human beings.

2. By virtue of the knowledge derived largely by experiments on the lower animals it is now possible to prevent or abort epidemic diseases that formerly swept on to death whole populations; among such diseases are cholera, and yellow fever.

3. Thanks to experiments on animals, a serum is now prepared that enhances the prospects of recovery from diphtheria enormously. This is proved by the astounding fall in the percentage of fatalities from the disease in all the great cities of the world where the serum has been consistently and generally applied.

4. To prepare a serum of this kind and to discover new and valuable remedies that the experiments on animals are absolutely indispensable.

5. All new remedies should be, and usually are, tried on animals before finding an application in hospital and private practice. By such trials it is possible to ascertain how they act in different doses used in proportion to the weight of the animal, so that when applied on human beings, some of the most fatal mistakes are avoided. In many instances, might result in death. Again, by experiments on animals, it is possible to ascertain the effects of different remedies on the individual organs and the organism as a whole, and to determine the best way to apply them. In many instances, the results of the experiments on animals are so valuable, that it will be desirable to apply them.

6. The experiments on animals are of such importance, that it is necessary to have a large number of animals for the purpose.

been made that, were we to-day bereft of them, medical science would be thrust back into the barbarous ignorance that characterized it during the Dark Ages.

7. An impartial and thorough analysis of medical history by competent criticism cannot fail to reveal the fact that experimentation on animals has to a large degree served to advance medical science more in the last fifty or sixty years than in the previous five hundred.

8. That physicians should be urged to continue experimentation on animals is of vital importance to the present and future well being of the public. Restrict their privileges in this regard; dampen their zeal by ill considered, galling regulations, and you drive to apathy and cynicism a kind of intellect that, if encouraged to go on, would, as in the past; add achievement to the resources of a profession, the conservation of whose ideals and whose advancement upon the road of reason are of vital importance to the moral and physical well being of every civilized community.

9. The following are a few of the more striking results achieved by vivisection: The discovery of the motor centres in the brain; discovery of the functions of the sympathetic nervous system; the demonstration of the difference in function between the anterior and posterior roots of the spinal nerves; important discoveries in the physiology of the spinal cord; demonstration of nervous influence on secretion; discovery of the nervous mechanisms of the heart; discovery of transcendent facts in the physiology of digestion; implantation of bone, i. e., the removal of bone from an animal to a human being; patching of bloodvessels; working out of important operations on the intestines; working out important operations on the brain; suture of nerves—these are but a fraction of the results obtained by resort to the only method by which their accomplishment could have been made possible.

53 WEST THIRTY-EIGHTH STREET.

## Official News.

### Public Health and Marine Hospital Service Health Reports.

The following tables of statistics, taken from the annual reports of the Surgeon General, United States Public Health and Marine Hospital Service, issued on March 22, 1908.

Place.	Year.	Deaths.	Ported.
Berkeley, Cal.	Feb. 8-14	1	
Boston, Mass.	Feb. 15-21	1	
Buffalo, N. Y.	Feb. 15-21	1	
Chicago, Ill.	Feb. 15-21	1	
Cincinnati, Ohio	Feb. 15-21	1	
Cleveland, Ohio	Feb. 15-21	1	
Dayton, Ohio	Feb. 15-21	1	
Indianapolis, Ind.	Feb. 15-21	1	
La Fayette, Ind.	Feb. 15-21	1	
Marion, Ind.	Feb. 15-21	1	
St. Louis, Mo.	Feb. 15-21	1	
St. Paul, Minn.	Feb. 15-21	1	
St. Petersburg, Fla.	Feb. 15-21	1	
St. Thomas, V. I.	Feb. 15-21	1	
St. Vincent, V. I.	Feb. 15-21	1	
St. John, V. I.	Feb. 15-21	1	
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<i>United States</i>			
Philippine Islands	Jan. 1 to Feb. 1	17	100
Manila	Jan. 1 to Feb. 1	17	100
Zambales Province	Jan. 1 to Feb. 1	17	100
<i>United States</i>			
India-Calcutta	Jan. 1 to Feb. 1	27	100
India-Madras	Jan. 1 to Feb. 1	27	100
India-Rangoon	Jan. 1 to Feb. 1	27	100
<i>Foreign</i>			
China-Hongkong	Jan. 1 to Feb. 1	4	100
India-Bombay	Jan. 1 to Feb. 1	4	100
India-Calcutta	Jan. 1 to Feb. 1	4	100
India-Rangoon	Jan. 1 to Feb. 1	4	100
Peru-Catamarca	Jan. 1 to Feb. 1	8	100
Peru-Chico	Jan. 1 to Feb. 1	8	100
Peru-Lima	Jan. 1 to Feb. 1	8	100
Peru-Puerto	Jan. 1 to Feb. 1	8	100
Peru-San Pedro	Jan. 1 to Feb. 1	8	100
Peru-Tripoli	Jan. 1 to Feb. 1	8	100

## Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending March 14, 1908:*

- CUMMING, H. S., Passed Assistant Surgeon. Directed to proceed to Kobe, Japan, for special temporary duty, upon completion of which to rejoin his station.
- DE VALIN, HUGH, Assistant Surgeon. Granted leave of absence for two days from March 3, 1908, under paragraph 191, Service Regulations.
- DUKE, B. F., Acting Assistant Surgeon. Granted leave of absence for seven days from March 10, 1908.
- FROST, W. H., Assistant Surgeon. Granted leave of absence for two days from February 29, 1908, under paragraph 191, Service Regulations.
- OAKLEY, J. H., Passed Assistant Surgeon. Directed to assume temporary charge of the Marine Hospital at Port Townsend, Wash., during the absence of Surgeon W. G. Stimpson.
- PETTUS, W. J., Assistant Surgeon General. Granted leave of absence for three days from March 9, 1908.
- STANTON, J. G., Acting Assistant Surgeon. Granted an extension of leave of absence for seven days from March 6, 1908.
- STIMPSON, W. G., Surgeon. Directed to report to the commanding officer of the revenue cutter *Thetis* for temporary duty.
- VON ELDORF, R. H., Passed Assistant Surgeon. Directed to proceed to New Orleans, La., for special temporary duty, upon completion of which to rejoin his station.
- WETMORE, W. O., Acting Assistant Surgeon. Granted leave of absence for eight days in February, 1908, under paragraph 210, Service Regulations.

## Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending March 14, 1908:*

- BRATTON, T. S., Captain and Assistant Surgeon. Upon arrival at San Francisco, Cal., will proceed to Fort Des Moines, Ia., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the Missouri.
- CARSWELL, R. L., Captain and Assistant Surgeon. Granted two months' leave of absence, with permission to apply for an extension of one month.
- CORRISSIER, W. H., Lieutenant Colonel and Deputy Surgeon General. Relieved from further duty as chief surgeon, Department of the Columbia, and will proceed to Fort Leavenworth, Mo., where, for his own convenience, he is authorized to await retirement from active service.
- FRANKLIN, M. B., Lieutenant Colonel and Deputy Surgeon General. Appointed a member of an Army retiring board, to meet at Omaha, Neb., for the examination of retired officers, to be held before it.
- REASONER, M. A., First Lieutenant and Assistant Surgeon. Relieved from further duty in the Philippines Division, and assigned to duty in the Army Transport Service, with station at San Francisco, Cal.
- ROBERTSON, C. D., First Lieutenant and Assistant Surgeon. Granted leave of absence for three months.

VAN DUSEN, J. W., Captain and Assistant Surgeon. Appointed a member of an Army retiring board, to meet at Omaha, Neb., for the examination of such officers as may be ordered before it.

WILSON, W. H., Major and Surgeon. Detailed to accompany the Thirty-fifth Company, Coast Artillery Corps, from Fort Monroe, Va., to San Francisco, Cal., proceeding at the proper time to Fort Monroe, Va., reporting upon arrival to the company commander; upon completion of this duty, ordered to return to Fort Hamilton, N. Y.

## Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending March 14, 1908:*

- BOGERT, E. S., JR., Surgeon. Detached from the *Pennsylvania* and ordered to the Naval Academy.
- BROWN, E. M., Passed Assistant Surgeon. Granted sick leave for three months, when discharged from treatment at the Naval Hospital, New Fort Lyon, Col.
- MORAN, C. L., Assistant Surgeon. Ordered to duty at the Naval Hospital, Norfolk, Va.
- RICHARDS, T. W., Surgeon. Detached from the *Colorado* and ordered to the Naval Hospital, Mare Island, Cal., for treatment.
- STANLEY, A. C., Assistant Surgeon. Ordered to duty at the Naval Medical School Hospital, Washington, D. C.
- URIE, J. F., Surgeon. Detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the *Pennsylvania*.

## Births, Marriages, and Deaths.

### Married.

- BORST-BRYANT.—In Framingham, Massachusetts, on Monday, March 9th, Dr. Theodore F. Borst and Mrs. Sara Cone Bryant.
- DAGG-McGEE.—In Kansas City, Missouri, on Tuesday, February 25th, Dr. G. R. Dagg and Miss Maud McGee.
- MAVERICK-BAXTER.—In Philadelphia, on Thursday, March 5th, Dr. Augustus Maverick and Miss Elizabeth A. Baxter.
- ROSENHECK-GOTSDANKER.—In New York, on Sunday, March 8th, Dr. Charles Rosenheck and Miss Leonora Gotsdanker.

### Died.

- BRANNEN.—In Washington, D. C., on Wednesday, March 4th, Dr. Dennis J. Brannen, of Flagstaff, Arizona.
- DU BOIS.—In Hyde Park, New York, on Monday, March 2d, Dr. Mary Du Bois.
- DUNLOP.—In New York, on Friday, March 6th, Dr. Clark W. Dunlop, aged sixty-three years.
- GIBERSON.—In Beverly, New Jersey, on Saturday, February 29th, Dr. William H. Giberson, aged forty years.
- HARLOW.—In Tyngsboro, Massachusetts, on Tuesday, March 10th, Dr. Granville A. Harlow, aged fifty years.
- HOLDEN.—In Paris, France, on Friday, February 28th, Dr. Francis M. Holden, of Philadelphia, aged fifty years.
- KENNEDY.—In Springfield, Massachusetts, on Wednesday, March 11th, Dr. Charles Francis Joseph Kennedy, aged forty-one years.
- RICHARDSON.—In Belair, Maryland, on Saturday, March 7th, Dr. E. Hall Richardson, aged forty years.
- SADLER.—In Montgomery, Alabama, on Saturday, March 7th, Dr. John M. Sadler, aged fifty-eight years.
- SAMMONS.—In Chicago, on Thursday, March 5th, Dr. E. H. Sammons, aged fifty-eight years.
- SAMUELS.—In St. Joseph, Missouri, on Monday, March 2d, Dr. Reuben I. Samuels, aged eighty-two years.
- SEMPLE.—In Philadelphia, on Thursday, February 27th, Dr. William H. Semple, aged forty-three years.
- TIBBETTS.—In Newville, New York, on Wednesday, March 11th, Dr. William Tibbetts, aged seventy years.
- WHITE.—In Lancaster, New Hampshire, on Sunday, February 23d, Dr. A. Campbell White, of New York, aged thirty-nine years.
- WOODRUFF.—In St. Augustine, Florida, on Sunday, March 8th, Dr. E. D. Woodruff, of Monroe, New York.
- WYMAN.—In Detroit, Michigan, on Monday, March 9th, Dr. Hal C. Wyman, aged fifty-six years.

# New York Medical Journal

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### Original Communications.

#### THE ACCESSORY SINUSES OF THE NOSE FROM AN OPERATIVE STANDPOINT.\*

By HARMON SMITH, M. D.,  
New York,

Surgeon, Manhattan Eye, Ear, and Throat Hospital; Instructor in Clinical Laryngology, College of Physicians and Surgeons, Columbia University.

In the following paper I shall take up the subject of sinusitis where operative measures of a more radical nature are imperative, either to save life or because palliative treatment and minor surgical measures have failed.

When empyema of the maxillary sinus has existed for a long time, and irrigation through the ostium, or through an ill advised opening in the alveolar process, or through a small opening in the inferior nasal fossa, has failed to make favorable headway against the disease, a more radical procedure is necessary.

The Caldwell-Luc operation has been employed successfully for a number of years, and with the drainage taking place into the nose it has many features to recommend it. However, it now appears unnecessary to enter the sinus externally in the majority of instances, for sufficient drainage is obtained and complete recovery accomplished by entering the sinus in the following manner:

Inject into the mucous membrane over the anterior half of the inferior turbinate and into the mucous membrane over a corresponding area of the inferior fossa one half of one per cent. solution of cocaine, and sufficient adrenalin solution of 1 in 5,000 strength to bleach the parts. The anterior part of the inferior turbinate is then removed. A tongue shaped flap of mucous membrane can be detached from the bone at the site of the desired entrance into the antrum by cutting two vertical parallel lines, the first one from a point just anterior to the cut end of the inferior turbinate downward to the floor of the nose, the second about half an inch farther forward and parallel to the first. These two are connected by a third cut between their upper extremities. With a small periosteal elevator, such as Freer's, the mucous membrane can easily be detached from above downward and turned back into the floor of the nose for subsequent use. Then with Abraham's pyramidal punch easy entrance may be made into the antrum at the upper extremity of this denuded area. After entrance has been gained with this punch Abraham's

olive pointed burr is introduced, and with a backward and forward movement the original entrance may be enlarged to the full width of the denuded bone and also lowered to the floor of the nose, which opening should be sufficiently large to permit of removing from the antrum most of the polypoid material therein.

After this procedure the hæmorrhage is controlled by packing the antrum with gauze soaked in adrenalin or pure alcohol. This packing should then be removed and the tongue shaped flap of mucous membrane turned into the antrum and held in position on the floor by dry boric acid gauze packing. This packing should be fed into the antrum so that it will run in layers from the floor to the roof and can be withdrawn gradually from above downward, beginning on the second day. This method of removal permits the mucous membrane to become attached before the removal of gauze immediately in contact with it tends to tear it from its place. I think, however, that the importance of this mucous membrane flap is overestimated. In persistent cases, tight packing is necessary for a period of many weeks. Just as tight packing facilitates the healing of a radical mastoid operation, so does it act in keeping down granulations in the antrum.

In cases where no polypi exist in the antrum, the free drainage and frequent irrigation with hot normal saline solution will readily overcome the purulent condition. If for any reason, such as carious bone, a pocket of pus out of reach of the packing, or the root of some decayed tooth, this operative method should not succeed, then recourse may be had to the more extensive one of Caldwell-Luc, in which case that part of the operative procedure which connects the antrum with the nose will already have been performed.

*The Sphenoidal Sinus.*—The surgery of this sinus has been greatly developed by rhinologists during recent years, so that it is no longer regarded as a part of orbital surgery. Natural drainage here is difficult, owing to the elevated position of the foramen of exit, so that the escape of the secretions must be due largely to the ciliary motion of the epithelial lining. Therefore an empyema here not only produces difficulties *per se*, but also endangers the cranial cavity by contiguity, meningitis of the base being readily set up by extending inflammation through the blood and lymph vessels. In investigating the sources of intracranial suppuration, not a few are found to be due to pus in the sphenoidal sinus, as is demonstrated by the following cases cited by St. Clair Thomson. Such cases are common.

\*Read before the Wednesday Medical Association, New York, 1907.

rally difficult of diagnosis, being both obscure in character and insidious in course.

The method of entering this sinus through the nose is as follows: The middle turbinate is first removed and the anterior and most of the posterior

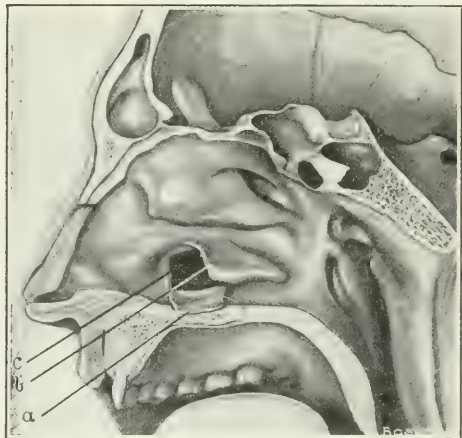


FIG. 1.—2. The flap of mucous membrane detached from the lateral wall of the nasal chamber under the inferior turbinate; b, the remaining portion of the inferior turbinate after the removal of the anterior third; c, the approximate size of the opening into the antrum Highmore necessary to evacuate the products of chronic suppuration.

ethmoidal cells curetted away. The anterior wall of the sphenoidal sinus may then come into view. A small sinus lamp should be employed in the examination. Measurements should be taken, when the results will be about as follows: The anterior wall of the sphenoidal sinus is about eight centimetres from the vestibule. A sinus probe, slightly curved, follows the vault of the nasal fossa, and should then enter the sphenoidal sinus through its ostium. A curette should be introduced along the probe into the sinus, whereupon the anterior wall of the latter may be broken down by drawing the instrument downward and backward. Elongated forceps, such as Kerrison's, are used to enlarge the opening, fragments of bone tissue being pinched away. When the cavity is thoroughly exposed drainage is not only established, but polypi, purulent mucosa, etc., may be scraped away. If necrotic bone is present it should also be curetted, but this operation is very dangerous when the roof of the sinus is necrosed, on account of the close proximity of the brain. Trephines, saws, etc., are used to enter the sphenoidal sinus, although they are more dangerous than the curette.

The sinus should be cleansed and packed with iodoform gauze, which is removed the next day. It is well to apply strong silver nitrate solution to the cavity, or at least its border, after a few days, in order to cut down granulations.

Trendelenburg position: This has both advantages and disadvantages, although in the main it is essential to operative success. Its advantages are obvious, while its drawbacks include the difficulty of choosing the proper route for curettement.

The operator must be careful not to direct the instruments too high up, as there is danger of entering the cranial cavity. The maxillary route is by far the easiest and safest, provided a Caldwell-Luc operation on the antrum has been necessary.

*Frontal Sinus.*—When convulsions, coma, chill, followed by high temperature, or the evacuation of pus into the orbit occurs in the course of frontal sinus suppuration, radical procedures are clearly indicated. Comparative comfort may be experienced by the patient for a number of years by the removal of the anterior end of the middle turbinate and careful opening into the "hiatus semilunaris," giving drainage to the sinus.

The internal operation upon the frontal sinus is usually condemned because of its dangers, but Ingals, of Chicago, has devised a small guarded trephine which is directed by a probe along a proper and safe course into the cavity. I have never used this instrument, but it appears to be the safest for all intranasal measures. This method, however, would serve only to give drainage, and would by no means tend to overcome the numerous foci of infection walled off by septa of bone, such as are frequently found in a sinus. Numerous operators have devised and advocated special methods for gaining entrance externally into this sinus without producing subsequent deformity. The first of these was Callisen, in 1798. The modern idea, as advocated by Jansen, Killian, Coakley, and others, is to thoroughly cleanse the sinus, remove the ethmoid cells, enlarge the nasofrontal duct, and minimize deformity. For a small sinus showing no bony septa upon the skiagraphic plate, Jansen's opera-

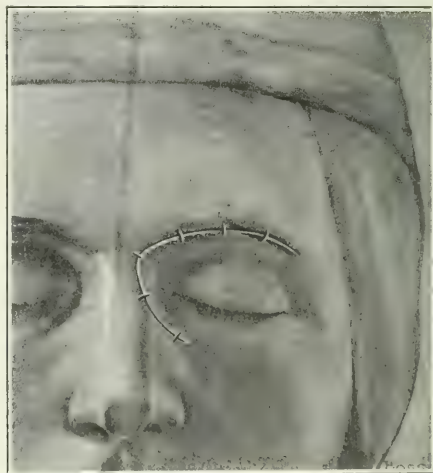


FIG. 2.—From Killian's *Snuggers*, iii, p. 136. Fig. 200 (Killian's Operation). First Step.—Showing line of initial incision with slight transverse cutaneous cuts. The initial incision is made through the soft structure to the periosteum.

tion may well be advocated, and, briefly described, is as follows:

A curvilinear incision is made just above and parallel to the eyebrow, beginning at the external



orbital angle and terminating at the middle of the root of the nose. The soft tissues and periosteum are then detached from the roof of the orbit, which is the floor of the sinus, by the use of the periosteal elevator. The roof of the orbit is then removed



FIG. 3.—From Keen's *Surgery*, vol. p. 437, Fig. 270 (Killian's Operation). Second Step.—Showing soft tissues retracted, and lines of periosteal incisions.

with a curette. The sinus is curetted and the nasofrontal duct is enlarged. A drainage wick of gauze is introduced from the sinus into the nose through the duct, and a second drainage wick is placed in the lower internal angle of the wound. The orbital fat is supposed to fill the excavated sinus. If the sinus is large and has numerous septa, proper cleansing is impossible. If it is small and undivided, good results will be obtained both surgically and cosmetically.

The operation which now recommends itself to most operators and which is being pursued with a minimum of evil results is that of Killian, of Freiburg.

First step.—The brow is not shaved, but clipped, and the incision is made through the hair line of the brow from the temporal extremity of the orbit to the root of the nose, dividing the nasal section of the musculus quadratus in the centre of the frontal process of the superior maxilla. This incision ends in an oblique curve outward below the base of the nasal bone. The line of incision is marked by slight transverse cutaneous cuts, which enable the operator to properly coapt the wound after operation and thus lessen the tendency to deformity. After this primary incision is made through the soft parts to the periosteum, the soft tissues are lifted away from the periosteum, uncovering the external plate of the frontal bone above the arch and the roof of the orbit below, and the nasofrontal suture beyond the median line.

Second step.—Periosteal incisions.—(a) An incision is made through the periosteum parallel to the supraorbital margin and five to six millimetres

above, extending from the temporal end of the eyebrow to the beginning of the root of the nose at its central point. (b) A second periosteal incision is made, beginning just internal to the attachment of the pulley of the superior oblique muscle and following the line of the cutaneous incision to its extremity. The periosteum is then elevated from the superior incision over the entire anterior frontal wall and from the inferior incision downward, exposing the inner and superior third of the orbit. These elevations leave a strip of periosteum covering the site of the bony arch left for the purpose of sustaining the soft tissues after closing the wound and giving nourishment to the bone beneath.

Third step.—Enter the sinus by means of a gouge and mallet just above that piece of bone included between the periosteal incisions.

Fourth step.—With a probe ascertain the extent of the sinus.

Fifth step.—By means of a gouge and mallet ex-



FIG. 4.—Killian's Operation. Third Step.—Showing the sinus entered by means of a gouge and mallet just above that piece of bone included between the periosteal incisions. The sinus is then entered by means of a gouge and mallet just above that piece of bone included between the periosteal incisions. The sinus is then entered by means of a gouge and mallet just above that piece of bone included between the periosteal incisions.

cavate a groove through the external table from the first opening into the sinus to the external extremity.

ity of the sinus. This groove will then permit the free use of the chisel in removing the remainder of the bony covering of the sinus, without endangering the arch, which it is desirable to retain intact. The entire bony covering of the sinus is thereby removed, and considerable care exercised to uncover properly the angles of the sinus.

Sixth step.—Thoroughly remove all contents of the sinus and its mucous membrane, also break down all existing bony septa, so that free inspection of the sinus may be made throughout. Hæmorrhage will frequently be profuse until all granulation tissue is removed.

Seventh step.—Remove the floor of the sinus without injury to the supraorbital ridge, which enters into the arch of bone left standing. This procedure may best be accomplished by the operator standing behind the patient's head and chiseling

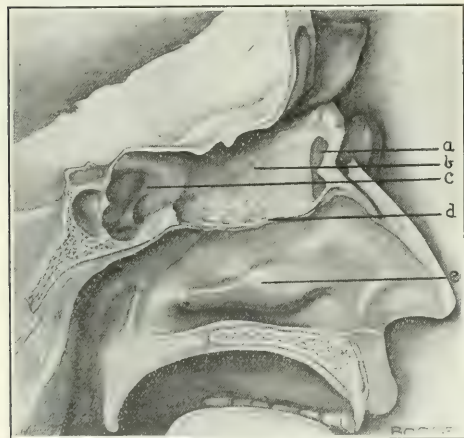


FIG. 5.—(Killian's Operation). Lateral appearance after dividing the head. *a*, Entrance through os planum and orbit into the ethmoidal tract. *b*, The ethmoidal tract. *c*, Sphenoidal sinus. *d*, Line of attachment of middle turbinate. *e*, Inferior turbinate.

from above downward. The bone is thin and can easily be removed without endangering the contents of the orbit.

Eighth step.—Remove the frontal process of the superior maxilla and the remaining part of the sinus floor.

Ninth step.—Remove the ethmoid cells, both anterior and posterior, if diseased, and the middle turbinate bone. Likewise remove the anterior wall of the sphenoid and curette this cavity if it is involved. Grünwald's forceps are serviceable in performing this operation. In order to reach the posterior ethmoidal cells, and the sphenoid, it is frequently necessary to chisel away part of the nasal bone on the side involved. This does not complicate matters in the general healing of the wound.

Tenth step.—Irrigate the wound with salt solution and dust with iodoform. Run a gauze wick from the temporal extremity of the frontal sinus into the nasal chamber through the frontonasal canal and terminate at the nasal vestibule. The incision is then sutured with the expectation of primary union. Care is exercised in the coaptation of

the wound, and the little cuts previously made across the first incision materially aid in this matter.

After treatment.—Place the patient on the healthy side. Give strict orders that he shall not blow his nose, but must aspirate the secretions flowing from the wound. Dressing must be done daily, but no irrigation must be used. The gauze packing is removed on the second day, and the sutures on the fourth to the fifth day. Care of the wound internally must be continued over a period of two to six months. This after treatment is tedious, and the after granulations springing up must be cut down with a strong silver nitrate solution. Even fused silver nitrate on a probe is necessary in many instances.

Deformity frequently results from this operation, in the form of a depression above the bony arch, which is left to support the tissues. This depression has been filled in by the subcutaneous injection of paraffin, which overcomes the deformity. For a long time after the operation a soft, mushy condition may be felt in the angle of the orbit, and sometimes a fistula forms at this point.

Dangers.—Many deaths have followed these operations, in which the operator could in no wise hold his technique responsible; and fatal terminations have been reported by such eminent operators at St. Clair Thomson, Herbert Tilley, Burghard, Lambert Lack, Milligan, and Logan Turner. I have seen most excellent results from operations by Thomson, Tilley, and Lack, and firmly believe that no fault of theirs contributed to the fatal results. I would emphasize the importance of serious consideration before attempting the radical operation:

1. Consider the close proximity of the brain.
2. The many avenues of infection opened up by the exposure of such an extensive area.
3. The limited knowledge of the sphenoidal sinus and the posterior ethmoidal cells obtainable by direct observation, and the necessity of relying almost entirely upon one's knowledge of the anatomy of the parts for operative measures.
4. The possibility of an already existing meningitis; for not infrequently cases are sent in for operation with a high temperature, some mental aberration, perhaps delirium, choked disc, and other symptoms which could be attributed either to pus under pressure or to an existing meningitis.
5. The lowered vitality and resistance of the patient, which predisposes to both infection and pneumonia.

Before leaving the subject I would emphasize the material aid offered by skiagraphy, not only in diagnosing empyema of the sinus, but in outlining the probable extent of the operation. In the frontal sinus particularly it is important to know the size of the cavity, whether it is multilocular or presents an orbital recess, and, finally, whether the sinus is diseased. The last factor is determined by the milky appearance of the sinus in contrast with the dark appearance of the unaffected side. The skiagraph also demonstrates the width of the ethmoid cell area and its relation to the frontal sinus. Just as it is essential to become acquainted with the ophthalmoscope and its readings in the eye, so is it necessary to study a number of skiagraphs and follow their teachings by operative demonstration, in order to become proficient in deciphering the shades

and shadows exposed in the plate. One familiar with this subject can deduce many truths from a skiagraphic plate which an unaccustomed eye could never perceive.

In closing I would advise against too much aggressiveness in radical operation upon either sphenoidal, ethmoidal, or frontal sinuses—the maxillary is farther removed from danger—for I believe that a great many suppurative conditions can be cured by securing perfect drainage. I also believe that it is of vital importance that one should be perfectly familiar with these areas before attempting to curette in such close proximity to meningeal tissues. Even when the operator is perfectly familiar with the anatomy he may induce meningeal infection by stirring up infected areas adjacent to venous and lymph channels which lead directly to the base of the brain.

44 WEST FORTY-NINTH STREET.

### THE RADIOGRAPHIC TOPOGRAPHY OF THE FRONTAL SINUS AND OTHER PNEUMATIC SINUSES OF THE FACE.

BY SINCLAIR TOUSEY, A. M., M. D.,

New York,

Surgeon to St. Bartholomew's Clinic.

The use of the x ray in making examinations of the frontal sinus, the antrum, and the ethmoidal

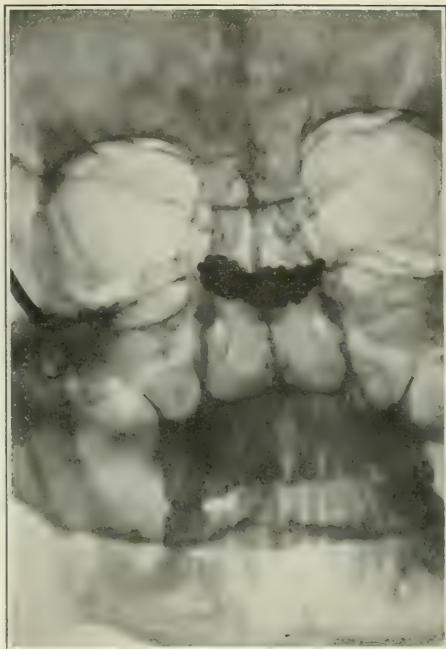


FIG. 2.—Sphenoidal cells, anteroposterior radiograph



FIG. 1.—Antrum, anteroposterior radiograph

and sphenoidal cells divides itself, naturally, into two methods. First, that by which a lateral view

of the face is taken, and, second, an anteroposterior picture in which the tube is placed behind the head and the plate in front. This is by far the more difficult, and results are only possible, as far as the frontal sinus is concerned, with the very best obtainable apparatus and technique. In the latter case, however, it is not so much a matter of terribly powerful currents or long exposures as it is of the proper adjustment of the x ray tube and the other apparatus. The author's radiographs of this character have been made with an exposure of only thirty seconds and with a twelve inch induction coil and a primary current of eighteen amperes.

The lateral radiographs are much easier, because there is only a small fraction of the amount of tissue to be penetrated by the x ray. An exposure of fifteen seconds with a primary current of eighteen amperes is amply sufficient. The distance from the tube to the plate has a great deal to do with the success of the radiograph in either case. The anticathode should be twenty-five inches from the plate for an anteroposterior picture, and about seventeen inches in making a lateral picture.

The author has made two kinds of radiographs of the pneumatic sinuses; one set has been made from an empty skull in which the different air spaces have been filled with lead shot, which is entirely opaque to the x ray, and the other set of radiographs shows the condition of these air spaces in living patients. The radiographs of the air spaces in the empty skull furnish a set of accurate charts showing the topography of the sinuses in x ray pictures of the head. The author has found them valuable in the exact localization of disease

<sup>1</sup>A series of radiographs illustrating this subject were exhibited at a meeting of the Section in Laryngology and Rhinology, New York Academy of Medicine, December 15, 1907.





FIG. 3.—Sphenoidal cells, lateral radiograph.

and sometimes in distinguishing a shadow due to pus or a solid substance in one of these sinuses from the normal shadows due to neighboring bony structures. The radiographs of living patients have proved a valuable means of diagnosis, and it can be confidently stated that this method has great advantages over ordinary transillumination.

The anteroposterior radiograph (Fig. 1), showing the antrum full of shot, gives the comparative appearance of the side on which the antrum is empty and that on which it is full of the opaque substance. It enables us to recognize the normal location of the antrum in patients. The same picture shows the frontal sinus, which in this skull was a small unilocular air space on one side of the median line, not reaching over the orbit to any extent. The alæ of the sphenoid bone may be seen forming the upper wall of the orbits; and the bony septum of the nose and the turbinated bones form distinctive landmarks. All the bony outlines are more distinct than in the actual patient, but, as will be seen later, different portions in pictures of natural patients can be recognized.

The lateral radiograph of the antrum full of shot shows the size and position of this air space, and it also shows the frontal sinus in profile, showing the separation between the external and internal bony walls of this cavity. The malar bone sometimes forms an important landmark in such a picture.

The anteroposterior radiograph (Fig. 2) of the sphenoidal cells

filled with lead is valuable because it enables us to recognize at a glance in a similar picture from a living patient the position of these particular cells.

The lateral radiograph (Fig. 3) of the sphenoidal cells filled with shot is especially valuable as a topographical chart. There are certain shadows in radiographs of the living patient in this region which it is important to distinguish between—those due to bony structures and those due to a collection of pus in the sphenoidal cells. By comparing a lateral radiograph of a patient's head with this experimental radiograph it has been found easy to make this distinction at a glance.

Radiographs of the anterior middle and posterior ethmoidal cells, respectively, have been made upon an empty skull in which these different air spaces have been filled

with shot. The pictures are anteroposterior and also lateral. They furnish valuable information as to the exact position of these different cells.

#### *Radiographs of the Pneumatic Sinuses in Actual Patients.*

One of these radiographs (Fig. 4) is that of a patient in whom the antrum and the other pneumatic sinuses proved to be normal. It is an anteroposterior picture made with the tube behind the head and the plate in front. It shows a large frontal sinus with a number of septa. It shows the

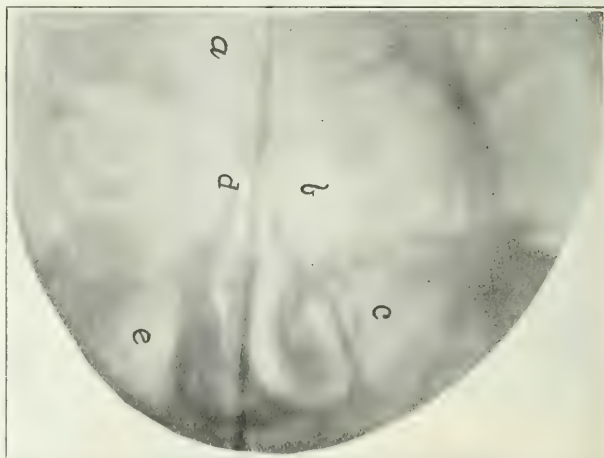
FIG. 4.—Normal anteroposterior radiograph. *a*, frontal sinus; *b* and *d*, ethmoidal cells; *c* and *e*, antrum.



FIG. 5. Lateral radiograph. *a*, frontal sinus; *b*, ethmoid cells; *c*, antrum opaque from chronic suppurative otitis media.

ethmoidal cells somewhat more distinctly on one side than on the other. This is due to the difficulty experienced in producing an absolutely median application of the x ray.

Another picture is an anteroposterior radiograph of a patient referred to me by Dr. Alleman. The left antrum shows as a completely opaque mass, contrasting sharply with the normal air space on the right side. This picture was made with the x ray tube at a lower level than would be suitable for radiography of the frontal sinus, and the latter air space therefore does not show in the radiograph.

Another lateral radiograph (Fig. 5) is that of a distinguished physician, who had all of his upper teeth extracted for pain, and upon whom subsequent minor operations were performed for the abstraction of spicula of bone from the jaw. All these treatments failed to relieve his suffering, and he was unable to wear a set of artificial teeth for more than an hour at a time. The radiograph showed that the antrum was absolutely opaque, and an operation was performed by Dr. Cryer, resulting in a complete cure. The antrum in

this case was full of pus and swollen mucous membrane.

Fig. 6 is an anteroposterior radiograph of a case referred to the author by Dr. Joseph Abraham. It shows the frontal sinus in normal condition, but the left ethmoidal cells are opaque. The left antrum presents a small translucent area at its centre surrounded by a zone of opacity. This is the appearance to be expected in cases of suppuration in the antrum, where the pus has been evacuated, but where the mucous membrane is still swollen and unhealthy.

Fig. 7 was made of a patient of Dr. Gleitsman before operation. It shows a frontal sinus with a little less than the normal translucency, but still with an outline and sæpta which are readily seen. The mucous membrane may be swollen, but the radiograph does not show the opacity which would be found if the sinus were full of pus. The ethmoid cells do not show opacity, and the antrum presents a clear centre with surrounding moderate opacity. This also indicates a polypoid mass or swollen mucous membrane, not the presence of a mass of undrained pus.

Disease of the frontal sinus may show itself as opacity in one or more of the spaces into which the sæpta divide this cavity, and in some cases it may even look as if the frontal sinus was absent upon one side.

A case which the author examined for Dr. Phillips showed a great area of opacity, extending out to the side of the forehead, and upon operation the frontal sinus upon this side was found to contain a very large amount of pus.

#### *Examination of the Radiographs.*

Anteroposterior pictures of the head seldom show as well in the print as they do in the original plate or negative, and the best means of studying the latter is by transmitted light in a negative ex-

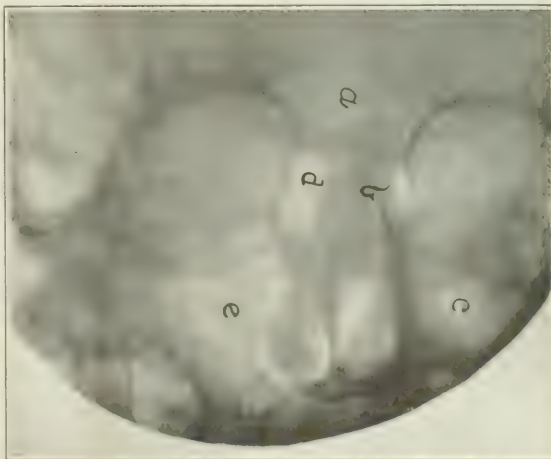


FIG. 6. Anteroposterior radiograph. *a*, frontal sinus; *b*, ethmoid cells; *c*, antrum showing opacity at center, surrounded by zone of translucency.

aming box. Details may be readily discovered in this way which are entirely lost in the process of reproduction as seen in the prints illustrating this article.

The frontal sinus has been shown by Cryer's *Anatomical Studies* and by the radiographs of

Some one describes one organ of the body thus: "The human eye is the most wonderful piece of mechanism in the world. It has eight hundred distinct contrivances. It opens and closes automatically its curtains thirty thousand times a day. It is selfadjusting to all degrees of light from mid-

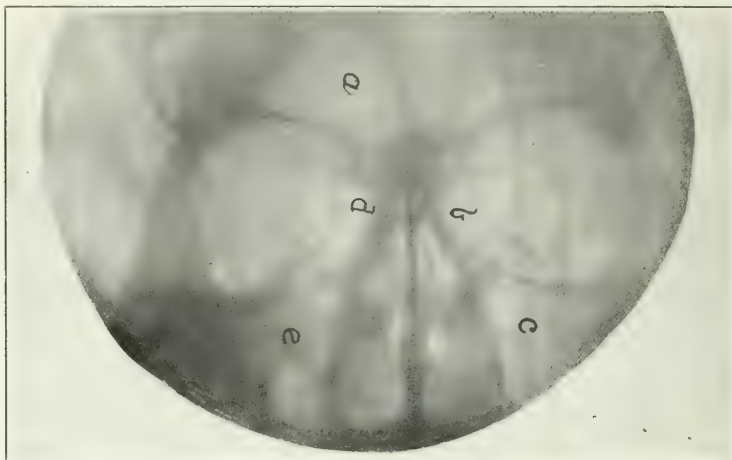


FIG. 7.—Anteroposterior radiograph of case with chronic antrum and ethmoid inflammation without much retention of pus; a, frontal sinus; b and d, ethmoid cells; c and e, antra.

Caldwell and Coakley to present a great diversity in size, shape, and position and in the number of sæpta which subdivide it. It follows, therefore, that the diagnosis of disease cannot be based merely upon a deviation from any particular appearance which might be considered typical. The radiograph must show sufficient detail to afford proof in itself of an abnormal condition.

59 WEST FORTY-SIXTH STREET.

## THE RELATION OF MENTAL ATTITUDE TO BODILY FUNCTION.\*

By W. L. CONKLIN, M. D.,

Jackson Health Resort, Dansville, N. Y.

Of the many complex problems which have challenged the reasoning powers of man, and sometimes baffled his best efforts, man himself is the most complex, the most difficult of solution. A great grammarian is said to have remarked that if he had his life to live over again he would spend it in the study of the dative case. If there are such possibilities for study and research hidden away in one leaf of the science of man's language, it is little wonder that a lifetime may be spent in the study of man himself without a complete solution of the problem which he presents.

The anatomist and physiologist study the structure and function of the various organs of the human body, and for 3,000 years there has been increasing evidence that David was right when he said, "I am fearfully and wonderfully made."

day to midnight. Its retina is a highly sensitive plate. Its lenses are normally perfect, with microscopic power to see the point of a cambric needle, and telescopic power to gaze upon the sun, ninety-five millions of miles away, and it is the mirror of an inward occupant. It can flash with the fire of anger, burn with enthusiasm, melt with tenderness, stare with fright, leer with villainy, twinkle with mirth, or beam with love."

While the eye is an optical instrument of such marvelous construction and power, it is but the servant of the mind, obeying the behests of volition and giving expression to emotion. Without its aid, moreover, intellect may grapple with the great problems of life, and imagination "give to airy nothing a local habitation and a name."

But while the psychologist, the anatomist, and the physiologist pursue their investigations, the physician must study man as man, not body alone or mind alone, but a complex being. He must take carefully into account this twofold nature, and I think there are but few who will dissent from the assertion that he must go further than this, even, and recognize a third factor in the problem of human life. Call it spirit, if you will; a something at least which transcends the mind in its ordinary workings as the mind transcends the body. A something of which it has been said:

"Birthless and deathless and changeless remaineth the spirit forever;

Death has not touched it at all, dead though the house of it seems."

I am aware that it may be objected that this is a realm beyond the ken of scientific investigation. This may, to some extent, be true, but it has, nev-

\*Read at the annual meeting of the Medical Society of the County of Monroe, Rochester, N. Y., December 17, 1907.



ertheless, its bearing upon the complex problem which confronts the physician—the problem which he must work out many times over in his efforts to guide back to normal, healthful activity the man or woman who is "out of commission" because of disease in some of its many manifestations.

Whether we believe in the identity of mind and matter or not; whether we assert with the materialist that everything, from a dissertation to a diatom, is the result of a "fortuitous concourse of atoms," or dissent from the assertion, or even if for the moment we dismiss the subject with the humorist's cogitation:

"What is mind?—no matter.

What is matter?—never mind,"

we must still look upon mind and body as so closely related, so intimately associated, that a condition of health and activity in one tends to produce a like condition in the other; while if one is in a marked degree abnormal the other is almost sure to suffer in one or more of its functions. The exceptions to this rule, in which there is associated with a weakened and diseased body a mind of unusual power and scope, are rare and suggestive of the innate superiority of mind over matter.

Alienists have long found abundant evidence that abnormal physical conditions are capable of producing mental disease. Indeed, the general practitioner has learned that mince pie and melancholia not infrequently bear the close relationship of cause and effect. But do we place sufficient emphasis upon the correlative truth that mental attitude and bodily function bear to each other a relationship quite as close?

I will not weary you with illustrations of this intimate association. Medical literature abounds in them, and indeed they are frequently brought to the attention of every physician. The medical student is very likely, early in his career, to observe the effect of imagination upon his own bodily functions as he suffers a sudden twinge of pain on the McBurney's point side of his anatomy just after a lecture on appendicitis, or finds himself consulting the long suffering professor of practice the day following a lucid description of valvular diseases of the heart.

Fiske quotes from the *Spectator* of March 29, 1710, a humorous account of the effect upon the writer of the perusal of medical books: He said that as a result "he found his pulse irregular, and scarce ever read the account of any disease that he did not fancy himself afflicted with. Dr. Sydenham's learned treatise on fevers threw him into a lingering hectic, which hung upon him all the while he was reading that excellent piece. I then," he continues, "applied myself to the study of several authors who have written upon phthisical distempers, and by that means fell into a consumption, till at length, growing very fat, I was, in a manner, shamed out of that imagination. Not long after thus I found in myself all the symptoms of the gout (except pain, but was cured of it by a treatise upon the gravel, written by a very ingenious author, who (as it is usual to convert one distemper into another) eased me of the gout by giving me the stone."

If the imagination produced only temporary functional disturbances its effects would be of lit-

tle importance, but there can be no doubt that long continued interference with function, and even organic changes sometimes result.

Dr. J. M. Buckley says that "so long ago as the time of John Hunter it was established by a variety of experiments and by his own experience that concentration of attention upon any part of the human system affected first the sensations, then produced a change in the circulation, next a modification of nutrition, and finally a change in structure."

Not only has the imagination a powerful influence over sensation and organic function, both voluntary and involuntary, but the intellect, the emotions and the will have, or may have, an influence quite as potent.

Indeed is it not true that thought, either conscious or unconscious, precedes and gives direction and character to bodily function?

There may be no immediate result growing out of disregard, first in thought, then in act, of the laws of health, but sooner or later so called involuntary bodily functions will suffer as a consequence.

The title of a recent book, *Why the Mind has a Body*, suggests an important truth of which we sometimes lose sight, namely, that the intangible something, which for want of a better name we call mind and spirit, is deserving of first and most important place in all our estimates of man as man.

I am not in the least in sympathy with Mrs. Eddy and the so called Christian science principles which she so zealously advocates. Indeed, it has always seemed to me that her teachings contained little of Christianity and less of science and have resulted in incalculable harm. The same indictment might be brought against the "new thoughts" in general. If a little knowledge is a dangerous thing and the danger is in proportion to the littleness of the knowledge manifested, then they are indeed a dangerous company. Truth must be considered in its relationship to other truths, and with due regard to its relative importance, otherwise it may be so distorted and overworked as to lose its fair character and pose as a legitimate offspring of the father of lies himself.

It is profoundly true that mental attitude has much to do with bodily function and is capable of producing changes in nutrition and secretion. We may go a step farther and say that healthful and hopeful habits of thought do much to put the body on the defensive against the assaults of disease, but to give absent treatment instead of antitoxine to a case of diphtheria or to treat cancer with the assurance that all is well, is fanatical, if not homicidal.

No one will deny the superiority of mind over matter. No one will gainsay the assertion that mind and spirit are or should be the controlling elements in the makeup of any human being. But to ignore, in our present state of existence, the physical in man is to cast reason and common sense to the winds and substitute an idealism, the adoption of which leads to results and conditions which are anything but ideal.

Having made clear, as I hope, my position in regard to the so called "new thoughts" in general, and the so called Christian scientists in particular, I beg to assert the belief that as physicians we give

too little attention to the subject of psychotherapy. I do not refer to the employment of hypnotic suggestion, which, it seems to me, has a very limited field of usefulness as a therapeutic resource, but to the practical application of the plain, common sense fact that right thinking, a normal, healthful mental state or attitude, is conducive to continued bodily health and a potent remedial agent when bodily health is below the normal standard. I wish to place emphasis on the fact that just as *bodily* attitude does not mean the position of the head or an arm, but of the body as a whole, so *mental* attitude refers, not to the will or the emotions, but to the mind in its entirety. What is the trend of a man's thought? Can he use his intellect and as a rule reach conclusions which are definite and reasonable? Are his emotions and imagination under control and is his volition strong? Has he an object in life and some sense of personal responsibility or is he aimlessly drifting? These are questions which have a distinct bearing upon the bodily function and health of any individual. No doubt the subject has been brought into disrepute through the mistaken zeal of faddists, but the scientific man should not be prejudiced against or fail to recognize the importance of truth simply because it has been distorted and mixed up with error.

The alienist would be but poorly equipped for the treatment of diseases of the mind if he had no knowledge of the structure and function of the bodily organs. Is it not equally important that the physician in general practice should be conversant with the phenomena of normal and abnormal mental processes and their relationship to bodily function? To this end it would seem that psychology and psychotherapy should be given a place in the curriculum of our medical colleges.

An intelligent recognition and application of the principles involved in the relationship of mind and body is, I am convinced, of great value in the scientific treatment of disease. It is not so easy as to prescribe veronal and valerian, but more lasting results may be looked for. Moreover, the patient who has been taught something regarding the importance of mental attitude in its relationship to health will be less in danger of a repetition of his present painful experience, and preventive measures must always be regarded, both from a scientific and from a philanthropic standpoint, a long step in advance of those which are palliative or curative only.

#### BACTERIAL VACCINES OF STAPHYLOCOCCI STAINS, A TECHNIQUE FOR THEIR PREPARATIONS.\*

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I have been enabled to make the following observations while at work on the immunization of cases of furunculosis, acne, and sycosis in Professor J. F. Schamberg's clinic for diseases of the skin held at the Polyclinic Hospital. The work has been done in the laboratories attached to the hospital with the kind permission of the registrar, Miss Kirkbride.

The experimental evidence of phagocytosis by Metchnikoff and of bacteriolysis by Pfeiffer as a chain in the mechanism of immunity has been elaborated by the French and German schools; and Wright and his followers have placed the former theory well before the profession.

It is my pleasure to bring before this society for discussion a statement, as to the effects produced by the application of heat upon the bacterial body, as to degree of intensity, duration of exposure, and the relation this bears to the immunity conferred by inoculations of bacterial suspensions so prepared.

A number of the workers in this country and abroad have dismissed this subject with a word. They allege that their bacterial suspensions are "killed cultures" rendered incapable of further propagation.

Sir Almoth E. Wright (*Lancet*, 1902) first killed his cultures at 149° F. for twenty minutes. One patient, of a series of six reported in this paper, developed a localized inflammatory reaction at the point of inoculation. Wright asserts that this result occurred from staphylococcal matter already in the system of the patient, while all six patients showed evidence of pronounced local reaction, as well as constitutional symptoms. Subsequently Wright (*Proceedings of the Royal Society of London*, July 26, 1904, p. 154) evidently found it necessary to keep the suspension of bacteria in the incubator twenty-four hours after heating at 140° F. for thirty minutes. The suspension is then cultured and at the same time enumerated. Twenty-five to seventy-five million bacteria are used. Should the culture media show evidence of bacterial growth, the technique is repeated until the organisms have lost their power of further multiplication.

E. H. Schordor, of the Rockefeller Institute, makes a reference to the use of killed cultures of streptococci, employing twenty-five to one hundred million in number. Dr. Simon, of Baltimore (*Experimental Medicine*, September 21, 1907), in a paper read before the Association of American Physicians last assembled in Washington, D. C., makes the most remarkable statement that he can see no difference in the reaction of a patient to his vaccine whether twenty-five million or a million million staphylococci are given. And Wright and Reed, when employing the colon bacillus for immunization in cases of cystitis, make use of a sterilized vaccine containing two hundred million organisms.

Since we find such a variety of ideas and conclusions among the workers, apparently the elaborate experiments in immunity present the only analogy to the effects of heat on a bacterial body. Here one is confronted by a great diversity of terminology, and finds, on the other hand, a marvellous unanimity of results.

Regarding the various theories elaborated from the standpoint of temperature alone, there has been found in the blood a thermostabile substance at 140° F., and a thermolabile substance at the same temperature. Ehrlich and the German school express an amboceptor stable at 140° F., and a complement labile at 140° F. Bordet and the French school designate their thermostabile and ther-

molabile products as *fixateur* and *substance sensibilisatrice* respectively.

Bordet (*Annales de l'Institut Pasteur*, xii, 10) has recently shown the analogy between hæmolysins and bacteriolysins. Both substances are thermolabile, and if they be destroyed by heat the serum will still be found to contain a thermostable substance, which has the power of agglutinating either the blood corpuscles or the bacteria as the case may be. This substance of a thermostable nature in the serum he terms a *fixateur*.

Wright and his followers determine an incitor stable at 140° F. and an opsonin labile at the same temperature. Wright (*Proceedings of the Royal Society of London*, lxxvii, Series B) invents the term incitor to explain the phenomena of phagocytosis of bacteria by washed leucocytes in the presence of blood serum which has been heated for ten minutes at 140° F. Although the opsonin has been removed from the serum by heating, there yet remains a substance of a thermostable quality which unites with the bodies of the bacteria. They are rendered capable of phagocytosis by the incitor without the presence of opsonin or any other thermolabile product in the serum. Wright does not admit the presence of any new body in the blood serum, notwithstanding his use of the term incitor, and alleges that the thermostable substance does not exist, there being instead but an opsonin attenuated by heat, thereby disproving any possibility of spontaneous phagocytosis.

Dean (*Proceedings of the Royal Society of London*, July 8, 1905, Series B) produced an active phagocytosis of bacteria specially treated, in which the presence of an immune serum was displaced by a physiological salt solution. The bacteria used in the experiment were centrifuged through a heated immune serum, and thoroughly washed free of the serum before being used. It was found that the organisms selected something from the immune serum which rendered them capable of being engulfed by the white blood cell. This serum is quite incapable of producing phagocytosis in the usual way with the species of bacteria used, although it is active in opsonizing any other species of bacteria.

Two years later Cowie and Chapin (*Journal of Medical Research*, xii, No. 1, 1907), in experiments similar to those of Dean, and independent of any knowledge of his work, arrived at the same conclusions, and Wright (*Lancet*, November 2, 1907) adds a beautiful confirmatory analogy to this work when he demonstrates the difference between the opsonic power in the normal blood serum and in the serum obtained from the toxins of infection. The latter is very deficient in opsonin.

Regardless of the attempts of the German school to explain immunity by a multiplicity and specificity of each *Antiseptin* and *Complement*, or those of the French school to confine all serum reactions to a duplicate role, the various experiments conform alike to heat exposures. Wright does not accept this, although he readily admits the stabilization of the blood serum by heat, while, confused by the variety of their terminology, his technique in the hands of competent observers in this country

and abroad shows opsonin to hold the same relations to temperature as those which are expressed in their experiments.

	Substances in blood serum thermostable at 140° F.	Substances in blood serum thermolabile at 140° F.
Ehrlich and the German school .....	amboceptor	complement
Bordet and the French school .....	fixateur	substance sensibilisatrice
Wright and the English school .....	incitor	opsonin

#### Summary of Observations.

- (a) Opsonin in the serum is modified by heat.
  - (b) Bacteria are incited to phagocytosis by serum from which the opsonin has been removed by heat.
  - (c) Bacteria unite with a substance in heated serum which prepares them for phagocytosis.
  - (d) Bacteria remove a substance from the serum collected at the foci of infection which reduces the opsonizing power of this serum for this species and no other below that of the patient's blood serum.
- These observations deduced from actual experimentation do not prove the presence of a thermostable and a thermolabile substance in the bacterial body, but they suggest it. The bacterial body differs from the blood serum, perhaps, in the molecular arrangement of its elements and in its inherent ability to reproduce itself. This difference presents a step from an unorganized organic substance in the serum toward an organized organic substance in the bacteria.

In the spring of 1907 Gildersleeve, of the University of Pennsylvania, successfully inoculated two cases of syphilis in the clinic. Both patients had constitutional and well marked local reactions. An abscess developed at the site of inoculation in the second case, while only a cellulitis appeared upon incision of the local tumefaction in the first case. Both patients recovered completely from the syphilis.

When I first prepared a vaccine, taking 176° F. as the thermal death point of the staphylococcic strains, the constitutional reaction upon inoculation was mild. No local reaction occurred at the site of injection, and very little activity was demonstrable by Wright's method of estimating the phagocytic power of the blood. In all sixteen cases were determined. In these the failure of Wright's method to yield results was attributed to poor technique and insufficient experience.

Subsequently, during the preparation of a vaccine for the use of the clinic, the water bath in which the cultures were killed attained a temperature of 104° F. One of the vaccines in this brew was used upon a physician suffering with furunculosis. Forty million staphylococci at 176° F. had caused him some symptoms of constitutional reaction, such as thirst and restlessness at night, accompanied by irregular fluctuations in the opsonic index; 0.75 to 1.3 were noted. If previous inoculations of bacterial suspensions prepared at 176° F. were as significant and but mildly effective, one at 104° F. would do no harm. This vaccine contained ten hundred million staphylococci. According to the patient, who was a conscientious observer, this in-



oculation produced no more clinical effect than the injection of so much coagulated egg albumen; neither did the opsonic index fluctuate, but remained at 0.8.

This shows how it might be possible for Dr. Simon, or any one for that matter, to give in a suspension a million million bacteria, subcutaneously inoculated, without untoward effect.

Now began a gradual reduction in the temperature applied to the water bath. The inoculation of a bacterial suspension, heated at 158° F. for one half hour, gave evidence of fluctuation in the phagocytic index; at 149° F. for half an hour, produced more pronounced constitutional symptoms; at 140° F. the cultures had to be maintained in the water bath one hour before the thermal death point inhibiting the reproduction of the species was reached. Upon inoculation with this suspension a violent constitutional reaction was observed. Three strong men who had received injections not only felt feverish and restless the next day, but remained in bed more or less prostrated. Only a few phagocytic counts were made in these cases. They showed that the positive and negative phases in Wright's experiments were well marked by a fluctuation from 0.5 to 3.5, 1.0 being the normal or control index.

We see that the clinical reaction and laboratory phenomena exhibit an increased intensity as the temperature applied to the bacterial suspensions is reduced. The duration of the application of heat is also an element to be considered.

Further reduction of the temperature to 138.2° F. and then to 136.4° F., used in the preparation of the vaccines, was followed by disastrous results. Five people were unconsciously inoculated with living cultures of bacteria, of autogenous strains, twenty to forty million strong, pasteurized for one hour at 136.4° F. All were attacked with a local tumefaction of brawny induration, with a sensation of deep fluctuation in each case. In three of these cases the local reaction disappeared, while two patients were attacked with an abscess at the site of inoculation. One of the latter showed a pronounced rise and then a depression of the phagocytic count; the other, at two different readings of several days' interval, exhibited a continued depression of the phagocytic power of the blood. A third patient of this series, having relapsed clinically, was reinoculated with a bacterial suspension treated in a water bath for one hour to 138.2° F. A small abscess developed at the site of injection. One reading subsequent to the evacuation of the abscess showed a very high index. From all three patients there was recovered the same organism which had been introduced.

The following is a technique recommended for the purpose of producing the highest "positive phase" of Wright: Prepare, 1, sterilized glass pipettes; 2, sterilized test tubes, each containing small glass beads or sand; 3, a twenty-four hour culture of bacteria of autogenous strain (not necessarily a pure strain) on a nutrient agar slant; 4, a sterile salt solution, 0.85 per cent., sodium chloride; 5, a water bath; and, 6, a thermometer.

With a sterile gum attached to the pipette, draw

up about 1 c.c. of the salt solution. This solution is played over the surface of the agar slant culture media until the twenty-four hour old growth of bacteria has been washed free from its surface.

The bacterial suspension is then drawn up into the pipette and immediately transferred to the test tube containing the glass beads. The tube is now stoppered with its cotton plug and agitated freely in order to disintegrate the colonies and clumps of bacteria. Having previously heated the water bath to the desired temperature the bacterial suspension is inserted into it. The surface of the water in the bath should be above that of the salt solution containing the suspended bacteria, or, better still, if the vaccine is sealed in a glass receptacle, complete submersion in the bath is desirable. The thermometer should be kept in the bath under the same relative conditions as those surrounding the bacteria. For example, the bacteria being in a certain quantity of solution in a test tube, the thermometer should also be similarly placed. Both tubes should then be kept in the closest contact in the water bath. A temperature of 136.4° F. to 138.2° F., or the lowest possible point required to destroy the reproductive activity of the germ, is maintained for one hour. It is then subcultured and enumerated, when the suspensions are placed in the incubator at 98.6° F. for the remaining twenty-three hours. Prior to a repetition of this technique, which is advised for at least three successive days, a daily subculture following the pasteurization is made from the bacterial suspension. If at the end of the fourth day there is no growth upon the subcultures, and especially the last one, the vaccine may be used for subcutaneous inoculation.

A suspension containing five to ten million of bacteria, prepared at this low temperature, is equal to a four hundred million bacterial suspension prepared at a higher temperature.

At some point, between the temperature necessary for greatest bacterial growth and that for reproductive death of the germ, lies a substance which is active in producing immunity. This substance may be entirely inactivated by heat, or it may evidence marked activity just above the degree of temperature where the reproductive powers of the organisms cease.

The ultimate chemistry of the proteid body remains for the future. Our object is a bacterial product of efficiency which may be injected with impunity. Perhaps this problem may best be solved without heat at all. Digestion by an active ferment and precipitation of the globulins, albumoses, and other cleavage products of the bacterial body will help to elucidate this subject. (Holliburton, *Proceedings of the Pathological Society of London*, lvi, p. 158, 1905.)

When we consider that every surgical wound made for the relief of infected parts gives rise to inoculation of living bacteria and their products, uncontrolled and unlimited; that every massage, active or passive, of diseased areas produces much the same result with absorption of fixed tissue cells and tissue juices in addition, there may be some extenuation for these unusual experiments.

### Conclusions.

A thermolabile and a thermostabile substance is found in the bodies of the staphylococcic strains of bacteria, which substances, in the organic bacterial bodies, are of the nature of an amboceptor and a complement.

The activity of the thermolabile moiety of the bacterial body varies, inversely, as the degree of heat and its time of application.

1618 SPRUCE STREET.

## THE INFLUENCE OF ANIMAL THERAPY UPON THE OPSONIC INDEX IN TUBERCULOSIS.

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In an article recently published in the *New York Medical Journal*<sup>1</sup> the clinical results obtained in tuberculous patients, following the administration of a lymph derived from the bullock, which had previously been rendered immune to tuberculosis, were described.

It is the purpose of this paper to briefly describe the influence of this treatment upon the opsonic index.

While Wright, Metchnikoff, Ehrlich, Neufeld, and other scientists differ in their opinions as to the sources whence the defensive properties of the blood are derived, upon this point they all agree, that phagocytic activity follows any manifestly stimulating influence, however exerted, upon the blood. Also that the ability to withstand or overcome infectious processes is proportionate to the degree of this activity.

We shall not describe the technique of obtaining the opsonic index, as this is available in the literature.

The following five cases were carefully selected from a larger list of fifty-two patients treated, in which systematic observations of opsonic indices were recorded every thirty days. All the cases described are among those in which tuberculous bacilli were found in one or more of the secretions.

CASE I.—Male, aged twenty-two years, bookkeeper by profession. After losing in weight and vigor for four months applied for treatment. Patient was very anæmic. Temperature in morning subnormal, in evening 99.5° to 100.5° F. Respiration was shallow and hurried. There was a moderate cough, with mucopurulent expectoration. Pleuritic pains were present upon left side of thorax. Marked dullness over upper lobe of left lung, with moist râles. Right lung was not perceptibly involved. Tubercle bacilli were found in sputum. Opsonic index 0.76. Patient had to minims antituberculous lymph daily, omitting every seventh day for thirty days. At the end of that time morning temperature was very slightly subnormal or normal. Evening temperature did not exceed 99.5°. Opsonic index 0.84. Decrease in amount of expectoration and number of bacilli present. Anæmia was less marked, and general nutrition was much improved. Opsonic readings at the end of sixty and ninety days' treatment showed 0.91 and 0.97 respectively, with corresponding improvement in all symptoms. A fourth month's treatment was administered, the evening index at termination at 0.99. Patient was allowed to return to work as an indicator for his firm, spending most of time out of doors. Observation made sixty days later showed opsonic index still 0.97. General condition of patient was very good.

CASE II.—Married woman, age twenty-six years. Brother

died at same age of phthisis florida. Patient had diarrhœa with severe abdominal pains. Mesenteric glands were perceptibly enlarged. Tubercle bacilli were abundant in feces. There was no perceptible pulmonary involvement. Temperature varied from subnormal morning to 101° F. evening. Pulse 95 to 110. Patient suffered from insomnia. Appetite was capricious. During three months indisposition patient lost fifteen pounds. Opsonic index 0.82.

Daily injections of antituberculous lymph were used for three months. A normal temperature was gradually approximated and maintained after two months' treatment. Diarrhœa disappeared entirely before the end of treatment, decreasing doses of Epsom salts being administered daily until dose was infinitely small, and then discontinued. Opsonic index at end of first month was 0.95. Second reading one month later showed 1.02. Final observation made immediately after treatment was discontinued showed opsonic index 0.985. Later observation could not be made owing to patient's moving to a neighboring state, but she reported continued improvement.

CASE III.—Patient was a boy, seventeen years old. Several members of his mother's family had died of pulmonary phthisis. Patient applied for treatment for "chronic sore throat." Voice was clear and full, left tonsil much enlarged, with ulcer covering one fourth its surface. Cervical lymphatics were enlarged, especially on left side. Patient complained of pain under sternum, during deep inspiration. There was diffused infiltration over both upper lobes. Expectoration was scanty and showed no tubercle bacilli. The tonsillar ulcer was curetted and examination showed tubercle bacilli in large numbers. This boy had lost probably ten pounds in weight. Temperature readings showed slight evening rise. Opsonic index 0.89.

Antituberculous lymph administered for three months. Tonsillar ulcer treated with x ray through a tube. The cervical glands, as well as anterior aspect of the thorax, were also rayed every third day during first half of treatment. At the end of this time the tuberculous ulcer had entirely disappeared and the patient complained of no pharyngeal or other discomfort. Improvement in vigor and weight was gradual but continuous. Opsonic readings at end of each month's treatment showed 0.95, 0.92, and 0.985 respectively. Observation made two months later showed 0.975. Patient's condition is seemingly normal.

CASE IV.—Patient, single woman, thirty-three years of age, of distinctly anæmic type, presented herself for treatment, complaining of extreme bodily weakness. There was a marked hepatization of upper half of left lung, with scanty expectoration, showing limited number of tubercle bacilli. Temperature seldom subnormal and frequently running 103° in the evening, with rapid pulse. Opsonic index 0.68.

Antituberculous lymph was administered for four months, 10 minims daily, omitting every seventh day. Collateral treatment, which seemed suited to the exigencies of the case, was also instituted. This case is of interest chiefly because at no time during treatment did there seem to be the slightest improvement. The temperature was not reduced and the opsonic index readings remained practically the same for some time, while the lung involvement and emaciation increased. At the present time, two months since treatment was discontinued, the patient is bedfast and failing rapidly.

CASE V.—Patient was a bright boy of fifteen years. Tuberculosis of hip joint, following similar attack four years previous, involving the same joint. Temperature, pain, and swelling were characteristic. Pus from a discharging sinus contained tubercle bacilli in abundance. Temperature was slightly above normal. Opsonic index 0.92. No appreciable lung involvement. An extension apparatus was applied, patient being confined to bed for four weeks, after which he was allowed to go about, continuing to wear the regulation apparatus during the three months that antituberculous lymph was administered. The result in this case was dramatic. The opsonic index at the end of first month was 0.975. One month later 1.2, and at the end of third month 0.985. The patient was the possessor of a voracious appetite, which it was next to impossible to satisfy or control. Three months have elapsed since treatment was discontinued. Patient walks with a cane without apparent discomfort. The sinus has entirely closed, and patient has gained perceptibly in weight.

For my own part I am strongly disposed to attribute the benefits observed in these cases as much

<sup>1</sup>Animal Therapy in Tuberculosis. *New York Medical Journal*, December, 1906.

to the invigorating influence of the lymph upon the phagocytes as to its specific antitoxic action upon the tuberculous bacilli.

In my monograph<sup>1</sup> upon this subject, among other preliminary propositions laid down, is the following: "Tuberculous infection takes place in the human subject only when the normal ratio of resistance is lacking or disturbed." I am fully convinced that a defensive attitude upon the part of the human organism towards infectious agents can be established and maintained only through influences exerted upon the living, active cell. It is true that this view of the subject has not been particularly popular during the past year. It will be interesting to the reader to know the present attitude of Professor Metchnikoff, the leading exponent of the doctrine of phagocytic defense, upon the subject. In a personal letter, received very recently, he writes:

"I see no reason for modifying my views upon this subject, as expressed in my essay upon *Hygiene of the Tissues*.<sup>2</sup> There can be no doubt that, under artificial conditions and outside the body, the phagocytes are weakened, and cannot show their functional activity to such advantage as inside the body. It is therefore quite natural that under such unfavorable conditions the phagocytes more readily attack the microbes already impregnated with preparatory substances than the quite intact microbes. When they have been deprived of this favoring influence the phagocytes can only fulfil their duties with more or less delay. That is exactly, in reality, what takes place. Left to themselves in a liquid, deprived of all opsonic substances, the phagocytes nevertheless surround the microbes; only instead of doing this in a quarter of an hour, it takes them longer, perhaps an hour to two. In the experiments conducted by Dr. Löhlein, of Leipzig, who was at that time working in my laboratory, it was proved that the absorption of the bacilli by the phagocytes often occurred quite as early in normal saline solution as in the sera, and thus the importance of the opsonins is still further diminished. I do not wish, however, to depreciate the utility of the opsonic index in determining the defensive resources of the blood. For this purpose it is invaluable, and it is to be deplored that the difficulties encountered in rendering it available to the general profession are so great."

I wish to express my thanks to Dr. Edward T. Smith, of Buffalo, N. Y.; Dr. H. G. Walcott, of Dallas, Tex., and Dr. T. E. Courtney, of Indianapolis, Ind., who rendered me valuable assistance in making systematic observations upon the work which I have briefly described above.

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## THE NEWER METHODS OF EXAMINING THE BLADDER.\*

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The methods of examination of the bladder which are at our disposal are: Inspection, percussion, palpation, exploration with the sound, exploration with the catheter, digital exploration, exploratory incision, examination by the x ray, and examination by direct illumination.

Of these methods all, with the exception of inspection, are of doubtful value. In the treatment of the bladder, the only method of examination which is of value is the x ray. The x ray is the only method of examination which is of value. The x ray is the only method of examination which is of value.

examination by the x ray and examination by direct illumination, have been in use for a great many years, and give us comparatively little, and usually unsatisfactory, information concerning diseases of the bladder. The last two mentioned are the more modern developments in the line of bladder examination, and of these examination by direct illumination, by means of the cystoscope, is the most exact and most satisfying. Each, however, of the methods enumerated gives us some information, and in order that none may be slighted I shall take them up in the order named.

**Inspection.**—This gives us no further information than to allow us to know at times—in thin individuals, that the bladder is distended. Under such circumstances we may, when the bladder is full, notice the elliptical or oval prominence in the hypogastric region, which reveals to us the presence of a distended bladder.

**Percussion.**—This method makes it possible for us to determine the degree of distention of the bladder by revealing to us the presence of an area of dullness in the hypogastric region. It is not positive either. Intestines, distended with gas, may overlie the bladder and interfere with the perception of dullness, or, if distended with feces, may simulate a distended bladder.

**Palpation.**—Palpation may be performed by either the simple or combined (or bimanual) method. It gives us more information than the previously mentioned methods. By the simple method, performed by the use of both hands upon the surface of the abdomen, we may make out the form of the bladder, its degree of distention, the character of the bladder wall with regard to irregularities, and its degree of sensitiveness. In thin individuals it is sometimes possible to determine the presence of calculi, if large, particularly in children. We may also, at times, diagnose the presence of pericystitis and paracystitis. It should be carried out with the patient lying upon the back, the shoulders being slightly raised, and the knees and hips flexed and properly supported. The bimanual method of palpation is carried out with the patient in the same position as for simple palpation, one hand examining the abdomen, and one or two fingers of the other hand being passed into the rectum, or vagina. This method is best carried out with an empty bladder. By means of it we may diagnose prostatic hypertrophy, hard tumors of the bladder wall, calculi, and decided infiltrations of the vesical wall. In females we may also diagnose vesicovaginal fistulae.

**Exploration with the Sound, or Sarcher.**—This examination should be carried out with the patient in the same position as in the former methods, and the bladder should contain a moderate amount of fluid. The sounds used may be either of metal, or of elastic material—rubber or silk or linen weave—covered with an elastic mass. The stone searchers are of various familiar models. It is assumed that the readers know all about the indications and contraindications for the passage of instruments, as well as the proper method of passing these. The beak of the instrument must enter into the bladder cavity, and the investigator must assure himself, before proceeding further, that it is freely movable in all directions. He may then measure the size of the bladder



by pushing forward the searcher in the middle line until it is arrested, and then noting the distance between this point and the bladder outlet. The sensibility of the bladder wall may also be noted. In some spinal diseases, notably locomotor ataxia, the vesical wall is singularly anæsthetic. In cases of ulceration it is very sensitive. The character of the bladder wall must also be noted—whether smooth, or rough, as in columnar bladder. It is also possible, with the sound or searcher, to palpate the protrusion of an enlarged prostate. Foreign bodies may be discovered by means of the sensation imparted to the instrument. It is often, but not always, possible, in cases of stone, when using a metallic instrument, to get a distinct click. When using an elastic instrument it, however, often occurs that a sensation as of the catheter's grating upon a foreign body is experienced, which, upon investigation, proves to have been due only to the spasmodic gripping of the catheter by the sphincter muscle. Experts in the use of the searcher, or lithotrite, may even determine the presence of multiple calculi by using the lithotrite and seizing the stones separately. In some children, too small for the use of the cystoscope, a small metallic catheter may be used as a searcher. The use of the sound, or searcher, leaves us entirely in the lurch in determining the presence or absence of tumors.

*Exploration with the Catheter.*—The chief use of this method is in determining the power of the bladder to fully empty itself, and in measuring the amount of residual urine. It is of value in cases of retention, suspected to be of prostatic origin, in which there is no hypertrophy palpable per rectum, and particularly in the examination of cases of suspected tabes, where, in the absence of any discoverable organic obstruction in the urethra or bladder, the patient has a large amount of residual urine, with a perfectly capable detrusor. I have been able to make the diagnosis of tabes in the early stage, in a number of instances, through the discovery of large amounts of residual urine in the absence of organic obstruction of the urethra. This diagnosis should, however, never be made without the corroboration of cystoscopy. The catheter is also of value in determining the amount of intravesical pressure.

*Digital Exploration.*—This may be of value in women. In such cases preliminary dilatation of the urethra is necessary. It is possible, by means of this method, to explore the interior of the bladder, and to determine the presence of foreign bodies or calculi, and the presence of tumors, if large. It is very unsatisfactory, however, in all cases except the determination of foreign bodies.

*Exploratory Incision.*—By means of the suprapubic incision it is possible to get a clear view of the entire interior of the bladder. Owing to the nature of the operation, however, it should never be employed until a satisfactory cystoscopic examination proves to be an impossibility.

*The X-Ray.*—It is one of the valuable methods to employ, when employed by a competent roentgenologist, the presence of foreign bodies and of calculi, in some instances. After filling the bladder with a ten per cent. bismuth sulphate solution, we are enabled to discover calculi and fibroids. It is

however, of no value in the determination of inflammatory conditions, new growths, etc.

All of these methods, however, when all is said and done, are uncertain and unsatisfactory, with the exception of the exploratory incision, and this is a procedure of so grave a nature that, as stated before, it should only be employed when all other methods fail.

*Cystoscopy.*—The certain method of examination of the bladder is, and must remain, the method of direct illumination, by means of the cystoscope, for no other method gives us so much information as this. Where any stiff instrument can be passed at all into the bladder, the cystoscope may be employed. I have examined with it children as young as four years, and I feel confident that, were the need to arise, I should be able to examine even younger children with it. While cystoscopy is not free from dangers, particularly in the hands of inexperienced or careless operators, it offers, when properly and carefully employed, the minimum of danger and the maximum of utility.

There are two methods of examination—or rather two types of instruments—those for direct vision and those for indirect. The instruments of the direct vision type are all modifications of the principle first laid down by Bozzini, who, in 1806, first proposed a method for examining the various canals of the body by means of his so called "light carrier." Of the instruments in use at the present day those of Pawlik-Kelly and Brenner, with their modifications, are the representatives of the direct method. The indirect method is that of Nitze, and the instruments employed are all modifications of Nitze's original prismatic cystoscope.

We are all sufficiently familiar with the instruments, so I may pass over the descriptions thereof, and content myself with the statement that, while the straight telescopic instruments have the advantage that they do not invert the image, they suffer from the disadvantage that there are parts of the bladder interior which cannot be seen when such instruments are used. By means of the prismatic cystoscope, however, every part of the bladder wall may be brought into the field of vision, and to the experienced cystoscopist the inversion of the image forms no obstacle whatever to correct examination and interpretation. Recently Jacoby, of Berlin, has devised an attachment which screws on to the ocular end of the cystoscope, by means of which the inverted image may be restored to its original position. In other words, the inversion is corrected. The instruments of the Pawlik-Kelly type may be dismissed with few words. Where these instruments may be used, those of either the straight vision telescopic, or the prismatic types may be employed, and whereas the Pawlik-Kelly are of utility only in the female, those of the other two classes may be employed in both sexes. The knee elbow position, also, required for the employment of the Pawlik-Kelly cystoscope, is distasteful to most patients and uncomfortable; while, by the employment of the other two types of instruments, the comfort of the patient is much more easily secured. Certainly, those families who, after having been repeatedly subjected to the Pawlik-Kelly method, have been cured by me, by

the Nitze method, have invariably expressed a great preference for the latter.

In order to successfully cystoscope a patient, whether male or female, there are several conditions which are requisite. In the first place, the operator must understand the construction of his instrument and the accidents to which it is subject. Nothing is more distressing or disturbing to both operator and patient than the frequent removal and insertion of an instrument which has met with some accident. The instrument must always be thoroughly tested, both as regards its electrical and its optical apparatus, before it is inserted into the urethra of the patient, and whatever may be at fault must be remedied. Lamps should be tested slightly beyond the limit at which they are going to be employed, in order that they may be less likely to burn out after insertion into the bladder. The electrical source also must be examined, in order that there may be no trouble with this. Either the storage battery, or the wet cell battery, or the street current, cut down to the proper strength by means of a controller, may be employed.

The urethra of the patient to be examined must allow of the easy passage of the instrument to be used at the examination. For the examination of children, the specially small cystoscope, made particularly for this purpose, should be employed. Instruments of this type may be had of a calibre as small as No. 14 Charrière, and it is a good plan for the cystoscopist to have instruments of various calibres. In the presence of stricture of the urethra, where an immediate examination is not possible with the use of the smaller sized instruments, which, of necessity, have a smaller field of vision than the larger instruments, preliminary dilatation of the stricture must, of course, be employed. The meatus may, in males, also have to be enlarged by incision. In females I have never had any difficulty in examination, as a result of obstructive urethral conditions.

Another requisite is that the bladder shall be capable of a sufficient degree of distention to make free excursion of the beak of the instrument possible. It has always been my practice to use as large an amount of filling fluid as the patient would tolerate with comfort. In males, whenever possible, I employ 300 c.c.; in females as much over that as the patient will tolerate with comfort. In infants I have had to examine with as little as 50 to 75 c.c., although one is frequently surprised at the degree of distensibility of the bladder of the infant. Opinions vary as to the minimum of fluid which may be employed with safety. I have repeatedly had to cystoscope adults with as little as 60 to 75 c.c., although I must confess that I do this with trepidation. It is a safe rule to follow that in those cases which do not tolerate at least 75 to 100 c.c. of fluid, it is wiser to postpone the cystoscopy until such a time as treatment of the bladder has made such a degree of distensibility possible. Where vesical sensitiveness is pronounced, the use of cocaine solution will frequently suffice to make safe distension possible. Only where an immediate cystoscopy is urgently indicated should one venture to cystoscope with less than 75 c.c., and then it must be done by interrupting the illumination at intervals of two to three seconds—in other words, the light is turned on for from two

to three seconds, and then at once turned off, this manoeuvre being repeated at intervals of about 10 seconds, in order that the lamp may have a chance to cool off, and cauterization of the bladder wall be avoided.

The bladder must be filled with a transparent medium, and to this end must be irrigated until the fluid used to cleanse the bladder returns perfectly clear. This is, at times, a very tedious process, and one which taxes the patience of the operator and patient to the utmost. Any bland, nonirritating fluid which is perfectly transparent may be employed, such as sterilized water, or sterilized normal saline solution, boric acid solution, oxycyanate of mercury, etc. It is a matter of great importance to have the fluid perfectly clear, for even a slight macroscopic turbidity may be just enough to render hazy the pictures seen with the cystoscope.

In cleansing the bladder, I have found it of service to note whether the fluid steadily clears, remains turbid, or clears and then suddenly again becomes turbid. If it steadily clears the operator need only persevere in the simple cleansing. Should it remain steadily turbid with blood, then it is wise, at times, to postpone the further irrigation and examination until after the employment, for a time, of a solution of adrenalin chloride. I have found this of great value in checking the hæmorrhage from vesical ulcers, or bleeding tumors. Where the fluid clears temporarily and then again becomes turbid, with either pus or blood, we are almost certain to have to deal with a suppurative, or bleeding process, of renal origin. In cases of this sort I have repeatedly had to examine with slightly turbid fluid. In such cases it has been my custom to cleanse, as far as possible, and when the fluid returned relatively clear, to insert the cystoscope and examine only the ureteral orifices at that sitting. At a later sitting the examination may be completed.

Air has also been used to fill the bladder, and has its supporters still. Most cystoscopists, however, prefer to fill with a fluid medium.

Another requisite is that the light shall be sufficiently powerful to clearly illuminate the bladder wall. In my examinations I have been wont to follow the directions given by Nitze, who stated that the light must be such as to have a dazzling white brilliancy outside of the bladder, and to be of sufficient strength to penetrate the filling fluid, and clearly and distinctly illuminate the bladder wall. As a result I have been forced to have stronger lamps than are usually furnished us in this country constructed for me, my lamps requiring 8 volts and  $\frac{1}{2}$  ampère. These are not of the so called "cold" type, and must be used with caution, so as not to burn the bladder wall; but the degree of illumination possible by means of them, and the clearness of the picture obtained with them, are such as to amply repay the additional care required in their use.

When a cystoscopy is to be performed my method of procedure is as follows: The patient is instructed to divest himself or herself of sufficient clothing to make it possible easily to reach and cleanse the genital organs. The patient is then placed upon the examining table in such a position as to give him or her the greatest possible comfort. I have found that a fully supine position is not desirable, since the



abdominal muscles are not sufficiently relaxed. The back rest is, therefore, raised at a slight angle, and the head and back made comfortable with pillows. The buttocks are approached as near as possible to the edge of the table, and the knees and thighs supported by the knee rests which I have devised. The thighs are then well separated and the external genitals thoroughly cleansed. The urethral canal is then irrigated with a solution of 1 in 20,000 bichloride (about 150 c.c. in amount) and a sterilized catheter inserted. Where necessary, in the male, the posterior urethra is anesthetized by the injection into it of a few c.c. of 1 per cent. solution of cocaine. In drawing off the urine in the male, I prefer to employ, where possible, a metallic catheter of about 22 French, since, if this passes easily, there is no longer any doubt concerning the passage of the cystoscope, which has a calibre of 21 French. The character of the urine is determined, as also its turbidity, or clearness. Should the urine be clear I at once proceed to the filling of the bladder. Should it be cloudy then the bladder is washed out until the fluid returns clear. A similar procedure is employed in the female, except that the ordinary female catheter suffices. The bladder having been distended, the cystoscope is now gently inserted. After assuring myself that the beak is really within the bladder cavity, which fact may be determined by rotating the instrument gently upon its axis, so that the beak is rotated within the bladder cavity, I proceed, in the female, to get an idea with regard to the size of the bladder, by employing the unlighted cystoscope to get the measurements of the bladder cavity. The beak of the cystoscope is pushed forward in the middle line until it is arrested, and the distance between this point and the vesical orifice noted. Thereupon I proceed to inform myself concerning the measurements, in a lateral diagonal direction, and, having determined these measurements, proceed with the examination. In the male, however, owing to the greater length of the urethra, these manipulations are impossible.

A regular routine is of value in the examination of the bladder. The margin of the sphincter and its surroundings should first be examined. The upper vesical wall comes next. The lateral walls follow upon this, and then the inspection of the posterior wall, and the trigone, as well as the posterolateral portions. Last comes the inspection of the ureteral orifices, and I usually end the examination by watching these orifices to determine the character of the urine which is discharged therefrom. We may, however, particularly where we suspect the ureters or kidneys, reverse this routine.

By means of the cystoscope we are able to determine whether the sphincter margins are normal or diseased—that is, whether inflammatory changes, papillomatous formations, or defects, etc., are present; whether the bladder wall is the seat, at any point, of inflammatory conditions, varying in degree from simple hyperemia to ulcerative or hemorrhagic changes; whether there are nodules, vesicles, new growths, diverticula; whether the bladder cavity is encroached upon by tumors from without; whether it is the seat of hypertrophied muscles, or whether it shows the scirrhus incrustations of proctitis, or the vesicles of ordema bullum, which

denote that a perivesical process impedes the circulation in the vesical wall; whether foreign bodies or calculi are present; whether there is prostatic hypertrophy or cystocele; whether the trigone is normal or the seat of inflammations or new growths; whether the ureteral orifices are both present; whether they are normal in location, in shape, in condition; whether they are singly or both discharging urine, or blood, or pus; if foreign bodies are present or tumors exist, the character and nature of the foreign body, the size and shape, and the probable character of new growths, and of ulcerations.

The injection of indigo carmine into the buttocks and the internal administration of methylen blue have been employed to serve as aids in locating the ureteral orifices in cases where their location is not otherwise easy. By their use the injection of a stream of colored fluid from the ureteral orifice serves to determine the presence, or absence, of a ureter, or functioning kidney. Of the two methods the former is preferable, since its result shows after a much shorter period of time than is the case when methylen blue is employed.

Recently there have been devised a cystoscope for the demonstration of the image to two observers at the same time, for use in teaching cystoscopy, one for stereoscopic presentation of the image, and one for retrograde examination, by means of which those parts just behind the vesical orifice, or behind an enlarged prostate, may be examined more easily and perfectly than is possible with the ordinary examining instrument.

None of these, however, has a broad field of usefulness. The prismatic type of cystoscope, as originally presented by Nitze, in 1879, is and will remain the instrument par excellence for the satisfactory examination of the bladder.

53 EAST FIFTY-EIGHTH STREET.

#### SOME REMARKS ON OCCIPITOPOSTERIOR POSITIONS.\*

By L. M. MICHAELIS, M. D.,  
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Recognizing the obstetric importance of posterior positions of the occiput, and also the fact that the older textbooks were much too conservative in their estimates of the frequency of the occurrence of this position, the profession has of late years been paying more and more attention to the subject, as evidenced by the number of papers written on it, as well as by the interest shown in their discussion. Because the remarks I am about to make are the result of personal experience, I venture to add another paper, even though it be sketchy in character, to this growing list; for, to my mind, the fact cannot be too often reiterated that much maternal suffering, and, at times, danger, and also much fetal mortality can be avoided by the early recognition and prompt treatment of this obstetric annoyance.

Very many women have the occiput lying posteriorly at the very commencement of labor, but the position is rectified almost immediately, and hence these cases do not enter into consideration here.

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What the proportion of such cases is I will not venture to estimate. Let it suffice to state that the number is unquestionably very large. As for those in which the diagnosis is made, I find that in my own practice the number amounts to 30 per cent. in the last 100 cases which I have had, and I do not think that my experience differs materially from that of others interested in obstetric work.

We were taught that the reasons for the occiput being situated posteriorly were disproportion between passenger and passageway, excess of liquor amnii, and abnormal mobility of the child. In addition, I find that either combined with, or caused by these factors, or very often entirely independent of them and in their absence, incomplete flexion of the head is the underlying causative element. This latter, rather than the others mentioned, has been the cause in the large majority of my own cases, and its action in producing the posterior position is readily understood when one reflects on the improper adjustment of head to pelvis caused thereby, with the resulting tendency of the occiput to impinge on the posterior pelvic plane, and to be thus rotated toward the back, where it can more readily accommodate itself.

In many cases the diagnosis is easily made by examination, for the anterior fontanelle is found in front, while on palpation of the abdomen the depression between chin and chest of the child and the presence of small parts instead of the foetal back are plainly to be established. The position of the point of maximum intensity of the foetal heart sounds further confirms the diagnosis, for it lies quite off in the flank, well toward the mother's back. Yet where we find a case in which none of these points can be made out, where owing either to slight moulding or to a naturally small anterior fontanelle it is indistinguishable from the posterior, and where, in addition, the foetal heart is heard in the usual position for anterior occiput cases, and where neither depression nor small parts can be felt through the abdomen, we are apt, on having the child born looking up into our astonished faces, to feel deeply the uncertainty of things mundane. How, then, are we to arrive at a correct diagnosis? Here the general behavior of the case is of great assistance to us. In vertex presentations the early rupture of the membranes speaks for a posterior occiput in an overwhelming majority of cases. When this happens in anterior positions it is due either to excess of liquor amnii or to specially strong uterine contractions, thus putting an undue strain on the membranes, or to the fact that the membranes themselves are inherently weak. In posterior positions the undue strain is caused by the maladjustment between head and pelvis, for thereby neither the uterine contractions nor the resulting intrauterine pressure are equally distributed, while at the same time the bag of waters has not the regular globular shape which it should have normally. Thus, I always regard with suspicion a case in which rupture of the membranes precedes or is synchronous with the onset of labor. Owing also to the unfavorable mechanical conditions under which the uterus must act, due not only to this same maladjustment, but to the absence of the watery wedge as well, dilatation of the os is mark-

edly retarded, the first stage being, as a rule, unduly prolonged. This means that the woman suffers more than ordinarily from the trying pains of the first stage, with the not uncommon result of more or less complete maternal exhaustion before the os is fully dilated. Some observers mention a decided increase of the pain in the back in these cases. Personally I have never been able to confirm this symptom. Therefore, in the absence of any other complication, the man who makes the diagnosis of posterior position of the occiput from these two symptoms, early rupture of the membranes and slow dilatation, will seldom go far astray. Of course, if on vaginal examination an ear can be felt and its position positively learned, the diagnosis is easily and surely established.

If after full dilatation of the os the position of the vertex is not rectified, the tardy progress of labor continues on into the second stage, for the relation between the head in the posterior occipital position and the pelvis, and, frequently, an incompletely flexed head as well, is a decidedly unfavorable one mechanically. Naturally this is extremely apt to lead to further exhaustion on the part of the mother, and also to danger to the life of the child, because of the prolonged pressure on the head. In all cases, since the head is forced down on the cervix early in labor without the protective interposition of the liquor amnii, danger to that part of the uterus from grinding is greatly increased, while in those in which the posterior position persists throughout labor, perineal laceration is the almost invariable sequel. That there is grave danger of rupture of the uterus after long continued expulsive efforts in cases of impacted posterior occiput goes without saying, but as my object is to speak of the ordinary uncomplicated cases of this condition, I will not enter further into the discussion of these complicated ones here.

In regard to treatment, our efforts are at first directed to rectifying the malposition, converting it, if possible, by both postural and manual methods into an occipitoanterior position. This happy outcome is frequently obtained by having the patient lie on that side of the body toward which the occiput is directed. As she does this the fundus falls forward, to the side, and slightly upward, and the child's body consequently tends to be flexed on the head, and at the same time its back is thrown anteriorly, carrying the occiput with it, while the head, raised slightly out of the pelvis, can, and frequently does, impinge on the anterior plane during subsequent uterine contractions, and rotation is thus promptly and satisfactorily effected. As a substitute for this position the patient may kneel on the floor with a pillow under her knees, which is placed a little distance from the bed on which she rests her head and arms, while at the same time she advances the side toward which the occiput points somewhat more than the opposite one. This position acts exactly as does the lateral one, except that as the angle at which she leans away from the perpendicular is increased, the fundus is thrown further forward, augmenting the tendency to anterior rotation. The drawback to this kneeling posture is its discomfort; yet even though it is very uncomfortable for the woman in pain to kneel

at her bedside, it is decidedly preferable to the condition which it tends to obviate. For the matter of that, the lateral posture is frequently a source of discomfort to the patients, and I therefore let them alternate one with the other. The success of this treatment is marked, and the desired result is attained in a large number of cases. Unfortunately, this is not true in all, and in those in which it has failed I then proceed to attempt manual rectification, provided the os is sufficiently dilated to permit the necessary manipulation—in other words, that it is at least the size of a quarter of a dollar. The first step is the attempt to flex the head and then to keep it flexed during several successive pains. This in itself is often sufficient to cause anterior rotation, as mentioned before. If it is not, the next step is the effort to rotate the head manually. Two fingers are introduced, and, after the head is flexed, pressure in an anterior direction is made by them on the occiput with the object of bringing it to the front of the pelvis, while at the same time the other hand is used to assist rotation through the abdominal wall by pressing the trunk of the child upward and forward. This is most often successful when the head is just at or above the brim; when it is firmly wedged in the pelvis it is hardly necessary to say that this procedure is futile, except in very exceptional instances, until the ischial spines are passed. At this point in the pelvis, however, rotation is more readily effected with the forceps than with the hand.

In the presence of maternal or fetal exhaustion it is necessary to anesthetize the patient carefully, complete the dilatation manually if indicated, and then, after thorough flexion of the head has been obtained, apply the forceps. It frequently happens that in the presence of good flexion, the head plus the forceps will rotate anteriorly very soon after traction is commenced, provided the application is made with the head just engaged in the brim. This, of course, necessitates the removal and readjustment of the instruments. If anterior rotation does not occur then, it will, in most cases, when the ischial spines are passed and the head impinges on the pelvic floor. Rotary axis traction as described by Marx, in which the deliberate attempt is made to rotate the head with the forceps while making traction, is an operation which gives brilliant results, but it calls not only for operative skill on the part of the accoucher, but for absolute certainty in regard to the diagnosis and accurate knowledge of the mechanism involved as well. In the absence of these prerequisites it should not be undertaken, for it is then fraught with danger to the mother and vastly greater danger to the child.

As for podalic version in preference to the use of the forceps I have but a few words to say. Naturally, the indications for this operation, other than the position of the head, obtain here as elsewhere, but when it is thought of as a remedial measure for the malposition alone, I feel that the indications for its employment are extremely limited. When the head is absolutely free above the brim and operative interference is called for, a condition very rare indeed, then and then only, to be used, is very well indicated. Such an entirely uncomplicated condition, by which I mean uncomplicated by any

of the ordinary accidents of labor, would be the very exceptional one of early maternal exhaustion, or the equally exceptional one of essential uterine atony. In the vast majority of cases the liquor amnii has drained away, the uterus is more or less firmly contracted on the body of the child, and the performance of version, or rather, forced version, in such cases endangers both mother and child. Therefore, except in these few, rare cases, whenever operative delivery is called for, the forceps is indicated.

In all cases, but especially in those in which instrumental delivery has been performed, means for the resuscitation of the child should always be at hand, for the probability of its being born in a state of suspended animation is a complication with which, almost invariably, we are called upon to contend.

1090 LEXINGTON AVENUE.

## THE BLOOD CONSERVATISM OF NEUROTIC INDIVIDUALS.

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We frequently notice the extreme pallor of certain persons, and noting it wonder how in the world they can exist and accomplish what they do, for frequently they are exceptionally active. The popular answer is: "O! they are living on their nerve." And we rest content with acknowledging that neurotics never die, while apparently healthy looking people easily succumb to disease and injury. "Never despair of a neurotic" ought to be as familiar a phrase as "never despair of a sick child."

It has been scientifically demonstrated that the blood of these same neurotics is not the blood of an anæmic person, howsoever much in other respects they may resemble one another; but the pallor of the one is not the pallor of the other; that of the neurotic is due to the absence of blood in the capillaries of the skin, and not as in the anæmic due to the presence in them of a blood poor in corpuscles. This blood circulates in the superficial capillaries of his skin and gives him the typical pasty, sometimes rosy, puffy appearances of the anæmic; while, on the other hand, the neurotic has empty capillaries in his skin. It has been scientifically demonstrated that if his skin is pricked with a needle no blood issues from the puncture, showing that there is an absence of blood in the capillaries of the skin, while in the case of the anæmic a thin, watery, reddish fluid issues, denoting the presence of a poor quality of blood. The neurotic is a shrewd individual; whether consciously or unconsciously so one cannot perhaps say, though my experience of him is that in many respects he is consciously so; though probably in this one respect I must admit that it is unconsciously that he regulates his blood supply for his own best interests. Nature wisely attempts to make a good use of the small amount of blood which such a person manufactures, normal in quality, but sub-normal in quantity, and therefore not sufficient for all the requirements of the body. To this come



mize she restricts the flow to the skin, allowing merely sufficient to maintain the skin in a condition of living, not of health, however, for the skin is tough and leathery, due to poor vascular supply; but it furnishes a covering for the body, even if its other functions are not performed. The bulk of the small blood supply of the body in these cases is sent to the most vital structures, and they are maintained in a fair degree of health, and to all appearances the person performs the ordinary and sometimes extraordinary duties of life as well as his more robust looking brother. Very often considerable of this scant supply goes to the brain and spinal cord, and a well nourished nervous system, even if it be in a neurotic person, regulates the other systems. His efforts may be spasmodic, but generally they are fit for the occasion. Never despair of one of these pallid workers flunking his duty, when necessity or ambition make demands upon him. The proverbial pallor of the hard student is accounted for in this same way; the bulk of his blood supply going to nourish his brain.

There is, on the other hand, the rosy neurotic, less often seen, who is also anæmic, and to whose skin considerable blood is supplied; there is not in this case the conservatism of the other, nor is the blood of such good quality. The skin in the pallid case is rather a foreign covering and not the true covering of a human body.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXII.—How do you treat fracture of the patella? (Closed March 16, 1908.)

LXXIII.—How do you treat seasickness? (Answers due not later than April 15, 1908.)

LXXIV.—How do you treat sunstroke? (Answers due not later than May 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXI has been awarded to Dr. Frank B. Kirby, of Philadelphia, whose article appears below.

### PRIZE QUESTION NO. LXXI.

#### HOW DO YOU TREAT GALLSTONE COLIC?

By FRANK B. KIRBY, M. D.,  
Philadelphia.

A case of gallstone colic demands immediate anodyne treatment. I give at once chloroform inhalations or a hypodermic injection of morphine sulphate  $\frac{1}{4}$  grain and atropine sulphate 1/100 grain, repeated in half an hour if necessary; externally the hot turpentine stupe or mustard plaster over the gallbladder. However, if the case is mild

in character, with slight pain, it will be relieved by

B Strychnine sulphate, ..... 1/60 grain;  
Ilyosecamine sulphate, ..... 1/250 grain;  
Nitroglycerin, ..... 1/200 grain.

with hot water, repeated every ten minutes to effect, usually three or four doses.

After pain the next most urgent symptom may be vomiting, although this may be slight or absent. If slight, it tends to overcome the spasm of the muscular structure of the duct, and if severe the drugs already used will tend to correct this trouble.

A third concomitant symptom is jaundice; this also may be absent. Jaundice is corrected by the use of the hot pack and fractional doses of calomel, say 1/6 grain for eight to ten doses to aid the emunctories, skin, kidneys, and intestines, without the usual subsequent saline, as the liver needs what bile is in the intestines to be absorbed for future use. The saline would cause a diarrhoea, and deprive the body of the valuable bile salts.

We determine the gravity of the situation after relief of its most urgent symptoms. Should we get a hectic temperature with leucocytosis and physical signs of distended gallbladder, all pointing to pus formation, we urge early cholecystotomy and removal of the stone. Should we decide on its benign character we give palliative treatment. This in effect is prophylactic as well.

Realizing its pathology we recognize no danger from the concretion *per se*, any more than a bullet encapsulated in the tissues. But as a possible cause of future trouble we determine on (1) the solution of the stone, and equally as important, (2) comparative intestinal asepsis. These we accomplish by the use of sodium glycocholate mass in three grain doses four times daily, with five grain doses of sodium succinate during several months. The former is one of the few true chologogue drugs, the latter has distinct value as an antiseptic and solvent for the concretion. Sodium succinate may be replaced by salol or sodium salicylate in the same dose.

The foregoing deals directly with the stone already formed. But true prophylactic treatment will not only prevent the hepatic colic of existing stones, but prevent the formation of other stones. Gallstones are chemically, cholesterin and calcium bilirubinate, which are only precipitated from bile, to form stones, by being in excess over their natural solvents, the glycocholate and taurocholate of sodium. This change is probably due to hepatic torpor and intestinal toxæmia, due to constipation and the sedentary habit.

I have never seen good results from the use of olive oil, and, in fact, restrict fats in the diet, also meat, substituting fruits and vegetables. It is also best to omit tea and coffee, and advise the free use of water. Walking in the open air is of value.

Exercise, correct diet, intestinal antiseptics with chologogue drugs form the keynote in the prophylaxis of gallstone colic.

5525 WOODLAND AVENUE.

Dr. Nathan Rosewater, of Cleveland, Ohio, says:

Diagnosis of gallstone colic being established, immediate treatment of the colic with a hypodermic injection of 1/6 to 1/4 grain of morphine sulphate, preferably combined with 1/150 to 1/100 grain of atropine sulphate, will usually relieve the



pain, control spasm, and correct the nausea and vomiting if reflexly present. Chloroform or ether may be used internally in small doses (5 to 10 drops), or by inhalation, if immediate relief is desired before the hypodermatic injection can be effective, or, in very mild attacks, these may answer alone.

When the pulse is intermittent and rapid, or the tension high, amyl nitrite by inhalation or nitroglycerin hypodermatically will aid in relieving spasm of the ducts as well as improve the circulation, provided the heart is strong. If not, 1/30 grain strychnine sulphate can be given. Hot applications or fomentations over the hepatic area are preferable to cold for quick relief. In extreme cases, with symptoms of shock, weak pulse, and cold extremities, hot applications to the extremities and entire body should be kept up. The colic may subside after the first dose of morphine and not recur, or more doses may be needed every few hours or hourly to relieve pain and induce sleep if needed. Be watchful lest you are not one of several physicians called in quick succession, each in turn administering a hypodermatic injection of morphine, unaware of previous dosages, with final fatal result, as is said to have occurred in the case of an ignorant patient thus treated for some painful malady.

Recurrence of attacks.—Gallstone colic can recur so long as irritating stones are present to provoke them, to prevent which, as well as to relieve the immediate attack if severe and threatening life, the immediate or remote removal of the gallstones must be seriously considered by all concerned, best of all, including a clinician and a surgeon, thus giving due weight to both surgical and nonsurgical advantages. In spite of urgent advice to submit to operation, the family or patient may refuse and prefer to temporize. This forces on us the question, have we a nonsurgical or medical treatment for gallstone colic recurrence, aside from the immediate relief? My answer is, yes. The history of large numbers of cases of permanent recoveries after medical treatment, by cautious observers, is not to be ignored. Surgical treatment, though far oftener positively preventive, is not in every case so, so that while medical treatment has its limitations and may result in a history of prevention which is debatable, let us not forget that absolute proof of prevention of anything is impossible, so, too, even after no recurrence of gallstone colic for years following any treatment, not even the post mortem examination can prove an actual prevention of gallstone colic. No removal of the stone, without the knife, can be expected where stones are too large to pass the ducts or where contractions or adhesions or other mechanical obstructions exist, unless by some solvent action on the stones. These cases of almost inevitable failure of medical treatment may cast ridicule upon such treatment in general, but should not lessen our ardor and confidence in the ever widening field of medical therapeutics, and if these causes for failure are frankly stated in advance to the patient he will the more readily give his consent for final operation.

Medical treatment to prevent recurrence of gallstone colic must consider the coexisting factors in

its production, to determine what means are applicable in preventing recurrence.

The coexisting factors are: 1st, the gallstones, which of themselves can remain dormant through life and not give rise to colic; 2d, the conditions that are said to produce the stones, of which we know nothing positive; 3d, the vulnerability and sensitiveness of the area involved—here we may have constitutional and local conditions, luetic, lithæmic, toxic, local inflammation, etc.; 4th, a study of the conditions that provoke an attack, such as drag, motion causing friction, spasm, passage of stone, temperamental conditions, diet, habits, acute infection, etc. Thus, removal of gallstones, as also preventing gallstone formation, prevents attacks, so, too, rendering the involved area invulnerable or insensitive to pain would also do so, and, again, if the conditions can be sufficiently modified, as by dilating the ducts or softening or dissolving enough of the surface of the stones to make them smaller, or lubricating their path enough to make them slip onward, or by relieving a spasm which is holding them too tightly, each of these would thus act as an agent for inhibiting attacks.

Motion during an attack and even afterward should be limited, as it tends to increase local irritation and colic. During the attack this is best favored by the recumbent position, with legs flexed, or changed to any position affording relief; elevation of the foot of the bed will also be useful, especially to the obese, in overcoming traction upon the gallbladder and ducts, and still more so if adhesions aid in causing the colic or in cases of enteroptosis and hepatoptosis. By partially immobilizing the epigastrium, and especially the gallbladder region, lifting up and supporting the belly by means of 3 inch wide strips of zinc oxide adhesive plaster, which method I have fully described in Dr. Rose's *Atonia Gastrica* (pp. 96-120), I prevent traction upon the irritated bladder and ducts, and my patients sometimes secure great relief, one patient thereafter doing her housework and a large washing for a number of months, although tenderness and pain on pressure repeatedly showed that the gallstone condition, though present, was absolutely relieved by the supporting bandages. Subsequent operation revealing a large number of small stones in the gallbladder. This supporting bandage gives relief not alone from traction upon adhesions, but it prevents elongation and consequent narrowing of the ducts and bloodvessels by gravitating drag, enables some stones that are too large to pass the narrowed ducts to escape more readily because such support restores the ducts to greater and more nearly normal calibre, and renders them less irritable and sensitive to the passage of stones. While the Gallant corset or the abdominal belts also give similar support, they are not so effective. Rest from irritation, friction, and spasm can be given by antispasmodics and lubricants. Possibly stones are held by spasm in the ducts, just as a string is held in the oesophagus or urethra. Relief of the spasm by morphine, atropine, ether, chloroform, etc., may be the means of allowing such stones to pass. So, too, local applications of heat, fomentations, etc., counter treatments such as mustard, relieve not only the colic, but also the irritability and local congestion. Lubricants, including oils such as olive oil,

oleate of soda (castile soap), have been reported by many careful observers as aids in expelling the stones, acting by mechanically overcoming spasm, as oils do in pylorospasm. Probably the oil reaches the ducts in a circuitous route through its property of rising above its normal level in its containers or through antiperistalsis.

The origin of gallstones from infection is urged by some, and suggests studying in each case the nature of any possible infection that could render this area vulnerable, and any traceable, constitutional, or infectious cause should be treated, be it of a malarial, colon, typhoid, luetic, rheumatic, or tuberculous origin. The benefit derived from salicylic acid and its alkaline salts in so large a number of cases, and its usefulness in various infections accompanying rheumatism, whether as cause or complication, may be accredited to its antimicrobial action locally and constitutionally. So commonly have I observed rheumatic symptoms accompany as well as precede gallstone attacks that I have found in just such cases, both during and following the attack, very great satisfaction in the use of sodium salicylate in doses of 10 to 15 grains dissolved in a half glass of water every three hours for the first day of the attack, and later one or two hours before meals and at bedtime. I cannot recall a case in which it disagreed with the patient. At the hours named there should be no undigested food in the stomach, so that it can scarcely inhibit gastric digestion, while it inhibits fermentation and putrefaction, until later on it is absorbed by the villi into the blood. Its prolonged use I have never seen followed by albuminuria or by any toxic effect, nor have I, as a very heavy prescriber of it, used any of the so called salicylates made from oil of wintergreen. Its action as a solvent of uratic deposits may also explain its virtues in these cases.

Serum therapy may be useful when perfected, and we are able to more accurately diagnosticate those cases due to a specific infection.

The value of mercury in many infections is well established, and many have recommended it in the preventive treatment of gallstone recurrence, its effect as observed being due to its local antiseptic as well as to its constitutional effect, and no doubt in luetic and other infections it may be preferable. These and other drugs, by inhibiting or destroying infection of the irritated area, and by thus limiting inflammatory processes if present, have a special place in rational treatment.

Cholagogues.—Whatever tends to increase the fluidity and volume of bile may aid in flushing out small concretions; for this purpose plenty of water, sojourn at watering places such as Vichy, Carlsbad, etc., are reputed of special benefit. Constipation being an acknowledged aetiological factor, the drinking of quantities of laxative and cathartic waters, the long stay and constant use of these at watering places, keep the intestinal canal flushed and prevent stasis in the portal circulation, thus favoring a normal hepatic circulation and a free flow of bile, factors tending slowly toward restoration to the normal of the involved area. The cholagogue action of sodium sulphate, sodium phosphate, and alkaline salts generally may explain their reputed efficiency in such cases. To this list of cholagogues may be

added sodium cholate and fatty oils such as olive oil; the latter—acting also as a lubricant, perhaps too as a solvent—is worthy of trial in doses of one ounce before meals and at bedtime.

Diet also plays a part, and in certain cases, especially the lithæmic and autotoxic, on whom it is a most important element in treatment, also in the strictly gastric cases with digestive disorders, and in nephritics.

During paroxysms of colic withhold all food and give what is safest, water, preferably hot, and as much as can be tolerated, returning to usual diet by slow degrees. Gastric cases must be treated along individual lines.

In cases with a rheumatic, lithæmic, or nephritic history I give a diet, allowing only meats freed from their extractives (purin freed) by removing the first two, soups, and then preparing the meat for the table suitable to the culinary art. I allow no meat soups, nor tea, coffee, cacao, or chocolate, while sugar, starch foods, and fruits are restricted. Alcohol must be curtailed or prohibited, since its toxic action on the liver taxes this already overstrained organ. Well cooked vegetables are allowed, and those foods not specially interdicted. Avoidance of worry, cheerfulness of mind, pleasant surroundings, diversions of travel, etc., aid, especially when, as an aetiological factor, the mental and nervous influences act as deranging or exciting causes.

*Dr. W. Emory Hyskell, of Meadville, Pa., remarks:*

In view of the fact that gallstone colic is caused by the acute impaction of one or more gallstones in one of the large bileducts and is associated with intense pain, faintness, and more or less nausea and vomiting, the first thing to do in all severe cases is to give the patient a hypodermic injection of  $\frac{1}{4}$  to  $\frac{1}{2}$  grain morphine sulphate, combined with  $\frac{1}{100}$  grain atropine. This anodyne will have to be repeated often enough to give the patient a comparative degree of comfort. If the colic is very severe, it is well to give a few whiffs of chloroform to ease the pain till the morphine has time to act.

The morphine decreases the agonizing pain, and in conjunction with the atropine relaxes the spasm of the muscular layers of the biliary ducts. Frequently this relaxation allows the impacted stone to pass without further trouble.

Six or eight ounces of olive oil or one ounce of glycerin should be given during the attack of pain, as this aids in relaxing the spasm of the bileducts and has a good aperient action on the bowels. Hot fomentations or hot turpentine stupes should be placed over the liver, as they are soothing to the patient and also have a relaxing effect.

In severe cases give a laxative enema; in mild and in subacute cases give calomel in small frequently repeated doses until there is a free movement of the bowels; then watch the feces to see if any gallstones pass.

Keep the patient at rest in bed, and if the colic is very severe do not give any food or any water by the mouth, except in small amounts to relieve thirst, as it would excite peristalsis and increase any existing inflammation or local peritonitis that might be present. Give nutrient enemata instead.



As soon as the pain is lessened enough to permit you to do so, take a full history of the case, noting especially if the patient has ever had any similar attacks, and make a thorough examination of all the thoracic and abdominal viscera, thus making sure of your diagnosis and ascertaining if there is any other diseased conditions present with which you have to deal. Also get a specimen of urine and examine it for bile and for any existing disease of the kidneys.

If the severe pain lasts more than a few hours, if there is much enlargement or tenderness of the gallbladder, or if there is high or irregular temperature, call in a surgeon in consultation, with view to operating if it becomes necessary.

In order to carry out the farther treatment of gallstone colic intelligently, it will be necessary to study the causes of gallstone formation and adapt your treatment according to the indications of each individual case. The following are the most usual predisposing causes:

1. Cholangitis and cholecystitis.—The inflammation produces an excess of mucin and diminishes the alkalinity of the bile. This allows the calcium salts and the cholesterol to combine with the mucin and form a nidus for gallstones.

2. Gouty and allied diatheses.

3. Infection.—Bacteria gain entrance into the bileducts and gallbladder by way of the common duct, the bloodvessels, or the lymph channels, keep up the inflammation, and sometimes form nuclei for gallstones.

4. Stagnation of bile.

5. Digestive disturbances.—These produce inflammation, which often extends to the bileducts and gallbladder.

6. Circulatory disturbances.—Congestion of the liver interferes with biliary secretion and causes stagnation of bile.

The following treatment is adapted to patients after the severe pain of the first stage of gallstone colic is passed and to subacute and chronic cases. As no drugs can be given that will dissolve gallstones, the aim in our treatment should be to repair the damage already done and relieve all conditions that have a tendency to aid in the formation of others.

To those cases with inflammation of the biliary passages give sodium salicylate or sodium succinate to grains three times a day. This relieves inflammation, increases alkalinity, and checks infection. Phenolphthalein, 3 to 5 grains, can be combined to advantage with the salicylates. Oil of turpentine, 5 to 10 minims, in capsules, three or four times a day, gives brilliant results with some patients. Phenyl salicylate is a useful intestinal antiseptic. Ammonium chloride acts well in cholangitis.

Pure nitrohydrochloric acid, 3 to 5 minims, well diluted in water after meals, aids digestion and stimulates hepatic secretion.

Hepatic congestion should be relieved by the remedies that are indicated by the conditions producing the same. Heart tonics and stimulants may be indicated. If there is a tendency toward visceropneumonia, a well adjusted abdominal binder often gives relief.

A dose of effervescent sodium phosphate in a

glass of cool water, taken slowly each morning before breakfast, is a valuable adjunct to our other treatment. The phosphate stimulates the hepatic cells, acts as a laxative, and aids in the elimination of the byproducts of metabolism.

The Spa treatment often gives good results, and should be recommended in suitable cases. The alkaline laxative waters are very useful if taken properly and faithfully kept up.

All gastrointestinal troubles should be corrected. The food should be limited in amount, eaten slowly, and thoroughly masticated. It should contain plenty of green vegetables and fresh fruit, while the carbohydrates, hydrocarbons, fried foods, sweet cakes, all rich foods, and alcoholic beverages should be avoided.

Every patient, when at all able, should have plenty of well regulated exercise in the open air and sunshine. Exposure to wet should be interdicted. Horseback riding is the best exercise for patients with hepatic torpor, as it jolts the liver and causes the stagnant bile to flow on more freely, gives exercise to nearly all of the muscles of the body, affords pleasant diversion for the mind, and keeps the patient out in the open air and sunshine.

*Dr. Frederick Fletcher, of Columbus, Ohio, writes:*

The victim of an agonizing paroxysm of gallstone colic demands quick relief. And the physician invariably meets the emergency by instituting a time honored treatment. The suffering incident to an attack of colic may last from a few seconds to a week or longer. It is for this reason that the persistent treatment and variety of applied therapeutic measures are in keeping with the remissions and exacerbation of the symptoms.

Theoretically, the subcutaneous use of morphine and atropine, or the inhalations of chloroform, are indicated for the relief of the pain and spasm. And when this treatment is supplemented with rest in bed; a hot bath, the local use of dry heat, or poultices over the hepatic area; the giving of an enema, or the ingestion of olive oil or a large quantity of hot water, we not infrequently relax the muscular spasm, and, with the dislodgment of the stone, cure the patient. But this treatment is purely symptomatic, and takes cognizance of nothing other than the stone as the exciting factor. Again, the large amount of morphine necessary to produce quietude has the effect of obstinately constipating a patient whose bowels should move regularly, so that it becomes necessary for the physician to actively disturb the entire gastrointestinal tract in an attempt to empty the stagnant bowel.

It is of practical importance to know that digestive disturbances are symptomatic of cholelithiasis, and that any indiscretion of diet is prone to excite an attack of gallstone colic. It has been pointed out that the spasmodic contractions of the gallbladder occur synchronously with the contractions of the stomach. This physiological facts suggests a rational method of treatment, namely, the removal of the irritating gastric contents by lavage.

#### *Treatment.*

During the passage of a gallstone the chief measures to be carried out are: (a) Rest in bed. (b) The stomach should be rested, and not insulted by



the administration of nourishment or liquids. Thirst can be controlled by the rectal use of normal salt solution. (c) The stomach should be irrigated with a large quantity of hot water, preferably a solution of sodium bicarbonate, one drachm to the pint of water. If the pain and vomiting persist, the irrigation should be repeated at the end of an hour, or at any time the taking of nourishment excites a paroxysm of colic. Vomiting is not a factor when the stomach is relieved of its irritating contents.

This form of treatment will cure the average attack of gallstone colic without recourse to opium. However, it may be necessary, in the exceptional case, to give a single dose of morphine and hyoscine, or to keep the patient submerged in a tub of hot water. Lavage can be practised with the patient in a tub. Collapse is met with the use of stimulants.

Good results follow the intelligent administration of olive oil. It is the lavage effect of the quantity of oil used in the stomach, rather than a direct therapeutic action of the drug upon the hepatic apparatus, that effects the cure. The oil should be administered *through a stomach tube*—it should be warm, and given in a quantity of not less than one and a half pints.

For the prevention of gallstone colic attention to diet and hygiene is most essential. Cholecystotomy is the rational prophylaxis.

Operative treatment is not advisable during the attack of colic. However, if there are indications of a permanent lodgment of the stone in either the cystic or common ducts, or symptoms suggestive of a perforation or suppurative process, prompt surgical interference should be advised.

*Dr. Howard Priest, of Fort Bayard, New Mexico, observes:*

The treatment of gallstone colic resolves itself into three factors, namely, prophylaxis, medicinal relief, and surgical intervention.

These three methods will be considered in their respective order.

Firstly: Prophylaxis. This is the treatment between attacks, for an attack must occur to demonstrate the existence of biliary calculi. Possibly the Carlsbad treatment ranks foremost; certainly the springs take precedence over the bottled waters or the natural or artificial salts. A teaspoonful of sodium phosphate dissolved in a tumblerful of hot water and taken three times daily, a diet directed to be taken regularly thrice daily, the heaviest meal at midday, and the meals consisting of easily digestible nourishing food, excluding fats, excess of carbohydrates and alcohol, combined with judicious exercise, bathing, and thorough regulation of the bowels, continuing for a period of from four to six weeks, probably approaches as near to the ideal as does the Carlsbad method. Sweet oil as a solvent is mentioned, but not recommended.

Secondly: The medicinal treatment during the attack. There are two ends to be accomplished in this. The relief of the pain and the correction of the inflammation. The usual resort is to hypodermatic injections of morphine,  $\frac{1}{4}$  grain and atropine  $\frac{1}{100}$  grain, combined. The inflammation is best controlled by a few days' rest in bed, light diet, external applications of hot water, poultices, and

stupes, and the internal administration of belladonna, hyoscyamus, and cannabis indica. The pain may be so severe as to call for inhalations of chloroform or ether.

Thirdly: The surgical intervention. In view of the comparative low mortality attending such procedures this should appeal to physician and sufferer alike. Results are usually permanent, while the nonoperative measures, more than frequently, constitute a continuous performance. The nature of the operation, a cholecystotomy, a cholecystostomy, or a cholecystectomy, is determined by the pathological conditions present.

Certain contraindications to the operative treatment occur, such as diabetes, chronic pulmonary and cardiac diseases, arteriosclerosis, and excessive adiposity; but in the main the surgical treatment gives more satisfactory and lasting results.

*Dr. Walter E. Hays, of New York, states:*

The treatment of an attack of gallstone colic resolves itself into chiefly the alleviation of the special symptom of pain, since there is no means by which we can directly reach the seat of the trouble. The attack begins with agonizing pain in the region of the gallbladder and thence radiates to the right shoulder usually, though it may be felt in any part of the trunk or even radiate to the extremities. It often seems very pronounced in the epigastrium. The pain is produced by the passage of a biliary calculus through the cystic or common bile ducts, or both, into the duodenum. Consequently, our ultimate effort should be directed toward aiding in the expulsion of the stone into the bowel.

Nothing will suffice to relieve this intense agony but opium in full dosage. If there is no vomiting, powdered opium, grs. ii, combined with extract of belladonna, gr.  $\frac{1}{4}$ , should be given by mouth and repeated as often as necessary. Or, if nausea and emesis are present, morphine sulphate, gr.  $\frac{1}{4}$  hypodermatically, with atropine sulphate, gr.  $\frac{1}{150}$ , should be administered. The belladonna or its derivative will offset the nausea often produced by the opiate, especially the morphine, and also acts as an antispasmodic. Oftentimes a few whiffs of chloroform will deaden the pain in a very severe paroxysm until the opiate has had time to work. After the initial dose of the anodyne, the patient should be placed in a bath as hot as can be well borne by him for at least ten minutes. He should then be put to bed and hot fomentations applied to the entire upper abdomen. Allbut says that at times the drinking of a pint of water, as hot as can be taken, will aid in assuaging the pain. In the case of inflammatory processes going on in the gallbladder, however, the hot applications are not so well borne. In such cases leeches or cold compresses will often relieve when placed over the painful area. The former are serviceable in plethoric individuals and may alleviate the spasms. Antipyrine, acetphenetidin, and other coal tar derivatives have been recommended, but frequently their use has to be supplemented by the administration of opiates. Consequently, it is much more satisfactory to employ the opium first. All these measures not only allay the pain due to the passage of a biliary calculus in the cystic or common ducts, but also relax the spasm of their musculature

and thus permit the escape of the stone into the larger common duct or into the duodenum, as the case may be.

The nausea and vomiting of gastric contents, and later, frequently, of bile, usually leaves the patient in a temporarily exhausted condition and produces relaxation of the pylorus. This favors the onward movement of the stone. If, however, retching continues, the administration of olive oil will often quiet the spasm of the pylorus. Olive oil, ether and oil of turpentine have been much lauded because of their solvent effect on the gallstones, but, as they cannot in any way be brought into contact with the stones, their use is barren of results. Musser maintains that olive oil acts well in relieving the hyperacidity of the gastric juice, usually associated with gallstones, and causing simple gastralgia or pyloric spasm.

It is advisable, during the attack, to secure a good evacuation of the bowels, or as soon as possible after the attack begins. For this purpose, epsom or rochelle salts, magnesium citrate, castor oil, etc., in full dose, or a pill composed of podophyllin, gr.  $\frac{1}{4}$ , and extract of belladonna, gr.  $\frac{1}{4}$ , are useful, but they are frequently vomited. It is then necessary to employ enemata. Simple hot or cold soapsuds enemata may be tried, or injections of olive oil in case the stools are very hard. Or, if these avail not, a purgative enema consisting of magnesium sulphate, glycerin, olive oil, of each an ounce, oil of turpentine 2 drachms, water to make six ounces, may be tried, and will usually be found very efficacious, though it may have to be repeated in two or three hours.

It is doubtful whether a chill can occur or fever be present in an uncomplicated case of gallstone colic, though some authorities maintain that such cases have been observed. With the expulsion of the stone, however, this pyrexia disappears, though it may return with further pain.

Jaundice will be observed when the stone lodges in the common duct and completely blocks its lumen. This disappears with the dislodgment of the stone.

This medical treatment is chiefly palliative. After an attack, care should be taken to prevent a recurrence. The regulation of the diet is important. The amount of lime salts ingested should be kept down by the eating of small quantities of farinaceous foods. The nitrogenous food elements should be increased in amount, as cholesterin, the chief constituent of biliary stones, is precipitated when there is a deficiency of solvents in the bile, these solvents being the glycocholate and sodium taurocholate, derived from the metabolism of nitrogenous food (Allbutt). Exercise and proper attention to the bowels will also prevent stagnation of the bile in the gall-bladder. The dress should be regulated by women to avoid pressure on the liver and gallbladder. Musser likes the use of ammonium chloride, where there is congestion or a tendency to stasis of bile, as it has an influence upon the secretions and is said to thin the bile, allay catarrh, and modify the amount of mucous secretion. The use of sodium phosphate or other saline salts of value but whether they act on the liver itself or as purgatives is not known.

If consent of the patient can be obtained, relief from the gallstones should be permanently secured by surgical procedure. Thus these severe and periodic paroxysms of pain can be obviated.

## Therapeutical Notes.

**The Nonspecific Treatment of Diphtheria.**—In the absence of diphtheria antitoxine serum, Délarde, Minet, and Bricout, of Lille, recommend the following method of treatment (*Revue française de médecine et de chirurgie*, February 25, 1908; *L'Echo médical du nord*, October 6, 1907):

Thrice daily, morning, noon, and night, daub the throat with a mixture of the following composition:

R Menthol, ..... 5m;  
Camphor, ..... 5i.

M.

[Mixed in these proportions menthol and camphor form a liquid.—ABTRACTOR.]

If it is required the mouth may be washed out with a five per cent. solution of chlorinated soda, or a two per cent. solution of hydrogen dioxide water.

Thrice daily drop in each nostril a teaspoonful of the following:

R Menthol, ..... gr. ivss;  
Camphor, ..... gr. ii;  
Resorcin, ..... 5ss;  
Olive oil, sterilized and washed with alcohol, ..... 5iiss.

M.

The patient should be bathed in lukewarm water every morning:

If there is bronchitis mustard plasters should be applied twice a day.

When the laryngeal exudation loosens up its elimination is accelerated by an expectorant mixture of the following composition:

R Sodium benzoate, ..... gr. xxx;  
Oxymel of squill, ..... 5ss;  
Syrup of tolu, ..... 5v;  
Syrup of acacia, ..... q. s. ad 5iv.

M.

Dose: One teaspoonful to a tablespoonful, according to the age of the patient, every four hours, in a little warm milk.

**The Treatment of Warts.**—The following topical applications for warts are cited in *Bulletin général de thérapeutique* for February 23d:

I.

R Extract of cannabis indica, ..... gr. viiss;  
Salicylic acid, ..... gr. xv;  
Collodion, ..... 5v.

M. Sig. Paint the warts nightly with the mixture.

II.

(Bakke's compound.)

R Potassium bichromate, ..... gr. iss;  
Tincture of iodine, ..... 5ss.

M.

III.

(Mason's Paint.)

R Alcohol (proof), ..... 5i;  
Salicylic acid, ..... 5i;  
Acetic acid, ..... xv;  
Ether, ..... 5i;  
Collodion, ..... 5ss.

M.

**Nutmeg Poisoning.**—In an address to the Therapeutical and Pharmacological Section of the Royal Society of Medicine, at a meeting on January 28th (*The Prescriber*, March, 1908), Professor Cushny dealt with the subject of nutmeg poisoning. It had been found that cases of poisoning occurred exclusively from the use of crude nutmeg or some. Nutmeg does not appear to have any abortifacient

action, although it has been used for this purpose. The symptoms generally resemble those of cannabis indica, and include drowsiness, stupor, diplopia, and sometimes delirium and burning pain in the stomach. He considered that the symptoms were to be attributed to action on the central nervous system, which was depressed, but exhibited some indications of stimulation in the form of restlessness, slight convulsive movements, and tremor. The oil had a marked local irritant action, whether given by the mouth or hypodermatically. The stomach wall was found red and injected, and the urine often contained albumin. Dr. Power said he had found the chemistry of oil of nutmeg to be of a very complex nature. It was significant that the quantity of nutmeg required to produce symptoms of poisoning represented a very small amount of myristicin, and he had doubts as to whether this body was really responsible for these symptoms.

**Antimony as a Hepatic Stimulant.**—By its influence in promoting secretion from the intestinal mucous membrane, antimony, says Eustace Smith (*The British Medical Journal*, February 29, 1908), is a useful addition to the aperient in cases of chronic constipation where the stools are exceptionally dry and hard. It was to its quality as a hepatic stimulant that it owed its inclusion in the old pharmacopoeal preparation known as "Plummer's pill," in combination with calomel and guaiacum. Smith suggests the following combination in pill form for use in cases of chronic constipation:

R	Tartarated antimony, .....	gr. 1/25 to gr. 1/20;
	Podophyllin, .....	gr. 1/6;
	Compound extract of colocynth, .....	gr. 1/2;
	Extract of belladonna, .....	gr. 1/6;
	Extract of nuxvomica, .....	gr. 1/4.
M.	ft. pil. No. i.	
Sig.	One pill to be taken each evening before dinner.	

**Draught for Alcoholic Intoxication.**—Pouchet is credited in *La Quinzaine thérapeutique* with the following prescription for overcoming the symptoms of alcoholic intoxication:

R	Ammonium acetate, .....	3i;
	Sea salt, .....	gr. lxxv;
	Infusion of coffee, .....	3iiss;
	Simple syrup, .....	3i.
M.	Sig.: Give in two doses, fifteen minutes apart.	

**Aperient Salt.**—The composition of the aperient salt, commonly known as Harrogate salts, and which is a favorite purgative in gout, rheumatism, etc., is given in the *British Pharmaceutical Codex* as follows:

R	Potassium bitartrate, .....	3i;
	Sulphurated potash, .....	gr. xii;
	Magnesium sulphate, exsiccated, .....	3vss.
M.	Dose, 3i to 3ii.	

**Fluoroform for Whooping Cough.**—According to Tissier (*Journal de pharmacie et de chimie; Pharmaceutical Journal*, February 8, 1908), a saturated aqueous solution of fluoroform which contains 2.8 per cent. of fluoroform is odorless, colorless, almost tasteless, and less toxic than bromoform solution. It is a specific for the treatment of whooping cough. It has been given during the past four years in 117 cases without a single untoward symptom, even when large doses were administered. After the second or third day the number of paroxysms is less-

ened, and in a week they disappear. No bronchopulmonary complications occur; if these already exist they are speedily cured. Fluoroform should be given in sufficient doses, or it will not act. For infants up to two years of age one drop of the saturated solution may be given after each paroxysm, and two drops on the second day, three drops the third, and so on, progressively, not exceeding a total daily dose of 100 drops. From two to four years the doses may be increased to 75 to 150 grains (50 to 100 drops) in twenty-four hours. Above this age half an ounce of the solution may be given in subdivided doses in twenty-four hours, and adults may take twice as much. The fluoroform solution may be taken in milk, or water, or alone. Its administration causes no gastric disturbance. Larger doses than above indicated may be given, but they serve no useful purpose.

**Enema After Abdominal Section.**—After abdominal section cathartics cannot be given by the mouth on account of nausea. In such cases when it is desirable to secure bowel movement the following enema, high into the rectum, may be given (*American Journal of Clinical Medicine*, March, 1908):

R	Epsom salt, 50 per cent. sol., .....	3ii;
	Oil of turpentine, .....	3ii;
	Glycerin, .....	3ii;
	Water, .....	3vi.

M.

The injection is to be held in the bowel as long as possible by the patient. It is well to anoint the inner surface of the thighs and the buttocks in order to prevent irritation of the parts should they come in contact with the turpentine by any mischance.

**For Tænia Solium.**—The following formula is taken from *Bulletin général de thérapeutique* for February 29, 1908:

R	Oleo-resin of male fern, .....	3i;
	Rectified oil of turpentine, .....	gtt. xx;
	Chloroform, .....	gtt. xv;
	Mucilage of acacia, .....	5i.

M. Sig.: One half to be taken at night, and the other half the following morning.

**Suppository for Dysmenorrhœa.**—

R	Morphine hydrochloride, .....	gr. 1/4;
	Extract of hyoscyamus, .....	gr. 1/6;
	Cacao butter, .....	gr. xxx.
M.	ft. suppositorium No. i.	

**Inhalation for Catarrhal Pneumonia.**—Marfan (*Journal de médecine de Paris*, December 29, 1907) advises the inhalation three or four times a day from a teapot or steam kettle a teaspoonful of the following mixture added to eight ounces of water:

R	Creosote, .....	3i;
	Tincture of benzoin, .....	3iiss;
	Oil of turpentine, .....	3iii.

M.

**Glyceroboric Ointment.**—The following ointment is said by *Nouveaux remèdes* to be superior to boric ointment as an antiseptic. It has a consistency like cold cream, and is an agreeable substitute for iodoforn or carbolic ointment:

R	Boric acid, .....	3ii;
	Glycerin, .....	3iii;
	Wool fat, hydrous, .....	3iv;
	Petrolatum, .....	3ii.
M.		



# NEW YORK MEDICAL JOURNAL

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NEW YORK, SATURDAY, MARCH 28, 1908.

## "A MIND THAT FOUND ITSELF."

No one can read the stirring introduction of an autobiography of Mr. C. W. Beers in a recent work, *A Mind that Found Itself* (Longmans, Green, & Co., New York), without being tempted to do something. "I am not telling the story of my life just to write a book," says Mr. Beers. "I tell it because it seems my plain duty to do so. For what purpose was my life spared? That question I have asked myself, and this book is, in part, an answer." This is the author's introduction to a human document which constitutes one of the most fascinating chapters in the psychology of insanity that have been written for many years.

Mr. Beers calculates that there is about one in every eighty of the population of the United States suffering from some form of mental disease—a high estimate, if the statistics of the Census Bureau are at all reliable; and the great pity is that so little, he says, "is being done to combat the present irresistible advance of insanity." While we feel that the author's outlook as to what is being done is lamentably narrow, and that he would not really have to "combat" the "irresistible," yet we are at one with him in the feeling that we are neglecting opportunities that he does so in vain to understand this marked increase in mental derangement. We welcome the harshest criticism from the outside, feeling that our own words fall on dead ears.

The author's early life, his graduation, his training, his early illness, his attachment to mental hospitals,

insanity, and his recovery, are all told in a simple yet striking manner that compels attention. Even the chapters dealing with the abuses to which he was subjected have more interest in them than the usual run of asylum abuse descriptions, because the author's insight into his condition was so well preserved, and his literary quality betrays a humor that is a saving grace.

We feel that this work should be read far and wide, for through it we hope may come the remedying of certain drawbacks that prevent the insane from receiving the care that should be their portion. We recommend this work, not that we feel at one with the author throughout, but because he has put his finger with precision upon those very things for which asylum superintendents have been working for years. The unheeding public look upon our large asylum structures and wonder why such palaces should be built. The unheeding used to wonder in the same way at Bedlam two hundred years ago; they feel that too much money is spent on the insane, and the legislators skimp and save and cut down—and where? In food and in attendants, the two most essential features in the care of the mentally disordered. The same legislators allow one physician to about two hundred patients; one nurse or attendant to fifty, to thirty, to twenty, under the best of circumstances; and (sometimes) such attendants! We can feel with Mr. Beers that they have been chosen for their physical prowess rather than for their intellectual capacity. How much are they paid? The answer to this question will go a long way in explaining the preponderance of brawn over brains.

We can sympathize with the author's dissatisfaction in not obtaining proper redress, but we feel that he is ill prepared to speak of the real reasons why control of the attendants is not the simple matter that he supposes. It is not over a year now since a well known medical director in one of our better institutions for the treatment of the insane actually had to compel a district attorney to prosecute an attendant who had assaulted a patient. This superintendent was not content to dismiss the attendant, he had him indicted and punished, and largely on the evidence of so called insane patients. We should like to see a recognition of this feature of the situation in Mr. Beers's book, but, apart from the fact that a more general reading of this work would tend to make it easier for other superintendents or medical directors to deal more effectually with brutal attendants and careless and incompetent medical assistants, we also feel that it may help to bring about a change in the treatment of "insane" patients. While we cannot imagine how progress in general in the better care of all classes of the insane

tally sick, the care and treatment of the acutely violent have seemed to have been benefited little since the days of Julius Cæsar, when the use of poppy and of henbane was advised for the violent, and it was said that only those who would hurt themselves or others should be kept in chains. Plenty of space, enough attendants, good food, frequent baths, and constant medical supervision; these are reforms for which psychiatrists have been striving for two hundred years, and toward the bringing about of which we believe that Mr. Beers's book, even with its obvious defects, may contribute.

### AN IMPROVED BIRTH RATE IN NEW YORK.

For many years the death rate of the city of New York, both the old city and the present enlarged territory included under the name, has been higher than it ought to be, and it has not been offset as it should have been by a high birth rate. There is some reason to hope, however, that the ratio is destined to become approximately normal. One swallow, indeed, does not make a summer, but the lone bird is promising, for all that. A straw betokening what may turn out to be a favorable wind is to be found in the birth rate reported to the State Department of Health for the month of January of the present year, as we find it set down in the February number of the board's *Monthly Bulletin*.

During the month of January 11,853 living children were born in the entire city. The population is estimated as 4,244,411. Therefore there was a calculated annual birth rate of 33.5 to each thousand of the population. In two of the five boroughs, indeed, the calculation gives figures somewhat larger still, the rate set down being 34.0 in the borough of Manhattan, and 33.9 in the borough of the Bronx. It is given as 33.0 for the borough of Brooklyn, 33.2 for the borough of Queens, and 28.7 for the borough of Richmond. The populations of the five boroughs are estimated as follows: Manhattan, 2,217,294; the Bronx, 300,078; Brooklyn, 1,435,530; Queens, 216,336; Richmond, 75,173.

The most populous borough, then, shows the highest birth rate and the least populous shows the lowest; but beyond this there seems but little tendency of the birth rate to bear a definite ratio to the population. If there were such a ratio established, it would be interesting to speculate as to the fecundity of the boroughs when, as must come to be the case within a few years, the density of population goes on increasing in all but Manhattan, which, let us hope, may at the same time be partially relieved of the "congestion" that is now meeting with the

earnest consideration of many of our philanthropic citizens.

The boroughs of Brooklyn and Queens must soon become full under the influence of new facilities of travel to and from Manhattan; so also must those portions of New Jersey which are within easy reach from the city of New York after the Hudson River has been passed, but the latter, of course, though virtually a part of the city, will probably never be included within its limits. In the Bronx, too, the population is rapidly increasing in density, and there are the contiguous municipalities of Yonkers and Mount Vernon, constantly growing more and more like integral portions of the metropolis. In the borough of Richmond (Staten Island) we may presume there will not soon be seen a vast growth of population, unless additional means of transportation are brought into operation earlier than at present seems probable. That borough, however, in spite of its distance from the chief seat of business, is properly made to figure in the vital statistics of the metropolis, and the same treatment might logically be applied to those districts of New Jersey and Westchester County which we have mentioned did not diversity of jurisdiction interfere with such a course.

### THE TACHYCARDIA OF TUBERCULOUS DISEASE.

In an interesting article published in the *Gazette médicale de Nantes* for March 7th, Dr. Joseph Léquyer remarks upon the frequency with which the subjects of tuberculous disease are affected with a form of tachycardia which does not correspond to a rise of temperature and has no apparent connection with the particular course of the tuberculous affection. It is observed very often in both the acute and the chronic forms of the disease. It occurs at the very onset and even during what may be called the pretuberculous stage, while yet the clinical signs are at the minimum. In other instances it is not until a very advanced period that the pulse becomes very frequent. In many cases the temperature is normal or hardly above the normal point, but the pulse ranges from 100 to 110; if the temperature rises to 100° or 102°, the pulse reaches 130 or 140. There is no invariable rule about this, says the author, but he calls special attention to the discrepancy between the pulse and the temperature. In spite of its acceleration, the pulse generally preserves its perfect regularity; it is exceptional for arrhythmia to exist, though it does occur frequently in the last stages of the disease, also in tuberculous meningitis.

The author then discusses the causes of this tachycardia. He thinks that the patient's nervousness plays a prominent part. Often, too, the acceleration of the pulse is a reflex effect due to excitation of the accelerator nerves. The pulse betrays the suffering of the organism before the pulmonary lesions are much advanced. Tuberculous inflammation of the pneumogastric nerve, which very rarely exists alone, is almost always an accompaniment of peripheral neuritis; then the cause of the tachycardia is clearly apparent. Moreover, there is the action of the tuberculous toxins on the circulatory apparatus; in all tuberculous persons there is a more or less pronounced vascular dilatation, and that of itself is enough to cause tachycardia. If there is, in addition, a slight degree of myocarditis, the heart no longer contracts with its normal force, but endeavors to make up for lack of strength by rapidity of action. In 1889 Maurice Klippel maintained that cardiac amyotrophy was frequently present in tuberculous subjects, and that the consequent overexcitability of the muscular structure of the heart would give rise to tachycardia.

As an early diagnostic sign, when auscultatory signs are wanting, acceleration of the pulse should not be neglected. Lasèque insisted upon it as a distinguishing mark between chloroanæmia and incipient tuberculous disease. Often, he said, the diagnosis would be confirmed when one repeatedly found the pulse above 90 without a febrile temperature. However, the importance of the sign must not be exaggerated. Tachycardia is a frequent symptom, it is due to very diverse causes, and a diagnosis of tuberculous disease is not necessarily to be taken for granted when it is met with. Cardiac affections are often accompanied by tachycardia, and in particular we should bear in mind chronic myocarditis, but the accompanying symptoms will distinguish it. Acute endocarditis is accompanied by dyspnoea and cyanosis, and auscultation will disclose abnormal bruits. In angina pectoris, precordial pain and its radiations are almost constant. Aortitis manifests itself by special souffles. Tachycardia, then, is not the sole sign of these affections.

In prognosis, too, the tachycardia of the tuberculous is often of very great value—not early in the disease, but at an advanced period. Then it indicates intense systemic intoxication, and is particularly observed in patients with extensive lesions; it increases with the advance of the lesions and often attains its maximum in the last stage of the disease. Tachycardia is not simply a diagnostic and prognostic index; it may predispose to very grave complications, such as asystolia. Tuberculous persons with tachycardia often die like the victims of heart

disease; their enfeebled myocardium is forced, their right cavities become distended, and acute asystolia appears. In other cases, in consequence of the tachycardia and the lowering of arterial pressure, cardiac collapse takes place. The pulse, always very rapid, can no longer be counted.

As regards the treatment of this tachycardia, M. Léquey remarks that it is very often futile. Rest is the first thing to be recommended. Cold compresses and ice bags applied over the heart are not so often efficacious as they are for the relief of palpitation. Alcoholic and other stimulating drinks must be interdicted, also overeating, for they increase the frequency of the pulse and predispose to cardiac erethism. In the open air treatment of consumption the tachycardiac patient should not be exposed to high winds or to prolonged action of the sun.

#### THE ÆTIOLOGY OF YAWS.

In 1905 Castellani discovered in smears made from yaws papules an organism which had a morphology closely resembling that of *Treponema pallidum*. His observations were published in the *Journal of the Ceylon Branch of the British Medical Association* for June 17, 1905. The organism, which he named *Spirochæta pertenuis*, he says, is 14 to 20 micra long, is pointed at both ends, and presents a variable number of walls. The name of this organism is now accepted as *Treponema pertenuis*. The observation was confirmed by Wellman, working independently in Angola (*Journal of Tropical Medicine*, vol. viii, p. 345).

Ashburn and Craig (*Philippine Journal of Science*, October, 1907) began the investigation of this organism soon after its first description, having had the good fortune to have some cases referred to them by a native physician. Since the discovery of these cases, yaws, which was formerly thought to be a rare disease in the Philippine Islands, has been found to be common in certain districts on the islands of Luzon and Mindanao. Ashburn and Craig agree in the opinion that *Treponema pertenuis* is the cause of yaws. They have found it constantly present in the serum from yaws lesions. From experiments made on monkeys they find that the inoculation of serum from human yaws lesions containing *Treponema pertenuis* causes yaws in the former animals, and that the organism can be easily demonstrated in the lesions. They further assert that this *treponema* is different from *Treponema pallidum*.

Yaws was originally considered to be a variety of syphilis, modified by climate and by racial peculiarities. In vol. II of the *Transactions of the*



*First Pan-American Medical Congress* there is an interesting description of yaws, or frambœsia, by Dr. George Edmund Pierrez, of Antigua, in which the clinical differences between that disease and syphilis are mentioned. The discovery of an organism which has certain morphological differences from the organism now held by the majority of observers to be the cause of syphilis is an interesting commentary on the accuracy of purely clinical methods. Pierrez, however, considered the disease to be due to a bacterial infection.

## THE HISTOLOGY OF THE YAWS PAPULE.

Specimens of yaws papules have been sent by Ashburn and Craig to Dr. Harry T. Marshall (*Philippine Journal of Science*, October, 1907), who describes their histology. He finds that the lesions are primarily degenerative changes resembling colliquative necrosis, which affects the epithelial structures. This degeneration leads to ulceration. Following the degeneration there is an irregular new formation of epithelium in the form of down growths, and they, in turn, often degenerate. Accompanying these changes, vascular dilatation, œdema, and leucocytic infiltration occur in the corium, with a minor degree of new formation of capillaries and connective tissue. There is no endarteritis, and there are no other changes suggestive of syphilis. At an early stage of the lesion the infiltrating cells are polymorphonuclears and mononuclears in about equal proportions, with many of the latter of the plasma cell type. Sometimes the plasma cells outnumber the polymorphonuclears. Eosinophile cells are abundant. The lesions from monkeys have practically the same histology as those from human sources.

## News Items.

**Changes of Address.**—Dr. H. M. Carey, from Retreat, Pa., to St. Georges, Del.; Dr. William Campbell Posey, to northeast corner of Twenty-first and Chestnut streets, Philadelphia.

**Brooklyn Hospital.**—A department of diseases of the stomach and intestines has been opened at this hospital, with Dr. Dudley Roberts as chief of the service, and Dr. James T. Pilcher as his associate.

**Cumberland County, Me., Medical Society.**—At a meeting of this society, held on Thursday, March 26th, the principal paper of the evening was read by Professor William D. Hurd, of the University of Maine.

**The Northern Medical Association of Philadelphia.**—At a stated meeting of this society, held on Friday evening, March 27th, Dr. Jas. E. Schramm read a paper on the *Diagnosis and Treatment of the More Common Diseases of the Skin*, which was illustrated by lantern slides.

**Buffalo Medical Clinic.**—At the regular monthly meeting, which was held on Thursday evening, March 5th, at the residence of Dr. Hoffman, the principal paper of the evening was read by Dr. F. A. Drake. The subject was *Prophylaxis of the Tubercular Cervical Movement*.

**The Third Cartwright Lecture** will be delivered by Dr. James Ewing, of Cornell University Medical College, on Monday evening, March 30th, at the New York Academy of Medicine. The subject will be *Clinical Forms of Acidoses, Pathological Anatomy and Classification*.

**Richmond, Va., Academy of Medicine and Surgery.**—At a meeting of this academy, held on Tuesday evening, March 24th, Dr. St. George T. Grinnan read a paper entitled *Rheumatic Cycle in Childhood—Tonsillitis, Chorea, Arthritis, and Carditis*, and Dr. M. O. Burke read a paper on *the Uses of the Stomach*.

**The Bill for a New State Hospital for the Insane.**—An act appropriating \$119,250 has been introduced into the Legislature to provide for the purchase of the site of eight hundred and four acres at Congers, Rockland County, N. Y., upon which will be erected a new State hospital for the insane, with a capacity of probably 2,500.

**Association of the Surgeons of the Southern Railway Company.**—A meeting of this association will be held in Birmingham, Ala., on April 28th, 29th, and 30th. A long list of papers and subjects of interest to railway surgeons is shown on the preliminary programme, and the meeting promises to be one of special interest.

**A Banquet in Honor of Dr. Robert Koch** will be given at the Waldorf Astoria on Saturday evening, April 11th, under the auspices of the German Medical Society of New York. The price is \$7 a plate, which includes wine. Admission cards may be obtained from Dr. George Mannheimer, No. 60 East Fifty-eighth street, New York.

**Saratoga Springs, N. Y., Medical Society.**—At a meeting of this society, which was held on Friday, March 20th, the general subject for discussion was *lobar pneumonia*. Papers were read by Dr. Bently on the *etiology and pathology*, by Dr. Resseguie on the *symptoms and diagnosis*, and by Dr. Ledlie on the *treatment of lobar pneumonia*.

**The Mortality of New Orleans, La.**—During the month of February, 1908, there were reported to the Board of Health of New Orleans 736 deaths from all causes, 462 white, and 274 colored. The annual death rate in 1,000 of population was 21.48 for the white population, 35.35 for the colored, and 25.16 for the total white and colored population.

**An Antituberculosis League** has been organized in Lawrence, Mass. Antispitting signs have been placed about the town by the board of health, and an effort will be made to keep the streets cleaner. A class for instruction in the cause and prevention of tuberculosis has been formed which meets once a week. The league is planning to establish a day camp in the near future.

**Medical Inspections of Schools in Chicago.**—During the week ending March 7th the medical inspectors examined 6,828 school children, excluding 313 on account of contagious diseases. Of the total number of exclusions 58 were for measles, 12 for scarlet fever, 7 for whooping cough, 6 for diphtheria, 3 for chickenpox, and 7 for mumps. Vaccination was performed on 890 pupils.

**The Mortality of Portland, Me.**—During the four weeks ending March 7, 1908, there were reported to the Board of Health 98 deaths from all causes, as compared with 108 for the corresponding period in 1907. The annual death rate in 1,000 of population was 21.23. Of the total number of deaths, 23 were from contagious diseases, 17 from pneumonia, and 7 from tuberculosis.

**The Manhattan Medical Society** held a stated meeting on Friday evening, March 27th. Dr. Louis Fougères Bishop reported several cases of early liver symptoms in cardiac diseases, and after the reading of a paper on *Post Mortem Findings in Cases of Eclampsia*, by Dr. John Edgar Welch, a clinical conference was held on *Icterus, Its Significance and Treatment*. A general discussion followed.

**Vacancies in the Staff of the West Side German Dispensary.**—There are two vacancies in the staff of the genitourinary clinic of the West Side German Dispensary, which meets on Tuesday, Thursday, and Saturday evenings, from 7:30 to 8:30. There is a large general service at this clinic, and it offers a good opportunity for special work in cystoscopy, urethroscopy, and urethral catheterization. Applications should be sent to Dr. Abraham L. Wolbarst, 105 East Nineteenth street, New York.

**Buffalo Academy of Medicine.**—A stated meeting of this academy was held on Tuesday evening, March 24th, under the auspices of the Section in Obstetrics and Gynecology. Dr. James E. King read a paper entitled *Transverse Abdominal Incision in Pelvic Surgery, Its Advantages and Limitations*, and Dr. Frank McGuire read a paper entitled *The Treatment of Diffused or Spreading Peritonitis*.

**The Middleton Goldsmith Lecture of the New York Pathological Society** will be delivered by Professor Frank B. Mallory, of Harvard University, at the New York Academy of Medicine, on April 4th, at 8:30 p. m. The subject will be *The Results of the Application of Special Histological Methods to the Study of Tumors*. The lecture will be illustrated, and all who are interested in the subject of tumors are invited to attend.

**Hickman County, Tenn., Medical Association.**—At a recent meeting of this association Dr. Robert P. Wilson read a paper on *Nematodes*, and Dr. Andrew Norris read a paper on *Parasitic Diseases*. The officers of the association for the current year are: President, Dr. Kenneth I. Sutton, of Centerville; vice president, Dr. J. W. Thompson, of Centerville; secretary and treasurer, Dr. John S. Beasley, of Centerville.

**The New Hampshire State Board of Health** announces that it has issued a new compilation of the public health laws of the State, chiefly for the use of health officers, physicians, town clerks, undertakers, and all who have specific duties to perform under these laws. If any interested person fails to receive a copy, one will be forwarded upon application to the board. Dr. Irving A. Watson, of Concord, is the secretary of the board.

**Scientific Society Meetings in Philadelphia for the Week Ending April 4, 1908.**—*Wednesday April 1st*, College of Physicians; Association of Clinical Assistants of Wills Hospital. *Thursday, April 2d*, Obstetrical Society; Medical Society of the Southern Dispensary; Section Meeting, Franklin Institute; Germantown Branch, Philadelphia County Medical Society. *Friday, April 3d*, American Philosophical Society; Kensington Branch, Philadelphia County Medical Society.

**The Pathological Society of Philadelphia** held a stated meeting on Thursday evening, March 26th. A number of card specimens were presented by Dr. E. M. L'Engle, Dr. T. C. Kelly, Dr. A. J. Smith, and Dr. John Funke, and the following papers were read: *A Study of the Colon Aerogenes Group of Bacteria*, by Dr. David Bergey; *A New and Improved Method in the Presumptive Test for *Bacillus coli communis**, by Dr. D. Rivas; *Periarteritis Nodosa*, by Dr. William T. Longcope; *Cysts of the Gallbladder Ducts*, by Dr. R. S. Javerson.

**A Special Tuberculosis Hospital for Oneida County, N. Y.**—The Board of Supervisors of Oneida County, N. Y., has passed resolutions providing for the establishment of a hospital for advanced cases of tuberculosis. An appropriation of from \$65,000 to \$85,000 will be made for the building of a general county hospital and a special tuberculosis hospital, to be erected on the same grounds, but entirely separate from each other. The tuberculosis hospital will have a capacity of twenty-five beds for men and fifteen beds for women.

**Philadelphia County Medical Society.**—The Central Branch of this society held a meeting on Wednesday, March 26th. The evening was devoted to a "symposium on psychotherapeutics" and papers were read as follows: Dr. Charles K. Mills, *Psychotherapeutics, Its Methods, Scope, and Limitations*; Dr. Charles W. Burr, *The Use of the Mental Element in the Treatment of Disease*; Dr. F. X. Dercum, *An Analysis of Psychotherapeutic Methods*. The discussion was opened by Dr. John K. Mitchell, Dr. William G. Spiller, and Dr. Charles S. Parnes.

**A Congress on Physiotherapeutics** will be held in Paris during Easter week, under the auspices of the French Society of Electrotherapy and Medical Radiology, and the Kinetherapeutic Society. The general subject for discussion will be the use of such physical agents as electricity, massage, gymnastics, light, x rays, etc., in the diagnosis and treatment of articular and bony traumatism, and in the treatment of neuritis and myositis. Information regarding the congress may be obtained from the general secretary of the organizing committee, Dr. Leguerrière, 2 rue de la Bienfaisance, Paris.

**The Health of Pittsburgh.**—The following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh for the week ending March 7, 1908: Chickenpox, 6 cases, 0 deaths; typhoid fever, 25 cases, 7 deaths; scarlet fever, 19 cases, 4 deaths; diphtheria, 9 cases, 0 deaths; measles, 221 cases, 10 deaths; whooping cough, 19 cases, 1 death; pulmonary tuberculosis, 21 cases, 13 deaths. The total deaths for the week numbered 205, in an estimated population of 403,300, corresponding to an annual death rate of 26.43 in 1,000 of population.

**Rochester, N. Y., Academy of Medicine.**—The Section in Public Health, which includes hygiene, climatology, physiology, pathology, bacteriology, and forensic medicine, held a meeting on Wednesday, March 25th. The general subject for discussion was the investigation of medicolegal cases. Dr. E. B. Angell read a paper dealing with the examination of the nervous system; Dr. E. W. Mulligan presented a paper dealing with the surgical aspect of the question; and Dr. W. J. Herriman read a paper on *The Detection of Malingering*. Dr. Franklin W. Bock is chairman of the section and Dr. Bradford A. Richards is the secretary.

**The West End Medical Society of the City of New York.**—The second regular meeting for 1908 will be held at the Belvedere Hotel, on Saturday evening, March 28th, at 8:15 o'clock. Dr. Theron W. Kilmer will read a paper on *The Ambulatory Treatment of Cases of Pneumonia in Infants and Young Children*, which will be discussed by Dr. Charles Gilmore Kerley, Dr. W. B. Hoag, and Dr. Floyd M. Crandall, and a general discussion will follow. The officers of the society are: President, Dr. Le Roy Brown; vice president, Dr. Frank S. Fielder; secretary, Dr. William H. Morrison; and treasurer, Dr. E. V. Hubbard.

**Vital Statistics of New Jersey.**—During the month ending February 15, 1908, there were 3,528 deaths reported, an increase of 147 over the previous month. The principal causes of death were: Typhoid fever, 39; measles, 11; scarlet fever, 50; whooping cough, 24; diphtheria, 67; malarial fever, 1; pulmonary tuberculosis, 375; other forms of tuberculosis, 47; cancer, 126; cerebrospinal meningitis, 24; diseases of the nervous system, 434; diseases of circulatory system, 420; diseases of respiratory system (pneumonia and tuberculosis excepted), 275; pneumonia, 516; infantile diarrhoea, 52; diseases of digestive system, 174; Bright's disease, 220; suicide, 22; all other causes, 651.

**The Philadelphia Neurological Society** held a stated meeting on Friday evening, March 27th. Dr. Alfred Gordon presented a case of superior and inferior poliomyelitis. Dr. S. D. Ingham presented a case of syringomyelia. Dr. Moore presented for Dr. Spiller an atypical case of Friedreich's ataxia. Dr. Lightner Witmer presented a case of aphasia and read a paper on *Certain Cases in which the Psychologist May Assist the Neurologist*. Dr. William G. Spiller read a paper on *Hemiplegia with Rigidity of the Neck Caused by Cervical Myelitis*. Dr. Samuel Leopold read a paper on *Osseous Plaques of the Spinal Pia Arachnoid and Their Relation to Pain in Acromegaly*.

**The Gloucester County, N. J., Medical Society.**—At the meeting of this society, held on Thursday, March 19th, Dr. John M. Swan, instructor in clinical pathology in the Philadelphia Polyclinic and College for Graduates in Medicine, made an address on the *Diagnostic Significance of Leucocytosis*. The address was supplemented by a microscopic demonstration of specimens showing leucocytosis of varying extent. Dr. Pfeiffer, of the German Hospital, Philadelphia, reported an interesting case. There was a discussion on medical legislation as affecting the State of New Jersey. The scientific business was followed by a dinner at Paul's Hotel. About thirty-five members and guests were present.

#### Society Meetings for the Coming Week:

**Wednesday April 1st.** Society of Alumni of Bellevue Hospital, New York; Harmon Medical Association, Elmira, N. Y.; Academy of Medicine.

**Thursday April 2d.** New York Academy of Medicine, Danville, N. Y.; Medical Association.

**Friday April 3d.** New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn, N. Y.; Manhattan Clinical Society; Practitioners' Society of New York.



**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending March 14, 1908, there were during the week 639 deaths from all causes, as compared with 684 for the corresponding week in 1907. The annual death rate was 15.38 in 1,000 of population. The principal causes of death were: Apoplexy, 11; Bright's disease, 31; bronchitis, 20; consumption, 78; cancer, 15; convulsions, 7; cerebrospinal meningitis, 3; diphtheria, 11; heart diseases, 53; influenza, 10; intestinal diseases, acute, 50; measles, 10; nervous diseases, 16; pneumonia, 120; scarlet fever, 8; suicide, 9; typhoid fever, 7; violence, other than suicide, 44; whooping cough, 2; all other causes, 139.

**Vital Statistics of New York.**—According to the report of the Department of Health of the City of New York, there were during the week ending March 14, 1908, 1,604 deaths from all causes, as compared with 1,670 for a corresponding period in 1907. The annual death rate was 18.92 in 1,000 of population. Of the total number of deaths, 826 were in the borough of Manhattan, 125 in the Bronx, 557 in Brooklyn, 69 in Queens, and 27 in Richmond. The death rate for the borough of the Bronx was 19.91, which was the highest for the five boroughs, and Brooklyn was second with a death rate of 19.47. The death rate of Manhattan for the week was 18.70, of Richmond 18.37, and of Queens, 15.48. There were 578 marriages recorded during the week, 2,317 births, and 132 stillbirths.

**Personal.**—Dr. Frederick L. Benton, a surgeon in the United States Navy, is the first American physician to receive a degree in medicine and science at the University of Havana. Dr. Benton is now regimental surgeon of the marine regiment in Cuba. The examination was in Spanish.

Dr. Arthur Keith, lecturer on anatomy at the London Hospital Medical College, has been appointed conservator of the Museum of the Royal College of Surgeons.

Mr. Peter White, of Marquette, Mich., has given \$1,000 to the library of the University of Michigan, to be used in purchasing rare medical books.

Dr. Ennion G. Williams, of Richmond, has been appointed health commissioner of the State of Virginia.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending March 21, 1908.*

	—March 14.—		—March 21.—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis, pulmonary	434	191	507	168
Diphtheria	322	55	397	53
Measles	1,043	27	1,007	33
Scarlet fever	942	44	901	37
Smallpox	1	—	—	—
Varicella	187	—	218	—
Typhoid fever	31	9	27	4
Whooping cough	20	2	21	3
Cerebrospinal meningitis	12	12	10	9
Totals	3,598	349	3,748	307

**The Health of Philadelphia.**—During the week ending March 7, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Malarial fever, 1 case, 0 deaths; typhoid fever, 85 cases, 9 deaths; scarlet fever, 74 cases, 5 deaths; chickenpox, 32 cases, 0 deaths; diphtheria, 85 cases, 18 deaths; measles, 28 cases, 7 deaths; whooping cough, 19 cases, 5 deaths; pulmonary tuberculosis, 139 cases, 73 deaths; pneumonia, 94 cases, 93 deaths; erysipelas, 12 cases, 0 deaths; puerperal fever, 8 cases, 7 deaths; cancer, 23 cases, 23 deaths; German measles, 3 cases, 0 deaths; mumps, 28 cases, 0 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis other than tuberculosis of the lungs, 4; diarrhoea and enteritis, under two years of age, 17; cerebrospinal meningitis, 1. The total deaths numbered 571, in an estimated population of 1,532,738, corresponding to an annual death rate of 19.31 in 1,000 of population. The total infant mortality was 119; under one year of age, 87; between one and two years of age, 32. There were 35 stillbirths, 21 mumps, 14 measles.

**Benedictine Sanitarium and Hospital, Kingston, N. Y.**—The annual meeting of the board of directors and the staff of this institution was held on Friday evening, February 28th. Dr. Charles Phelps, of New York, was re-elected president of the staff, and Dr. Mary Gage-Day was elected secretary, to take the place of Dr. Robert R. Thomp-

son, deceased. The out of town consulting staff remains the same as last year, and the local staff will be composed of the following: Attending surgeons, Dr. Mark O'Meara, Dr. James L. Preston, Dr. E. E. Norwood, Dr. Alexander A. Stern, Dr. W. J. O'Leary, Dr. L. K. Steele; attending physicians, Dr. George H. Van Gaasbeek, Dr. B. W. Maben, Dr. Harvey C. Keator, and Dr. Adelbert H. Mambert; consulting physicians, Dr. W. E. E. Little, Dr. C. F. Keefe; attending physician and surgeon for the eye, ear, nose, and throat, Dr. Aden C. Gates; attending bacteriologist, Dr. Charles W. Crispell; and attending gynecologist, Dr. Mary Gage-Day.

**An Antituberculosis Campaign in Rochester, N. Y.**—The Public Health Association of Rochester, N. Y., has made arrangements for a series of meetings to be held during the week of March 30th for the purpose of discussing the question of tuberculosis. The traveling tuberculosis exhibit of the State Department of Health will be open to the public daily from 1 to 10 p. m. at Convention Hall, where the meetings will be held, and illustrated lectures will be delivered daily at 3 and 8 p. m. The campaign will be opened on Monday, March 30th, by a joint meeting of the Public Health Association with the medical and dental societies and the ministerial associations of Monroe County. Dr. Lewis Gregory Cole, of New York, will deliver an illustrated lecture on Radiography in the Diagnosis of Tuberculosis, and Dr. John B. Huber, of New York, will deliver an address on The Diagnosis of Incipient Tuberculosis. Among those who will deliver addresses during the week are Dr. C. W. Dodge, city bacteriologist of Rochester, Dr. J. Franklin Bock, Dr. Albert C. Snell, Dr. Francis E. Fronczak, of Buffalo, Dr. Arthur G. Root, of Albany, and Dr. S. A. Knopf, of New York.

#### Meetings of State Medical Societies for the Month of April, 1908:

Medical Association of the State of Alabama, annual meeting at Montgomery, April 21st.

Arizona Medical Association, annual meeting at Tucson, April 20th.

Medical Society of the State of California, annual meeting at Coronado, April 21st, 22d, and 23d.

Florida Medical Association, annual meeting at Ocala, April 15th.

Medical Association of Georgia, annual meeting at Fitzgerald, April 15th.

Louisiana State Medical Society, annual meeting at Alexandria, April 28th, 29th, and 30th.

Mississippi State Medical Association, annual meeting at Natchez, April 14th.

Medical and Chirurgical Faculty of Maryland, annual meeting at Baltimore, April 28th, 29th, and 30th.

South Carolina Medical Association, annual meeting at Anderson, April 16th, 17th, and 18th.

Tennessee State Medical Association, annual meeting at Knoxville, April 14th.

**Philadelphia Bureau of Health Statistics.**—During January, 1908, in the Division of Medical Inspection of the Philadelphia Bureau of Health, 3,902 inspections were made exclusive of schools; 654 fumigations were ordered; 43 cases were referred for special diagnosis; 4,422 visits were made to schools; 349 children were excluded from school; 311 cultures were taken; 133 injections of antitoxine were given; and 412 persons were vaccinated. In the Division of Vital Statistics 3,165 deaths, 2,921 births, and 1,178 marriages were reported. In the Division of Milk Inspection 8,561 inspections were made of 196,634 quarts of milk, of which 315 quarts were condemned. Seven specimens were tested chemically and 984 microscopically. In the Division of Meat and Cattle Inspection 3,695 inspections were made; 83 places were found unsanitary; 214 pieces of dressed meat were condemned; and 868 postmortem examinations were made with 44 condemnations. In the Division of Disinfection 312 fumigations were done for scarlet fever, 440 for diphtheria, 135 for typhoid fever, 222 for tuberculosis, 545 for miscellaneous diseases, and 17 schools were fumigated. In the Bacteriological Laboratory 1,396 cultures were examined for the presence of bacillus diphtheriae; 510 specimens of blood were examined for the serum diagnosis of typhoid fever; 984 specimens of milk were examined, 208 specimens of sputum were examined; 5 disinfection tests were made; and 3,224,500 units of antitoxine were distributed. In the Chemical Laboratory 97 analyses were made.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

March 19, 1908.

1. Opening Address of the President before the New England Pædiatric Society,  
By THOMAS MORGAN KOTCH.
2. The Serum Treatment of Epidemic Cerebrospinal Meningitis,  
By CHARLES HUNTER DUNN.
3. The Use of Fat Free Milk in Infant Feeding,  
By CHARLES W. TOWNSEND.
4. The Use of the Röntgen Ray in the Study of Diseases of Children,  
By ARIAL W. GEORGE.

2. **The Serum Treatment of Epidemic Cerebrospinal Meningitis.**—Dunn has used Flexner's antiserum, since November, 1907, in fifteen cases of epidemic cerebrospinal meningitis, in all but one of which the diagnosis was confirmed by the finding of the diplococcus intracellularis in the cerebrospinal fluid. Of these patients eight have completely recovered, two died, and five are still under observation. The eight patients who recovered are all perfectly well, having been left with no sequelæ of any kind, an unusually favorable result in this disease. The two fatal cases were both chronic cases, in which the disease had run considerable time before coming under his observation. Of the five cases which are still pending, four patients are now convalescent and will undoubtedly recover; the other is a chronic case, in which the outcome is dubious. The eight patients, to whom the serum was given early in the disease, showed a very marked, even startling, improvement immediately following the giving of the serum. In four of these cases there was an immediate and permanent fall of temperature, exactly resembling the crisis of a pneumonia, which was accompanied by a complete and permanent return of the mental condition to normal, complete and permanent disappearance of headache, and followed by rapid disappearance of rigidity of the neck and all other signs. Two of these cases, in twelve hours after the first dose, returned from a condition of complete unconsciousness to one of absolutely normal mental condition. In the other four cases, the temperature fell to the normal by a fairly rapid lysis, accompanied by rapid improvement in the mental condition and disappearance of symptoms and signs. In two of these, there was a rapid change from a condition of active, almost violent, delirium to one of normal mentality. The conclusions he reaches are that the use of the antiserum does no harm. Our author states that he has used it in larger doses than any of the other investigators. In no case was there any sign of bad effect, and in two cases he injected it into the spinal canal without the previous withdrawal of fluid without any sign of bad result from increased intradural pressure. He would not recommend the use of this procedure without great caution. He has never seen nor heard of a case proved by lumbar puncture to be true epidemic meningitis which aborted or terminated by sudden crisis at an early stage. The recovery by crisis and the rapid improvement followed by recovery immediately following the giving of the antiserum, in so large a proportion of this series of cases, is, he believes, strong evidence of the favorable specific effect of this treatment. The completeness of the recovery

of the cases in this series is another very important feature. The most important point suggested by the results of the use of the Flexner serum, in this series of cases of epidemic cerebrospinal meningitis, is the advantage to be gained by giving it early in the course of the disease. Not only did all the patients to whom it was given early recover, but all those cases in which its use was followed by a marked immediate improvement were cases in which it was given within the first few days of the disease; and in two of these earlier cases, the disease was apparently completely aborted by one dose of the antiserum. He thinks the results of the Flexner antiserum in these cases are sufficiently good to afford a very strong basis of hope that this treatment will prove of great value in the treatment of cerebrospinal meningitis, a value commensurate with that of antitoxine in diphtheria.

3. **The Use of Fat Free Milk in Infant Feeding.**—Townsend thinks that, while fat is very necessary to the normal infant, it is more often given in excess than is generally supposed. Excess of fat may cause one or more of a number of symptoms, as, for example, constipation, white and "curdy" stools, a ravenous appetite with atrophy, convulsions. In gastrointestinal disturbances it is desirable to exclude fat. The proteids of undiluted fat free milk appear to be remarkably well borne even by young infants, and there is an absence of so called curds from the stools.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

March 21, 1908.

1. Some Neglected Facts in the Biology of the Tetanus Bacillus. Their Bearing on the Safety of the So Called Biological Products, By THEOBALD SMITH.
2. The Home Treatment of Pulmonary Tuberculosis, By ORVILLE HARRY BROWN.
3. Management of the Sexual Factor in Tuberculosis, and Its Relation to the Home Treatment, By W. H. PETERS.
4. Traumatic Pneumonia, By JAMES JOSEPH KING.
5. Injuries of the Spinal Cord, with the Study of Nine Cases with Necropsy, By ALFRED REGINALD ALLEN.
6. The Endemic Occurrence of Cancer in Fishersville, Va., and Vicinity, By A. L. TYNES.
7. "Cactin" and "Cactina." An Examination into Their Physiological Actions, By S. A. MATTHEWS.
8. A Branch of Trust: The Physician's Use of Secret Remedies, By JOHN B. ROBERTS.

2. **The Home Treatment of Pulmonary Tuberculosis.**—Brown says that in the treatment of tuberculosis a proper regulation of rest and exercise is the most important point. Absolute rest must be enforced during and for some time after the existence of toxæmia. The exercise must begin after nearly normal weight is gained, and very gradually, so as not to produce toxæmia. It is best that the exercise be begun so that there is an interval of a week or more between two exercise periods. The second important factor is good air. Fresh country air, or a climate which is not too warm, and at an altitude of not more than 1,000 to 1,500 feet, is desirable. Air should be circulating through the patient's room all the time. It is of some benefit, perhaps, in some instances, for the patient to live out of doors. This is of little importance, however, when compared with the significance of the rest and exercise. The third important factor is good food. The patient should have three good meals a day, and between each two meals a lunch of egg and milk.

Forced feeding is not necessary, but good feeding is essential. It should also be repeated that consumptives are curable, and that it is being demonstrated every day. The tuberculous patient must, however, be treated as though he were really sick, just as sick as if he had some acute disease, as scarlet fever, typhoid, or pneumonia. In tuberculosis, where there are signs of progress of the disease, it is of far more importance to keep the patient quiet than to force him to eat unusually large quantities of food, or keep him out of doors all the time, or give him large quantities of codliver oil, creosote, or other drugs.

**3. The Management of the Sexual Factor in Tuberculosis.**—Peters remarks that the problem of how to regulate sexual intercourse is one of the most difficult in phthisis therapy, and that it is correspondingly important. Some physicians think it is erroneous to hold that consumptives are more prone to sexual excitement than healthy individuals; that we are impressed in rather a disproportionate way because the erethism which some consumptives admit is surprising and grotesque, when this disease is, in itself, so enervating and so exhausting. At the other extreme are those physicians who consider the phenomenon a very prevalent one. The latter view is apt to be held by those of our colleagues who do a great deal of dispensary work among the poor in large cities, and among the victims of alcoholism and prostitution, which factors are so often either predisposing to or coexisting with consumption. Between these two extremes of opinion, however, are ample data to show that the tendency to abnormal sexual excitement is so frequent among consumptives as to require the careful attention of the physician. What are the reasons for such abnormal erethism in consumptives? There is, first, the lack of occupation, which is either enforced by the physician as one of the fundamental principles of phthisis therapy, or which has naturally come about through the patient's weakness and hesitancy of employers to engage a sick man. Enforced idleness follows, and this oftentimes leads to unwholesome introspection. Then, the temperature in consumption, no doubt, excites erethism. The toxins generated by the tubercle bacillus and in the mixed infections have a similar influence. Then, there is the forced feeding essential to the cure; the eating of raw eggs and rich red meats; also the stimulating life in the open air and sunshine, and the tonics—such as strychnine—which we find adjunct to the cure. Besides, some consumptives feel that their disease dooms them to an early death, and "Drink and be merry, for tomorrow you die," becomes their life philosophy. The physician should represent to the patient that the treatment which is emphasized, rest, nourishing food, outdoor life, and the use of tonics and stimulants, is essential, in order that the exhausted organism may fight and destroy the forces of disease which so grievously beset it; and that if the body becomes enervated by excesses and acts tending to deplete the strength, recovery can not be hoped for. We must appeal to the fair mindedness of the consumptive, stating to him that the spermatic fluid contains the fertilizing sperm up to the day of death; that children have often been born long after the death of consumptive fathers; that such children, because of the physiological poverty of their sick

progenitors, come into the world with the most unfair and cruel handicap of an abnormal heredity. The well husband of a consumptive wife should have his honor and real affection for her appealed to, not to make her pregnant; since in such cases the saddest of all deaths is deplorably frequent. Finally, consumptives who consult physicians with regard to their marriage prospects should be most earnestly counseled not to take the step until they are entirely cured.

**6. The Endemic Occurrence of Cancer in Fishersville, Va., and Vicinity.**—Tynes states that there has been an endemic of cancer in Fishersville and vicinity for a number of years. At one time there was a high mortality from cancer among those who lived in the community, by no means confined to families, succeeded by a period in which there was comparative immunity to the disease. This period is followed by a decade in which there is a recurrence of the disease, causing a higher mortality in his own practice than that of any other disease. In a nearby city, within an area a little larger than a city block, twelve cases have developed during the last seven years, and this in a city in which the physicians inform the writer they have seen very few cases of cancer. He believes sufficient evidence has been submitted to show that the high mortality from cancer in Fishersville and vicinity is not due to a fortuitous occurrence, but is due to an infectious organism transmitted directly or by means of a host. Such a theory does no violence to the views of those who believe in a hereditary predisposition to cancer.

#### MEDICAL RECORD.

March 21, 1908.

1. A Study of Four Hundred Cases of Epithelioma, in Private Practice, with Remarks on Treatment and Results.  
By L. DUNCAN BULKLEY and HENRY H. JANEWAY.
2. Acute Invasion of the Kidneys by the Bacillus Coli.  
By W. HANNA THOMSON.
3. Arneith's Method in the Clinical Study of Pulmonary Tuberculosis.  
By G. E. BUSHNELL and C. A. TREUHOLTZ.
4. The Diagnosis and Treatment of Early Ectopic Gestation.  
By ABRAM BROTHERS.
5. Treatment of Hyperphonia (Stuttering and Stammering) by the General Practitioner.  
By E. W. SCRIPTURE.
6. Freud's Method of Psychotherapy.  
By L. PIERCE CLARK.

**1. A Study of Four Hundred Cases of Epithelioma, in Private Practice, with Remarks on Treatment and Results.**—Bulkley and Janeway observe that the most frequent form of cancer which the dermatologist is called on to treat is, both pathologically and clinically, quite a different growth in its relatively benign course from the usual conception of cancer. It occurs chiefly about the face, in places where radical operative measures are apt to produce serious deformities, which very materially add to the patient's discomfort. While the experience of thirty-five years demonstrates that many cases can be permanently cured by caustic pastes, these are at times disappointing and may lead to an aggravation of the trouble. The curette cannot be depended on alone, but requires additional destructive agents to the base left after operation. By the proper use of the x ray we have a safe, and, in cases that have not been grossly neglected or mal-



treated, a sure method of cure, with the least amount of deformity. In cases where knowledge and experience show that these lighter measures are not likely to avail in checking the course of the disease, recourse should certainly be made to complete surgical removal, as this has been shown to be permanently successful in a reasonable proportion of cases.

**4. The Diagnosis and Treatment of Early Ectopic Gestation.**—Brothers observes that in the attempt to make a diagnosis of ectopic gestation a careful previous history is desirable. The age of the patient, period of married life, nature of menses previous to and since marriage, the number of children or abortions, including their nature and post partum ailments—all should be inquired into. The possibility of gonorrhœal or puerperal infections, of endometric or annexal disease should be sought for in such previous history. Previous operations—especially curettages—should be noted. In taking note of the present illness, the mode of onset—particularly if an attack of syncope is referred to—should be analyzed. Symptoms pointing to the possibility of an early pregnancy and an impending or an incomplete abortion are of peculiar value in the history of the case. The three original subjective symptoms are, irregular uterine bleeding, cramps, or pelvic pains, and fainting spells, and should direct the attention of the physician to the possibility of ectopic gestation, the diagnosis of which can then be substantiated or negatived by the physical examination. Besides these there are minor symptoms, such as rectal and bladder symptoms, etc. Distinctive diagnosis must take into consideration ordinary uterine pregnancy with the usual symptoms of impending or incomplete abortion. Diagnosis has been made of cholelithiasis or appendicitis; a fibroid uterus can usually be distinguished by the history, and the stone like hardness of the one or more tumors present. Cystic ovarian tumors and intraligamentary cysts sometimes lead to errors, particularly when they are complicated by uterine pregnancy, or are wedged in the pelvis, or are twisted on their pedicles. The cystic feel, the globular contour, the lateral situation, and the mobility of ovarian cysts suffice ordinarily to distinguish them. Pelvic abscess may at times strongly simulate an ectopic gestation. In case the presence of a febrile movement, exquisite tenderness over the mass, a markedly increased leucocytosis and polynuclear count fail to clear up the diagnosis the introduction of an aspirating needle will definitely settle the matter.

**5. Treatment of Hyperphonia (Stuttering and Stammering) by the General Practitioner.**—Scripture remarks that the general therapeutic indications include treatment of any nose or throat trouble that may be present, building up the general health, etc. It sometimes does occur that an operation for adenoids, for pharyngitis, or for anything else is followed by complete cure of the stuttering, but this is purely a result of the patient's belief that the operation was intended for his disease. Every case of hyperphonia requires special therapeutic procedures. His own experience has shown the following ones to be most effective:—Introducing the index into the voice, developing expressiveness, detracting

from the compulsive idea. The author explains his methods of procedure, and asserts that they will permanently cure three quarters of the stutterers and stammerers, if practice is given at first as often as possible and then at steadily increasing intervals. The treatment should last for fifteen minutes to half an hour. At first it should be given at least three times a week, then twice a week, then once a week, then once in two weeks, and so on. The patient should be warned that if he stops suddenly his trouble will probably return. The care of the general health and the examination of the mind, nerves, and breathing organs are so important that only a physician can be considered competent to advise. For a case of stuttering the parent should send the child directly to the doctor. Unfortunately the doctor is very likely to prescribe a tonic and to say that the trouble will pass away in the course of time. Sometimes it does; generally, however, it steadily becomes worse, and the child's companions and parents by their taunts or nagging or scolding make his life a condition of torture to which Hades would be a relief. Hyperphonia is a serious disease. The patients do not die of it directly, but their lives are so filled with suffering that most of them wish they could. That some of them are cured by outsiders does not alter the fact that most of them are not.

#### BRITISH MEDICAL JOURNAL.

March 7, 1908.

1. Clinical Remarks on Pulmonary Tuberculosis in Infancy and Childhood, By R. A. YOUNG.
2. The Modern Treatment of Surgical Tuberculosis, By V. W. LOW.
3. A Case of Actinomycosis (Streptotrichosis) of the Lung and Liver Successfully Treated with a Vaccine, By W. H. WYNN.
4. A Case of Abscess of the Lung Cured by Incision and Drainage, By C. H. COTTELL and J. R. EDWARD.
5. A Case of Phlegmonous Gastritis, By A. J. HALL and G. SIMPSON.
6. A Successful Case of Thoracoplasty for the Relief of Chronic Empyema, By J. R. LUNN.
7. A Typhoid Carrier of Twenty-nine Years' Standing, By G. DEAN.

#### 1. Pulmonary Tuberculosis in Children.—

Young states that the various authorities differ widely as to the frequency of pulmonary tuberculosis in infancy and childhood. French observers assert that fifteen per cent. of school children have tuberculosis in some form, while English and German observers make it less than two per cent. Of 337 children with cough and wasting examined by the writer, only forty-five showed signs of definite tuberculous involvement of the lungs. As regards the manner of infection of children with tuberculosis, there are five possibilities—(1) transmission from the mother to the fœtus in utero; congenital or hereditary tuberculosis; (2) inoculation of wounds; inoculation tuberculosis; (3) inhalation of tubercle bacilli in dust, vapours, or milk; (4) by swallowing bacilli in food, especially milk; ingestion or enterogenous tuberculosis; and (5) infection through the ear, Eustachian tube, or tonsil. The first two and the last of these may be dismissed as exceedingly rare, and the problem is narrowed down to the relative frequency of inoculation and of infection.



enous tuberculosis. The question is not yet settled, but it seems probable that the first is more common. As regards predisposing causes, the condition of infancy itself is one of high susceptibility, the resisting power being low, and only a very short exposure being required to produce the disease. As regards the sites and distribution of the lesions, attention is called to the great frequency with which in children the bronchial or tracheobronchial glands are involved, either primarily, or secondary to pulmonary infection. Again, the lesions in the lungs do not, as a rule, follow the well known laws of spread from apex downward, they being usually diffuse and very often most marked at the root of the lungs. The cases may be classified as follows: (a) Tuberculosis of the tracheobronchial glands; (b) acute miliary tuberculosis; (c) acute caseous tuberculosis; and (d) chronic or fibrocaceous tuberculosis. Fibroid tuberculosis does not exist in children. Cavities, while difficult to recognize clinically in children, are not uncommon; usually they are small and of recent origin. They may contain a sequestrum of broken down lung tissue. Pleurisy is common and may lead to parietal and interlobular adhesions. The diet should be liberal, but children do not stand overfeeding well. Drugs are but little needed. Tuberculin should only be used where the disease is strictly localized, and then in very small doses. The aims of the practitioner should be in the first instance to prevent infection; failing this, to establish the diagnosis as early as possible, and to employ every available means of improving the general health of the child, with the object of improving its protective powers. Under such conditions the outlook in a considerable proportion of the cases is distinctly favorable.

**2. Surgical Tuberculosis.**—Low sums up the modern treatment of surgical tuberculosis as follows: 1. In all cases "open air treatment" should be organized to meet the circumstances and requirements of the particular case. 2. The patient's powers of resistance to the disease should be periodically measured by suitable blood examination. 3. Where the resistance is found to be low and there is no evidence of excessive autoinoculation, use should be made of inoculations of Koch's new tuberculin, in doses that are accurately controlled, both as regards their amount and repetitions, by examination of the blood. 4. For patients in whom there is evidence of excessive autoinoculation, absolute rest with, in the case of a limb, absolute fixity of the diseased part, should be prescribed. 5. In the cases of circumscribed tuberculosis, efforts should be directed to increase the circulation through the infected area. 6. Operative procedures should be directed to the removal of the inert material, whether caseous glands, carious bone, or collections of pus, and allowing the access to the infected area of healthy lymph. The necessary operations should be conducted with the most scrupulous asepsis.

**7. Typhoid Carriers.**—Dean reports the case of a man who had typhoid fever twenty-nine years ago, and who still has living typhoid bacilli constantly present in his stools. Our conception of typhoid fever has been materially altered by the observations of Förster. It is now held that the bacilli are pres-

ent in the blood during the incubation period, and even before they can be found, antibodies are present. The bacilli only appear in the faeces during the first and second weeks. The bacilli therefore do not multiply when first taken into the alimentary tract, but find their way through its walls into the blood. At a very early stage they gain entrance into the liver and bile, and set up inflammation in the bile ducts and gallbladder. Normal bile is not a good medium for their growth, but when the albuminous secretion due to the typhoid inflammation is added to it, it becomes an excellent medium, and the bacilli grow freely in the gallbladder and pass out in large numbers, but intermittently, into the small intestine. This explains the irregular occurrence of the bacillus in the faeces. In most cases, with recovery the inflammation in the bile ducts and gallbladder also ceases. But in about two per cent. of the cases this cholecystitis typhosa becomes chronic, and the bacillus continues to multiply in the gallbladder for months or years, and to be thrown out into the gut, and on out with the faeces. The gallbladder is then a normal habitat of the typhoid bacillus. These cases are the so called "typhoid carriers"—constant sources of danger to the public. They account for the sporadic cases, the origin of which has been so puzzling. Gallstones occur in many cases, and, just as three fourths of the cases of biliary calculi in general occur in women, so three fourths of the typhoid carriers are also women. In most of the cases the blood serum possesses marked agglutinating properties. This may be useful as a means of detecting such cases in a community. There is an enormous reduction in the total number of microorganisms present in the faeces, the normal inhabitants having been altogether or largely replaced by the typhoid bacillus.

#### LANCET.

March 7, 1908.

1. The Surgery of the Spinal Cord and Its Membranes (Hunterian Lectures, I), By D. J. ARMOUR.
2. The Diatheses: The Personal Factor in Disease, By SIR D. DUCKWORTH.
3. A Case of Aortic Aneurysm with Extensive Arterial Disease, By S. TAYLOR.
4. A Case of Wertheim's Hysterectomy for Advanced Carcinoma of the Cervix, By A. H. N. LEWERS.
5. Hernia of the Iliac Colon, By R. A. STONEY.
6. The Pathology and Aetiology of Intussusception from the Study of 1,000 Cases (concluded), By D. C. L. FITZWILLIAMS.
7. Seven Years' Experience of the Finsen Treatment, By J. H. SEQUEIRA.
8. A Case of Egg Poisoning, By A. T. SCHOFIELD.
9. Motoring Notes, By C. T. W. HIRSCH.

**1. Surgery of the Spinal Cord.**—Armour, in the first of the Hunterian lectures on the above mentioned subject, discusses the congenital malformation known as spina bifida. Under the terms "rachischisis" and "spina bifida" are included the principal forms of congenital defects of the spine. Both are characterized by a deficiency in the vertebral arches, but distinguished by the presence or absence of a well developed spinal cord. Total rachischisis includes all cases in which the vertebral canal is open from end to end; the cord is always rudimentary or atrophic, split open or bifid. It may be entirely absent (amyelia). This form

occurs much more often with anencephaly. Partial rhachischisis includes cases in which the defective development affects only a part of the column. It may or may not be associated with the presence of a hernia, the condition being then known as meningocele, meningomyelocele, or syringomyelocele, according to the relation of the spinal cord to the sac. In spina bifida occulta there is no external evidence of the defective development of the vertebral column, normal skin covers the affected area of bone, and no cyst projects through the bony defect, which is usually closed in by a thick fibrous membrane. Spina bifida may be accompanied by other malformations of the spinal cord, and clubfoot, double or single, is a common complication. Congenital dislocation of the hip, hare lip, cleft palate, etc., also occur. Spina bifida occurs about once in 1,000 births, and both sexes are equally affected. While it may appear in any portion of the spine, the lumbosacral region is most frequently affected, the sacral being next in order of frequency. This is probably due to the fact that the medullary groove is latest in closing here to form the neural canal. The diagnosis is usually easy, except where the tumor makes its exit through a defect at the sides of the spinal column and forms an intraabdominal cyst. Here it may be impossible to distinguish it from other abdominal cystic tumors. It is often impossible to distinguish clinically between the various forms of spina bifida, myelocystocele, meningomyelocele, and meningocele. The treatment of rhachischisis, or complete lack of union, is hopeless. Spontaneous cure in spina bifida does take place occasionally; cure may also follow rupture and ulceration, but these processes are also the most common causes of death. Protection against rupture and abrasion should be maintained in all cases. Simple tapping should never be resorted to as a curative procedure; the fluid returns quickly, and sudden death sometimes occurs. The only forms of treatment to be recommended are palliation or excision. Palliation is obtained by the use of some form of shield used in conjunction with a broad abdominal belt. But excision is now universally adopted, except in absolutely inoperable cases. The indications to be met are the removal of the sac and the closure of the cleft. The simplest and quickest technique is the best; no drainage should be used, and special attention paid to asepsis. The operation should be done as early as possible. The chief contraindications are marasmus and hydrocephalus. The prognosis without operation is absolutely bad.

5. **Hernia of the Iliac Colon.**—Stoney states that hernia of the iliac colon may occur in at least three distinct ways: 1. It may be drawn into or through the inguinal canal by an extra attachment of the gubernaculum testis. 2. It may be drawn down by a protrusion of the peritonæum covering it in the formation of the sac of an ordinary hernia. 3. There may be a giving way or lengthening of the supporting apparatus of this portion of the intestine and a subsequent protrusion of it by the expansive action of the abdominal muscles and diaphragm. The operative treatment varies according to the condition of the sac, where this is com-

plete it will not differ from the radical cure of any other inguinal hernia; but where the sac is incomplete the difficulties in the way of a radical operation may be great. The two main points to be attended to in the operation are, first, not to interfere with the blood supply of the loop of intestine, either while trying to separate adhesions or while dissecting up the posterior wall of the sac above the loop of intestine from the surrounding tissues, for this would mean almost certain gangrene of the gut; and, secondly, an attempt should be made to stitch the cut edges of the peritoneum after the main part of the sac has been cut away and the gut and remainder of the sac together have been reduced inside the abdominal cavity.

6. **Intussusception.**—Fitzwilliam's paper is based on a study of one thousand cases of intussusception. In the first part he brought forward arguments to prove that the so called ileocolic variety of intussusception is nothing more than an enteric invagination which has commenced in the lower part of the ileum and passed through the valve. In the second he deals with the classification of intussusception, the relative numbers of each variety, and gives a short account of some of the rarer forms. The seasonal incidence of the condition is marked. The number is low during January and February, and then suddenly rises to the maximum in March. From April to September the fall is gradual, with a slight rise in October and November, and a sharp rise in December. The remarkable thing is the steady fall in the number of cases during those months in the summer and early autumn when the intestinal disorders of infants are most marked. The rise during December is probably connected with the dietary peculiar to Christmas time. The marked rise during March is associated with Easter, at which time older children are accustomed to take candy and other indigestible food, a share of which is given to the infants. Of 788 cases, sixty-eight per cent. were boys and thirty-two per cent. girls. This disproportion between the two sexes becomes still better marked in children under twelve years of age, the ratio between boys and girls being then three to one. Whatever may be the explanation of this, it is probably not due to any difference in anatomical relationships, since the preponderance is most marked during the early years of life before any sexual differences become marked. Indeed, the sex incidence rather favors a dietetic origin of the affection; male children, being larger and stronger, are given more food than those of the opposite sex. Want of coordination of the intestinal movements may be an important factor in the production of intussusception. It is only a factor, for it cannot be the sole cause. From the diminution in the numbers of intussusceptions during the months when epidemic diarrhæas are at their height, it may be supposed that the more violent forms of intestinal stimulation are so potent that any invagination which has taken place is reduced by the rapidity of the intestinal movements long before it has become really established. The age incidence, the effect of the seasons, and the disproportion between the sexes all seem to point to a dietetic rather than to an anatomical causation of the disease.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

March 3, 1908.

1. Oponins as a Means of Distinction and Identification of Pathogenic Forms of Bacteria, By SCHOTTMÜLLER and MUCH.
2. Hæmolytic Action of Anchylostoma Duodenale, By PRETI.
3. Concerning the Relation of Cobra Poison to the Red Blood Cells, By SACHS.
4. The Use of Phlebotomy and of the Local Abstraction of Blood in Neuroses and in Gynæcological Diseases, By THEILHABER.
5. Blood Serum Studies in Carcinoma of the Stomach and Intestines, By ROSENBAUM.
6. Graphic Registration of Blood Pressure in Man, By JAQUET.
7. Standard Conditions for the Basis of the Dosage of the X Rays, By HESSMANN.
8. Concerning Inhalations of Saponin in Diseases of the Upper Air Passages, By ZICKGRAF.
9. Contribution to the Causes of Death After Lumbar Anæsthesia with Stovain, By BIRNBAUM.
10. Concerning a Case of Tuberculosis of the Liver with Large Nodules Cured by Operation, By BUNZL.
11. Pathology of Laryngocœle, By SCHEVEN.
12. Casuistic Contribution to the Importance of the Radiological Investigation of the Colon, By WIESNER.
13. Concerning Treatment of Placenta Prævia by Vaginal Cesarean Section, By RÜHL.
14. Concerning a Case of Traumatic Luxation of the Right Ulnar Nerve, By QUADFLIEG.
15. A Glass Bulb Filled with Physiological Salt Solution Ready for Use as an Infusion, By BRENNER.
16. The Restriction of Laparotomy by Vaginal Methods of Operation, By FLATAU.
17. Are the Objections to the Legal Regulations Concerning Sexual Perversions Scientifically Tenable? By WEYGANDT.
18. Obituary of Oskar Lassar, By JESIONEK.
19. The New Regulations as to Board in the City Hospital in Dresden, By SCHANZ.

1. **Oponins as a Means of Distinction and Identification of Pathogenic Forms of Bacteria.**—Schottmüller and Much state that the honor of the discovery of oponins belongs to Russia at the hands of Metchnikoff, but acknowledge the indubitable service of Wright and his followers in the discovery of a practicable method for their determination. They now advance the theory that if several kinds of bacteria are to be found in a sick man and yet only one of them is influenced opsonically by his serum it is extremely probable that this microorganism is alone the originator of the sickness. When several kinds of bacteria are thus influenced the case is one of mixed infection. They present first the results of their investigations in cases of acute gastritis, gastroduodenal catarrh, and gastroenteritis, then a case in which the bacillus coli communis played a passive rôle, then cases of epidemic cerebrospinal meningitis, in all of which the offending microorganisms seemed to be pointed out.

3. **Cobra Poison and the Red Blood Cells.**—Sachs disagrees with the conclusions recently published by von Dungern and Coca to the effect that the cobra venom contains a constituent rendered specially active by serum complement which unites with the red blood corpuscles.

6. **Graphic Registration of the Blood Pressure.**—Jaquet describes an instrument which he has devised and named the phrygmotograph that is to be applied to the wrist of the patient in such a way that the pulsations of the radial artery will be transmitted to a registration needle, which will record the blood pressure at the time.

8. **Inhalations of Saponin in Diseases of the Upper Air Passages.**—Zickgraf states that he has obtained excellent results in nasal conditions varying from rhinitis sicca to ozena from the inhalations of the fumes of saponin dissolved in hot water to the strength of one or two per cent.

12. **Radiological Investigation of the Colon.**—Wiesner reports a case in which an interval operation for appendicitis was successfully performed, but was followed in about four weeks by attacks of acute colitis occurring about every three weeks. Radiological examination revealed the fact that the cæcum and a portion of the descending colon were bound down by adhesions, and that a small blind pouch had become formed in this portion of the intestine. This condition was relieved by another operation, and a radiological investigation three months later showed that the intestine was in good position. There had been no recurrence of the attacks of acute colitis five months after the operation.

13. **Treatment of Placenta Prævia by Vaginal Cesarean Section.**—Rühl reports two cases of placenta prævia, in which he performed Cesarean section through the vagina. He strongly advocates this method of treatment, although formerly he was inclined to condemn Cesarean section, either abdominal or vaginal, as not indicated in such cases.

14. **Traumatic Luxation of the Right Ulnar Nerve.**—Quadflieg reports a case of luxation of the ulnar nerve in a man, thirty-five years old, who had received an injury to the arm. The nerve was laid bare and attached with silk threads to the tendon of the triceps, the sutures passing through the perineurium. The pain and other symptoms, which are graphically described, disappeared immediately as the result of the operation. This method of fixation of the nerve seems to have worked better in this case than the method of resection of a part of the nerve on the assumption that it has been overstretched.

## LA PRESSE MEDICALE.

February 29, 1908.

1. The Previous Condition of Victims of Railroad Accidents, By V. BALTHAZARD.
2. Fulguration in the Treatment of Cancer, By R. ROMME.

1. **Previous Condition of Victims of Railroad Accidents.**—Balthazard discusses the influence that should be exerted by the previous condition of the victim upon the indemnity for injuries received.

March 4, 1908.

1. Electrolysis in the Treatment of Angiœmata, Particularly of Angiœmata of the Parotid Region, By F. REDARD.
2. Evolution, Forms, and Treatment of Bronchointestinal Autoinfection in the Newly Born, By P. LONDE.

1. **Electrolysis in the Treatment of Angiœmata.**—Redard reports with illustrations a case of angiœma of the parotid region in a child of eleven months which he successfully treated by means of electrolysis. Five sittings only were required, and the author declares that this is not an isolated case, that he has cured in the same way many angiœmata of the face which appeared to be serious. He describes his technique very fully. When the patient is not docile, or when the angiœma is large, arterial, or situated in a dangerous region, general anæsthesia is necessary. Local anæsthesia is insuff-



ficient. The sittings should not be frequent. After the first sitting from two weeks to a month should elapse before the second, and the time between the subsequent sittings should be determined by the effect obtained.

**2. Bronchointestinal Autoinfection in the Newly Born.**—Londe classifies these affections as: 1, Combined forms; (a) with coincident localization; (b) with alternate localization, acute, subacute, and chronic, slight, serious, and very serious. 2, Disassociated forms; (a) with the respiratory manifestation isolated, but not primary; (b) with the gastrointestinal manifestation primary and isolated, each either acute, subacute, or chronic, slight, serious, or very serious.

#### LA SEMAINE MEDICALE.

March 4, 1908.

1. Retrodeviations of Young Girls and Retrodeviations of Young Women, By PROFESSOR R. DE BOVIS
2. Blepharoplasty by Means of a Pedicled Flap Taken from the Neck.

**2. Blepharoplasty by Means of a Pedicled Flap Taken from the Neck.**—The writer describes briefly the well known operations by means of pedicled flaps for the formation of new eyelids, and devotes much space to a consideration of the operation recently brought forward by Snyder, of Chicago. This operation is described in full, an evident translation from an American journal, the name of which has been omitted, probably on account of a lapsus memorie.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

March, 1908.

1. Graves's Disease and Its Treatment, By W. H. THOMSON.
2. Adiposis Tuberosa Simplex, By J. M. ANDERS.
3. The Choice of Operation in Pyloric Stenosis, By J. M. T. FINNEY.
4. The Occurrence of Congenital Adhesions in the Common Iliac Veins, and Their Relation to Thrombosis of the Femoral and Iliac Veins, By J. P. M. MURKIN.
5. Acute Glandular Fever, By G. I. JONES.
6. Epidemic Cerebrospinal Meningitis in Hartford, Conn., During 1904-1905, with Special Reference to the Cases Treated at the Hartford Hospital, By W. R. STEINER and C. B. INGRAHAM.
7. Tumors of the Cauda Equina and Lower Vertebrae. A Report of Nine Cases, Seven with Necropsy, Three with Operation, By W. G. SPILLER.
8. Morbid Somnolence, By D. O. HECHT.
9. A Fatal Case of Pontic Hemorrhage, with Autopsy, By T. DILLER.
10. Chorioepithelioma of the Uterus. Report of a Fatal Case, with Operation and Autopsy, By B. M. ANSPACH and H. R. ALBURGER.
11. Specific Immunity and X-Ray Therapeutics, By A. W. CRANE.

**1. Graves's Disease and Its Treatment.**—Thomson states that no disease shows so many signs of a universally acting toxæmia. Its many derangements may be extreme, though no organic change accompanies any of them. He thinks the symptoms prove that one agent produces all the effects, and that the disease cannot be confounded with anything else. The nature and origin of its specific poison are wholly unknown. The chief cause of this ignorance is a want of knowledge concerning the physiology of the thyroid and its associated structures. The nature of the disease is complicated by the oc-

currence of two serious conditions which follow removal of the thyroid, namely, hyperpyrexia and tetany. The view that the disease is due to hypersecretion of thyroid juice is questioned. Proper medical treatment furnishes the best chance for recovery in severe or mild cases. Rest from both physical and mental exertion is the first requirement. Dark meat and shell fish must be avoided. The standard article of diet must be milk either fermented or peptonized, but never raw. Certain vegetables and cereals are permissible and most of the fruits. Medical treatment consists mainly in the persistent use of intestinal antiseptics.

**2. Adiposis Tuberosa Simplex.**—Anders defines this condition as constituted by the presence of a larger or smaller number of fat nodules, ranging in size from a bean to a hen's egg, in the subcutaneous tissue of the abdomen or the extremities. They do not fuse together, are not elevated above the surface, and are usually painful to the touch. The cause is the same as that of general obesity, and they are removable by the same treatment which will remove obesity. They are not associated with any glandular, mental, muscular, or nervous trouble. That they are caused, like adiposis dolorosa (Dercum's disease), by disease of the lymphatic structures, of the thyroid, or of the hypophysis, is deemed improbable on account of the mildness of their symptoms and the readiness with which they yielded in the four cases reported by the author to careful dietetic and regiminal treatment.

**3. The Choice of Operation in Pyloric Stenosis.**—Finney limits his discussion to the consideration of organic strictures, surgical treatment being always presupposed for such conditions. Pyloric stenosis in the adult usually originates from an ulcer. The choice of operation should depend partly upon the patient and partly upon the ability of the operator. If the condition is due to incipient cancer an attempt at extirpation should be made by the Billroth No. 2 method. If the obstruction is of benign origin the choice of operation will lie between gastroenterostomy, pylorotomy, pyloroplasty, and gastroduodenostomy. The clinical results which have followed gastroenterostomy by the "no loop" operation of Mayo have been very good, the object being to obtain good drainage of the stomach. The advantage of pyloroplasty is that it preserves the anatomical and physiological outlet of the stomach, and it is indicated in the author's experience in connection with dilatation of the stomach, dense adhesions, hypertrophy and cicatricial thickening of the stomach wall, acute and chronic ulceration, and pylorospasm. In forty-five cases the author has had very good results, and he prefers the operation to any other.

**5. Acute Glandular Fever.**—Jones defines this condition as an infectious disease, developing usually without preliminary signs, and characterized by slight redness of the throat, high fever, and swelling and tenderness of the lymph glands of the neck. Most of the reported cases have been in Germany and France. Puffer having described the disease as *Differential*. It may be endemic or sporadic. Twelve per cent. of the cases are in children. Exposing to cold and damp favors its development. Some writers suppose it is a peculiar form of adenitis. Its

incubation is five to seven days. Its onset is sudden, with headache, abdominal pain, anorexia, chills, constipation, coated tongue, pulse from 90 to 130, temperature 102° to 104° F. The enlargement of the glands begins from the second to the fifth day and persists, with more or less tenderness, two or three weeks. The spleen, liver, and mesenteric glands are also enlarged in many cases. Convalescence is usually uninterrupted. The differentiation must be from leucæmia, pseudoleucæmia, tuberculous adenitis, and syphilis, also from typhoid fever and influenza. The presence of Pfeiffer's bacillus determines the diagnosis.

**7. Tumors of the Cauda Equina and Lower Vertebrae.**—Spiller states that the diagnosis of these tumors must be between hysteria, multiple neuritis confined to the lower limbs, intrapelvic tumor, tumor or caries of the lumbar vertebrae or sacrum, lesions within the vertebral canal but external to the dura tumor or other lesion of the conus, and the condition which is under consideration. The pain with these tumors may be unilateral or bilateral. The functions of the bladder and rectum may be greatly impaired. Digestive disturbances and emaciation are late symptoms. Both anterior and posterior roots may be involved, and paralysis of motion and sensation ultimately ensue. The symptoms develop very slowly, but may be entirely disproportionate to the size of the tumor. With regard to surgical treatment, the operable tumors are those of the membranes that have not implicated the cord and are lipomata, fibromata, psammomata, echinococci, and exostoses.

**11. Specific Immunity and X Ray Therapeutics.**—Crane draws the following conclusions: 1. Such treatment may require sufficient intensity to set free in the tissues the equivalent of an autogenous vaccination. 2. The duration of exposure and extent of diseased tissue exposed should be so regulated as to induce a small negative phase or none at all. 3. The repetition of exposures should be governed by the duration of the negative and positive phases. If the disease producing agent in a given case is undetermined, one should follow the analogy of cases in which opsonic estimations can be made. The advantages of x ray over opsonic therapy are: 1. The immunizing substance set free by the x ray is autogenous, being formed from the actual microbe strain which is producing the disease. 2. Many of the difficulties and mistakes of a bacteriological diagnosis are eliminated. 3. If the bacteriological cause is undetermined or the disease producing agents are not bacteria, the x rays are still applicable.

#### THE SCOTTISH MEDICAL AND SURGICAL JOURNAL

March, 1908

1. Notes on Immunity to Disease, By W. F. HARVEY and ANDERSON MCKENDRICK.
2. Some Experiences with X Ray and High Frequency Treatment, By F. GARDINER.
3. The Recognition and Treatment of Incipient Mental Disease, By T. C. MACKENZIE.

**1. Notes on Immunity to Disease.**—Harvey and McKendrick review our vaccinotherapy. The applications are numerous. Some have been more successful than others. A tubercle vaccine—Koch's tuberculin—has been used for the cure of lupus, tu-

berculous glands, tuberculous sinuses, and genito-urinary tuberculosis. It has been also used in early cases of phthisis. A staphylococcus vaccine has been used for boils, acne vulgaris, syphilis, malignant endocarditis, certain cases of pyæmia, and other such affections due to this organism. A bacillus coli vaccine is useful in some cases of appendicitis, cystitis, and cholecystitis. It is quite possible that an efficient gonorrhoeal vaccine may be found which will be useful in chronic cases. We may hope for a dysentery vaccine, Malta fever vaccine, and pneumococcus vaccine.

#### THE EDINBURGH MEDICAL JOURNAL.

March, 1908.

1. Remarks on Empyema Based on a Series of One Hundred Consecutive Cases, By ALBERT E. MORISON.
2. The Symptoms and Ætiology of Mania (*continued*), By LEWIS C. BRUCE.
3. A Résumé of the Report of the Royal Commission on Human and Bovine Tuberculosis, By J. S. FOWLER.
4. Tumor of the Cauda Equina Removed by Operation: Recovery, By R. C. ELSWORTH.
5. A Review of Recent Work on Spinal Anæsthesia, By J. W. STRUTHERS.
6. Tropical Diseases: Notes on Some of the More Interesting Cases Recently Under Treatment in Edinburgh, By D. E. MARSHALL.

**1. Remarks on Empyema.**—Morison concludes from his observation of one hundred consecutive cases of empyema that pleuropneumonia is the most frequent cause of empyema, while it rarely follows pleurisy with effusion. In adults empyema is more likely than in children to be secondary to serious lung disease. The diagnosis of empyema is not always easy, for it may be ushered in by symptoms pointing more to the abdominal than the thoracic cavity, and the physical signs resemble closely those of consolidation. The exploring needle should be used in all doubtful cases, and, if needful, in more than one place, as there is no danger in using the needle with proper care. The immediate prognosis of an uncomplicated empyema treated by incision and drainage is good. It is worst when allowed to burst through the chest wall. The remote prognosis is excellent. No deformity follows recovery, and no sequelæ are to be anticipated. The best prognosis can only be given in cases where an aseptic condition of the pleural cavity can be assured by antiseptic operation and antiseptic after treatment. The anæsthetic should be carefully administered, and the patient not turned over during its administration; in adults it is safer to do the operation without general anæsthesia. Aspiration is disappointing as a curative agent, but is useful in some cases temporarily, while incision and drainage with antiseptic precautions may be trusted to cure all cases of curable empyema, but irrigation is unnecessary and dangerous. Rib resection is needful in some neglected cases, but in the generality of cases it is needless surgery.

**3. A Résumé of the Report of the Royal Commission on Human and Bovine Tuberculosis.**—Fowler reviews the report. The exact reference to the commission was to inquire and report: (1) Whether the disease in animals and man is one and the same; (2) whether animals and man can be reciprocally infected with it; and (3) under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the



circumstances favorable or unfavorable to such transmission. In the seven years which have elapsed since the commission was appointed, interest in the tuberculosis problem, so far from fading, has spread among all classes, and the observations and conclusions of the commission are of great importance in their bearing upon one of the practical questions of the day. The commission has not answered the first question referred to it, but it is able to give an affirmative reply to the second. The principal points drawn attention to in the conclusion of the report are: (1) That a certain amount of tuberculosis, especially in children, is directly due to infection with the bovine bacillus. (2) That tuberculous milk is clearly a cause of tuberculosis, and fatal tuberculosis, in man. (3) That a very large proportion of tuberculosis contracted by ingestion is due to bovine bacilli. (4) That more stringent measures are required to prevent the sale or consumption of milk from tuberculous cows.

### Proceedings of Societies.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, January 22, 1908.

The President, Dr. A. M. EATON, in the Chair.

**Cancer of the Stomach.**—Dr. JOHN J. GILBRIDE exhibited a specimen of cancer of the stomach taken from a woman seventy-two years of age. The entire stomach was involved and was reduced to about one third the size of the normal organ. It was firmly adherent posteriorly. The pancreas was also involved as well as the transverse colon. Metastases were distributed throughout the great omentum. The woman had been under treatment by various physicians and at dispensaries and clinics for a period extending over four years. The various diagnoses given were gastritis, nervous dyspepsia, kidney disease, nervousness, etc. The case was illustrative of the lax methods of examination too often employed in such cases, since the woman, according to her own statement, had never been thoroughly examined, and her disease had not been recognized until within a few months of her death.

**Wanted, a Medical Bureau of Publicity, Especially for County Medical Societies.**—This was the title of a paper presented by Dr. J. MADISON TAYLOR. The profession of medicine, he said, was essentially an educational agency. It was still held by its nobler traditions to a dignified position of reticence. It was governed by ethical principles somewhat restricted and vague. Nevertheless, the question should be fairly met, "Did these ethical limitations accomplish the objects for which they were originally devised?" By not one jot or tittle would he assail the spirit in which they were conceived or mar the purity of those principles of right conduct, of conscientious protection of the home, or of mutual relationships between advisers and family long maintained. There was, however, ground for fear that in the wider field of relationships between the profession and the great world movements, gross misapprehensions had arisen. These misconceptions had long been a source of injustice, not alone to us,

but to those who needed our counsel. Much harm resulted.

The central aim of the profession of medicine was radically different from all other professions, callings, organized activities. Only a few individual representatives failed to adhere conscientiously to this aim. We stood as a unit sworn to use all the powers we possessed and could acquire to prevent the very causes of conditions which made our calling necessary. A secondary purpose was to cure or remedy with the utmost promptitude the baneful effects of these causes. In short, whereas all business enterprises endeavored to increase a demand, we strove to prevent, to check its growth. So much for the basis of our professional ideals, to which, with rare exceptions, all its exponents adhered.

Not so, however, with that immense force of commercial auxiliaries grown up alongside, viz., the purveyors of articles which we used in our work, drugs, remedial agents, waters, various appliances, and lately special foods, *et id omne genus*. The watchword of these men was not only to supply all demands, but to apply progressive business principles to their enterprises and keep the demand not only active, but overactive, to create a demand, legitimate or artificial. They assumed to teach us and form opinions for the public. Here was a grave peril for which we were partly responsible by omitting to insist upon needful precautions.

It is most difficult to compete with shrewd merchants in distinguishing between statements based on truth and those which were adroitly cited to sustain fictitious demands or to encourage excesses of supply. Above all, we should aid in promulgating right conceptions of the advances in medical science. The agency we must use was the public press. Here, upon this recognized arena, with the great body of thinking people as an audience, must we stand to win or lose on truth as our inspiration, on ethical principles as rules of the competition, on our sincerity of purpose to benefit our fellow man as the banner of our cause.

In his opinion it was necessary to meet modern conditions by adopting modern methods. Every form and kind of opponent to the purposes and efforts of the profession made use of the newspapers to reach the attention of the people. The whole crew of fakirs, grafters, panderers to evil amusements, venders of disguised poisons, and all the disseminators of hurtful influences employed vast sums of money through press agents of one kind or another. The one available means of combating these destructive agencies was for organized medical bodies to establish bureaus of publicity, safeguarded by competent committees, through which information, opinions, action should be accurately and systematically supplied to the papers. The public were made fully aware of every tempting method of doing themselves harm. We, as a profession, failed to exert the countervailing influences which ought to impress the consciousness of those who needed our protection. Every large city should have a medical editor, to whom matters of polity should be referred. He had better be a busy practitioner, too, not one whose professional activities had ceased.

The author would propose the establishment of medical bureaus of publicity in connection with all



county medical societies. A reliable press agent should be retained. Many and varied reasons could be adduced why these were absolutely essential to secure a correct presentation of facts bearing upon the integrity of medical science and the best interests served by the conservators of public and private health. Among the most important of these was the well known fact that all those interests which were diametrically opposed to medical ethics did employ press agents. With them it was a question of business. Good business methods demanded that the public should be made acutely aware of the more attractive phases of the proposition offered. These fakirs had goods to sell, advice, or whatever they wished to barter for money. The chief avenue of diffusion was the daily press, through the ordinary channels of advertisement or shrewdly placed news items. For example, it was well known that the great nostrum vendors expend many millions of dollars annually, and through the intelligent cooperation of professional press agents. These constituted practical bureaus of publicity for quackery. No organized medical body in the world spent one cent for popular education, to "put the people wise" on questions it was their desire and duty to have correctly understood. Yet a large and increasing group of irregulars did spend vast sums to mislead the unwary, thereby causing incalculable damage to morality and health.

Teaching mankind systematically and accurately how to know good from evil, right interpretations of current facts, advancements in scientific knowledge of hygiene, correct living and acting, should be the undivided purpose of the profession of medicine. The first step was to get the real facts known, to teach the people correctly what we were doing for their welfare, to furnish information of a kind calculated to advance the best interests of the race. The form and character of such bureaus of publicity should be carefully formulated. Rules to govern methods, however, should be revised repeatedly and promptly, until, by intelligent evolution, consonant with experience, they became perfected.

Dr. JOHN G. CLARK, chairman of the Board of Public Education of the American Medical Association, spoke of the plans being formulated by the board in the matter of educating the public upon medical matters. Educators and editors generally had taken the most enthusiastic view of the question. A large number of subjects really required public exploitation, and efforts were being made to have the large magazines and the agricultural and other papers publish articles bearing upon such subjects. It was the aim of the board that all the articles published for lay people should be bound together or in pamphlet form. In the event of an outbreak of typhoid fever, if necessary, a certain district might be flooded with literature drawing attention to the necessity of disinfection of water and bearing upon general principles, but not upon treatment. For advice as to treatment any person would be referred to his family physician. It was the object of the board to take up the broader phases of medicine; possibly the history of medicine would be considered. All articles would be unsigned.

Dr. A. B. HIRSH felt that the proposition of Dr. Taylor to have the Philadelphia County Medical

Society name a Committee on Publicity should take practical form, and referred to similar work done by one of the other county medical societies of the State.

Dr. JAY F. SCHAMBERG believed that medical bodies should have publicity or press bureaus, that the work could be done in such a manner as to prevent any abuse, and that it would result in a vast amount of good to the public. He gave credit to Dr. Taylor for his courage in braving the attitude of the medical profession by the publication over his name of articles in the public press which he thought were for the public welfare. It seemed to Dr. Schamberg feasible to have a bureau of publicity composed of prominent men in the society who could revise reports given out to the press for publication.

Dr. CHARLES A. E. CODMAN endorsed the paper of Dr. Taylor, but thought that, since such work was to be done by the American Medical Association, it seemed unnecessary that each county society in Pennsylvania should have such a committee or bureau working independently. He would favor a plan whereby the State society should have the general control of all the subsidiary bureaus in the State, with the committee of the State society working in connection with that of the American Medical Association. He believed there should be such a bureau of publicity, but that the profession should work together, thereby making its power felt.

**The Importance of an Ocular Examination in Pregnant Women Manifesting Constitutional Signs of Toxæmia.**—Dr. WILLIAM CAMPBELL POSEY and Dr. JOHN COOKE HIRST referred in this paper to the value of an ocular examination, not only in pregnant women who had albumin in the urine, but also in cases of toxæmia where the urine showed no traces of albumin. This happened when the liver or other organ apart from the kidney was unequal to the task put upon it by the excessive tissue changes, or when the kidneys, though diseased, had not as yet excreted albumin. They pointed out that the quantitative estimation of urea was not always of value in proving a toxic state of the system, careful studies of which were made upon groups of patients at the Maternity of the University of Pennsylvania showing that the urea varied from 0.1 to 3.5 per cent. in patients each of whom received exactly the same amount of food. They insisted that obstetricians should appreciate two facts; first, the changes in the fundus of the eye which had been occasioned by renal disease, and were almost certainly diagnostic of renal disease, might precede the presence of albumin in the urine; and, second, that the ophthalmoscope might give evidence of disease other than of the kidneys which has been excited by the toxæmia of pregnancy.

While the renal condition which arose in pregnancy was an acute condition, it was not unlikely that chronic nephritis might have existed in many cases prior to pregnancy. An examination of the fundus under these conditions revealed in most instances disease of the retinal vessels, and served to put the obstetrician on his guard. The writers reported all the cases found in literature of ocular

changes which had been noted in women who were pregnant, but whose urine did not contain albumin. They pointed out that, the diagnosis of toxæmia once made, the question of saving the life of the mother must be considered. Sillex concludes that when retinitis developed in the first months in cases in which chronic nephritis had previously existed in a latent form, but had been set into activity by pregnancy, labor should be at once artificially induced, for not only was the life of the mother jeopardized, but there was present the possibility of blindness. In the acute nephritis of pregnancy he considered the prospect for sight during the progress of pregnancy none too favorable. The prognosis for sight in cases in which the ocular changes had been induced by the renal toxæmia of pregnancy had been well established, Culbertson's figures recording blindness in 24.99 per cent., partial recovery of sight in 58.31 per cent., and recovery of sight in 16.66 per cent. of the cases. Sillex's tables showed blindness in twenty-five per cent., partial recovery of sight in forty-seven per cent., and recovery of sight in twenty-nine per cent.

The writers reported a case of toxæmia during pregnancy where the ocular symptoms, which were the only demonstrable signs of the disease, also the general symptoms, disappeared promptly after the artificial induction of labor. The urine was free from albumin at all times, and the general symptoms were few, and had the ophthalmoscope not revealed the malignancy of the toxæmia, it was probable that labor would not have been interrupted, and it was not unlikely that the patient would have died of eclampsia. Active eliminative treatment gave no relief. Dr. Hirst then induced labor artificially. The general symptoms disappeared at once and the ocular changes after some weeks. A year had elapsed since the termination of the pregnancy. The general condition of the patient was somewhat abnormal, and though there had been no recurrences of the retinal travassations, the retinal vessels appeared unhealthy, being unduly full and tortuous, awaking the suspicion of a disease of their walls. Nothing abnormal had been found in the urine, and the patient's physician was inclined to regard the toxæmia as a result of the failure of the liver to perform its functions properly, the patient's father having died of hepatic cirrhosis, and there having been great tenderness over the whole liver until after the expulsion of the fœtus.

Dr. GEORGE E. DE SCHWEINITZ said that the recent work of Berger and Loewy stated that the ocular complications of pregnancy might arise: (a) from pressure of the gravid uterus on the circum-uterine nerves, causing reflex symptoms; (b) from qualitative changes in the blood; (c) from auto-intoxication, which in its turn might arise from fermentations in the intestinal tract, or from new toxic substances which came from the fœtus, the placenta, insufficiency of the kidneys, or atony of the bladder. Finally, the cessation of menstruation during the pregnant period, according to Charrin and Roche, was capable of originating metabolic products which otherwise would be eliminated, added to which there might be an insufficient action of the antitoxic active glands, especially of the liver. It was, therefore, evident that the pathways were

numerous, and the statement of Winckel that in 1.6 per cent. of pregnancies some disorder of the visual organs could be found was well within the possibilities. Naturally, the most important ocular complication was the development of the albuminuric retinitis of pregnancy, to which the paper of the evening did not specially refer, and which was so sure a sign of serious disorder that the question of inducing premature labor must immediately be seriously discussed, if the eyesight of the patient was to be saved. An equally important matter, however, was to determine whether or not there were other ophthalmoscopic signs which might be of service to the obstetrician if widespread retinal lesions were absent, and if frequent examinations failed to show albumin in the urine. Dr. de Schweinitz observed that thus far there was no ophthalmoscopic picture which is diagnostic, although, as the essayist had pointed out, neuritis and neuroretinitis, retrobulbar neuritis, and retinal hæmorrhages might develop without the presence of albumin; and if they were present, they furnished potent reasons for the most searching investigation and for a discussion of the necessity of interference with a view to terminating the pregnancy. He believed it probable that certain types of auto-intoxication, although the whole subject was surrounded with much uncertainty, played an important rôle in the production of those ocular complications which were not directly the result of a kidney lesion. He felt that ophthalmologists and obstetricians should work together in order that one might be helpful to the other, and, if possible, the ophthalmoscope be utilized to detect changes which the ordinary clinical examinations failed to reveal.

**Gastroenterostomy in Cancer of the Stomach, with Reports of Two Cases; also a Third Case Diagnosed by Examination of Shreds of Tissue which Came Away During the Use of the Stomach Tube.**—Dr. JOHN J. GILBRIDE described three types of onset of cancer of the stomach, and emphasized the very great importance of employing every method to make an early diagnosis, stating that even the suspicion of cancer justified an exploratory laparotomy. Three cases were reported. One was of six months' duration, in which anterior gastroenterostomy was performed. The patient lived for four months after the operation and had been able for two months to do light work. Of the two other patients, one gave a history of indigestion extending over a period of fourteen years. This disturbance the author attributed to ulcer. Posterior gastroenterostomy was done in this case on August 27, 1907, and, although the patient died in the latter part of October, there had been no further stomach symptoms. She ate her food well, but did not recover her strength. The third case reported illustrated three points: 1. Diagnosis of cancer by examination of a piece of tissue that came away in the wash water during the use of the stomach tube. 2. Absence of lactic acid. 3. A clear history of ulcer of the stomach dating back twenty-eight years. This patient declined an operation. In this case the diagnosis of cancer of the stomach would not have been made without the use of the stomach tube, since there were a floating kidney and conditions which

would readily have accounted for the stomach symptoms.

Dr. Gilbride pointed out that lactic acid was never present in the early stages of the disease, and that in many instances the presence of cancer was not suspected until there were bloody vomit and a tumor. The method of choice in the performance of gastro-enterostomy was said to be the posterior no-loop method with a double row of sutures, with the jejunum continuing its normal course to the left. When adhesions and other conditions did not permit of the posterior operation the anterior anastomosis should be done. In the presence of the anterior operation enteroenterostomy should be performed. The anastomotic opening in the stomach should be so far distant from the line of apparent invasion of the disease as to prevent the early involvement of the stomach by the disease. Contraindications to operation were involvement of the supraclavicular lymph glands, particularly of the left side, other extensive involvement, and advanced cachexia and ascites.

Dr. JOHN B. DEEVER agreed with Dr. Gilbride that the results were very good if an operation was done early, but very bad if it was resorted to late in the disease.

### Letters to the Editors.

#### A PROBLEM IN APPLIED ETHICS.

##### To the Editors:

Dr. A. was engaged to attend a confinement in the family of a farmer who had recently moved several miles out from the village in which he resided to a place about halfway between the village and a neighboring borough. Dr. A. bespoke the services of Dr. B., of the borough, as alternative, to the entire satisfaction of the family. Dr. B. had permanent arrangements with Dr. C. to visit certain cases in his absence, being an established physician with hospital appointments. Dr. C. was a recent graduate.

When the day came Dr. A. was in a distant State after big game, and Dr. B. was in the great city attending to operations. By a rapid interchange of telephone messages Dr. C. was promptly put on the road. He was an utter stranger and unwelcome. The case was tedious and complicated, being that of a primipara of above thirty. Anæsthesia, help, and an operation for laceration were required. Dr. C. secured the aid of Dr. D., another stranger, and the two gave the day to the requirements of the case. Mother and child did splendidly.

Here is the problem: Who should send the bill for service? Who should pocket the fee? Who should ultimately share it?

While I have my pen in hand let me add a few facts relative to the financial and the ethical, or the nonethical, sequel of this case. According to an agreement between Dr. B. and Dr. C., the latter sent a bill, expecting to compensate his assistant. Both needed it, and had nobly merited what was asked. The farmer had employed Dr. A. and looked to him for the bill. He would have no dealings with Dr. C. Dr. A. spoke hot words against the doctor who dared bill a family of his! Just before they

lighted the candles to adorn the birthday cake on that child's fourth birthday Dr. A. produced the bill and quiet payment was made.

The writer was merely an interested onlooker. What is good ethics in such a case? I ask not to puzzle, but to learn. READER.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

#### *The Diagnosis and Treatment of Pulmonary Tuberculosis.*

By FRANCIS M. POTTENGER, A. M., M. D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Cal., Professor of Clinical Medicine, Medical Department, University of Southern California, etc. New York: William Wood & Co., 1908. Pp. xiv-377. (Price, \$3.50.)

Our readers are well aware of Dr. Pottenger's title to write on tuberculous pulmonary disease, for he has contributed valuable material concerning the subject to our columns. In this work he has treated of it very thoroughly and in a most scientific manner. There are, however, some questions of interest which he hardly discusses—for example, that of the relations between bovine and human tuberculous disease, that of the comparative frequency of infection by the air passages and the alimentary canal, and that of Dr. John B. Murphy's proposal to give prolonged rest to a diseased lung by keeping the pleural sac distended with nitrogen.

The author does well, we think, to call particular attention to the fact that a long time may elapse between infection and the appearance of frank signs of tuberculous disease. Concerning heredity, he says: "Since the overthrow of the theory of heredity as the cause of tuberculosis, the importance of the family history has declined. While it seems well established that there are very few instances in which tuberculosis has been transmitted directly from parent to offspring, nevertheless, family history is important as an index of resistance to disease, and as it bears upon the longevity of the patient." This seems to us judicious teaching.

The necessity of an early diagnosis is urgently insisted on, the author intimating that it is little short of criminal to wait until bacilli are found in the sputum, and especially to keep back the truth from a patient, so that time is wasted in a false sense of security. There should be perfect frankness, he says, between the physician and the patient. The matter of diagnosis is considered almost exhaustively, and the author is at great pains to set down the minutiae of the physical signs. Excessive carefulness, it seems to us, is shown in this sentence: "When the mouth is used, the temperature should not be taken for at least a quarter of an hour after drinking or eating; and, if the patient has been drinking anything very hot or very cold, the temperature of the mouth may be influenced for a still longer time." However, it can do no harm to wait to the extent recommended. The use of tuberculin as a diagnostic test is squarely advo-



cated, but he thinks that the practical value of the conjunctival reaction to tuberculin "needs further confirmation."

The establishment of immunity is regarded by Dr. Pottenger as the keynote to the curative treatment, and he handles in a masterly way such matters as the action of fresh air, the influence of diet, rest, and exercise, climate, hydrotherapeutics, sanatorium treatment, and even Bier's hyperæmia. He deals, too, most instructively with the subject of prophylaxis. He takes a very favorable view of the careful therapeutic use of tuberculin, and regards Wright's work under the guidance of the opsonic index as having done more than everything else to establish the efficiency of the tuberculin treatment. The treatment of individual symptoms and the management of complications are well set forth; so also are the results of treatment and their permanence.

In short, we do not see how more valuable teaching in regard to a disease that is now meeting with the earnest attention of the whole civilized world could well have been given within the moderate compass of Dr. Pottenger's work.

*Textbook of Otology for Physicians and Students.* In Thirty-two Lectures. By FR. BEZOLD, M. D., Professor of Otology at the University of Munich, and FR. SIEBENMANN, M. D., Professor of Otology at the University of Basle. Translated by J. HOLINGER, M. D., of Chicago. Chicago: E. H. Colgrove Company, 1908. Pp. 314.

In the form of a series of clinical lectures Bezold presents the developments of the last twenty-five years in otology. The volume is naturally more suited to students and general practitioners, as the author intended it should be, than for the aural surgeon. Most stress is accordingly laid on the anatomy and physiology of the organ of hearing, clinical examination of the ear, functional tests, and the pathology of otitic disease. The operative procedures and the details of surgical technique are limited to those which the general practitioner might be called on to perform. Major operations are to be studied practically. The volume is an interesting and instructive one for those who wish to familiarize themselves with the principles of otology and with the routine of scientific examination of the organ of hearing. It is hardly a textbook of otology in the sense of presenting the entire field. Holinger's translation is adequate, but rather crude.

*Les Ferments métalliques et leur emploi en thérapeutique.* Par Professeur ARMAND ROBIN, membre de l'Académie de médecine. Paris: J. Rueff, 1907. Pp. 252.

In this volume Robin presents a résumé of the studies he has made on the therapeutic action of certain metals which have been administered in a highly divided condition. The results of these investigations have been published from time to time since 1901; and, as Robin alleges in his introduction, have been received with considerable incredulity, which, it may be remarked in parenthesis, has not been allayed in many quarters even at the present time. This incredulity, however, has attached itself more to the methods announced than to the general factors of the problem since these latter have received so much more thorough study from the laboratories of other students.

Robin then takes up in a sketchy fashion the re-

lation of the ferment action of metals to that type of action seen in the organic enzymes. Then he develops the physiological and therapeutic indications of the metallic ferments and medicinal serums. The treatment of pneumonia, bronchopneumonia, articular rheumatism, acute meningitis, and various infections, acute and chronic, are then taken up, and therapeutic optimism throws caution and even good sense to the winds. His results and conclusions often show the attitude of the special writer on a Sunday edition of a metropolitan journal, and the reviewer feels that the author's conclusions should be taken *cum grano salis*.

*Diseases of the Genitourinary Organs and the Kidneys.* By ROBERT HOLMES GREENE, A. M., M. D., Assistant Professor of Genitourinary Surgery, Medical Department of Fordham University, etc., and HARLOW BROOKS, M. D., Assistant Professor of Pathological Anatomy, University and Bellevue Hospital Medical School, etc. With 292 Illustrations. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 536.

A surgeon and a pathologist have joined efforts in producing this newest textbook on genitourinary diseases. In some ways the book of Greene and Brooks does not differ materially from the older works, but in other respects it marks perhaps a step in the evolution of urology in this country. In the first place, much more space is devoted in it to purely urinary diseases, and far less to sexual or venereal conditions. This is in accordance with the tendency of urology to ascend higher in the tract, from chancres and gonorrhœa toward the kidneys. In this respect and in some others the present volume is distinctive among American genitourinary treatises. It is perhaps the first work which gives space to a marked extent to the ideas and views of the new French and German, particularly the German, schools of urology. Frisch and Zuckerkandl's great work, *Handbuch der Urologie*, has evidently been freely used in the composition of the text, without, however, any suggestion of direct translation. One might say that the authors had "caught the flavor" of the German work rather than that they had imitated it.

We are sorry to find that some of the plates are not credited as they should have been, such, for instance, as those showing cystoscopic images, which bear a close resemblance to the plates of Nitze and of Frisch and Zuckerkandl. In dealing with functional renal diagnosis but two methods are mentioned, the phlorrhizin test and the methylene blue test. Nothing is said of Voelcker and Joseph's indigo-carmin test, which, according to Kapsomer, has practically superseded the methylene blue test since 1903. Albarran's method of "experimental polyuria," a most important one, is also not mentioned. Nothing is said of the fallacy involved in the methylene blue test, owing to the fact that the dye is often excreted as a colorless "chromogen" or "leuko" product. This section needs revision, and its contents should be made more intelligible to the average student.

The surgical and the pathological aspects of the subject are well handled. The illustrations are clear cut, simple, and helpful. The text is well arranged, and the style is not cumbersome or prolix, but adapted to the comprehension of beginners.

As a whole the book is one of the most serious

tory and useful works on genitourinary diseases now extant, and will undoubtedly be popular among students and practitioners.

*Der Abstinenzismus und seine Bedeutung für das Individuum und für die Gesellschaft.* Von Dr. GUSTAV KABRHHEL, a.o. Professor der Hygiene, Vorstand des hygienischen Institutes der böhmischen Universität und der staatlichen Untersuchungsanstalt für Lebensmittel in Prag. München und Berlin: R. Oldenbourg, 1907. Pp. 69.

The alcohol question, which was hardly known in central and northern Europe about twenty-five years ago, lately has come very much indeed to the foreground. Leading in this respect was Norway, to be followed by Sweden, Denmark, Germany, and Austria.

Professor Kabrhel speaks in his book of the influence of alcohol upon the human body; the dependence of this influence on the method and form of using alcohol, on the power of resistance of the body, on the muscle activity, and the climate; and finally describes facultative and absolute temperance. He thinks that absolute abstinence is not unconditionally necessary. The only safeguard against the evil sequelæ of excess in eating and drinking is the use of simple foodstuffs; alcohol does not belong to the simple foods, and should therefore not be included in the daily fare. If one wishes to change the monotony of such simple fare he should partake moderately of a richer meal with some wine or beer. But this breaking of the rule should only be an exception.

But, concludes the author, the best results are obtained in countries where no concessions are made by the enemies of alcohol, and where the principle of absolute abstinence is carried out.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

*Rotunda Midwifery for Nurses and Midwives.* By G. T. Wrench, M. D., Late Assistant Master of the Rotunda Hospital. With Introduction by the Master of the Rotunda Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1908. Pp. xiv-324.

*The History of the Study of Medicine in the British Isles. The Fitzpatrick Lectures for 1905-6, delivered before the Royal College of Physicians of London.* By Norman Moore, M. D., Cantab., Fellow of the Royal College of Physicians, etc. Oxford: The Clarendon Press, 1908. Pp. vi-202.

*Bericht über die Thätigkeit des temporären Lazareths am Golitzyn-Hospital in Moskau während des russisch-japanischen Krieges (18. Juni 1904-10 April 1906).* Von Dr. S. Derugin, Chefarzt des Golitzyn-Hospitals in Moskau. Mit 5 photographischen und 37 Röntgen-Aufnahmen. Herausgegeben auf persönliche Kosten der Fürstin Anna Alexandrowna Golitzyn. Moskau: S. P. Jakowlew, 1908. Pp. 159.

*Medical Lectures and Aphorisms.* By Samuel Gee, M. D., Fellow of the Royal College of Physicians, Honorary Physician to H. R. H. the Prince of Wales, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1908. Pp. viii-308.

*Clinical Lectures and Addresses on Surgery.* By C. B. Lockwood, Surgeon to St. Bartholomew's Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. viii-307.

*The Mellin's Food Method of Percentage Feeding.* Boston: Press of the Mellin's Food Company, 1908. Pp. 183.

*Applied Physiology. A Manual Showing Functions of the Various Organs in Disease.* By Frederick A. Rhodes, M. D., Professor of Physiology and Embryology, Medical and Mental Departments of the Western University of Pennsylvania, etc. Pittsburgh, Pa.: Medical Press, 1907. Pp. 206.

*A Textbook of Physiological Chemistry.* By Olaf Hammarsten, Late Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation, from the Author's Enlarged and Revised Sixth German Edition, by John A. Mandel, Sc. D., Professor of Chemistry in the New York University and Bellevue Hospital Medical College. Fifth Edition. First Thousand. New York: John Wiley & Sons, 1908. Pp. 845.

*Syphilis. A Treatise for Practitioners.* By Edward L. Keyes, Jr., A. B., M. D., Ph. D., Clinical Professor of Genitourinary Surgery, New York Polyclinic Medical School and Hospital, etc. With Sixty-nine Illustrations in the Text and Nine Plates, Seven of which are Colored. New York and London: D. Appleton & Co., 1908. Pp. xxix-577.

*A Textbook of Minor Surgery.* By Edward Milton Foote, A. M., M. D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University), Lecturer on Surgery, New York Polyclinic Medical School, etc. Illustrated by Four Hundred and Seven Engravings from Original Drawings and Photographs. New York and London: D. Appleton & Co., 1908. Pp. xxvi-752.

*A Mind That Found Itself. An Autobiography.* By Clifford Whittingham Beers. New York and London: Longmans, Green, & Co., 1908. Pp. viii-363.

*The Functional Inertia of Living Matter. A Contribution to the Physiological Theory of Life.* By David Fraser Harris, M. B., M. D., B. Sc., F. R. S. E., Lecturer on Physiology and Normal Histology in the University of St. Andrews, etc. London: J. & A. Churchill, 1908. (Through P. Blakiston's Son & Co., Philadelphia.) Pp. 136. (Price, \$2.)

#### Miscellany.

**An Appeal to American Physicians.**—During the year 1907 over 200 papers, lectures, and pamphlets were published in Europe and America, presenting different phases of alcoholism and inebriety, purely from a scientific point of view. Many of the authors complain that these papers were not widely read and were practically lost, because they did not reach medical men interested in the subject. The Federation Bureau of this country, organized nearly two years ago, for the purpose of collecting and disseminating all facts concerning the alcoholic problem, in connection with the International Bureau in Europe having the same purpose, proposes to secure a list of medical men and scientists interested in the scientific study of the alcoholic problem. This list is to be made available for authors and students who write on this subject, and who wish to address a special audience of physicians, not only to increase their interests, but to stimulate further studies of the subject. Such a list will enable the bureau to extend its work of accumulating facts from the most reliable sources, and keep both authors and readers in close touch with all that is done. This is a practical effort to group and concentrate the experience and observation of medical men, and make them acquainted with what is being done in the scientific study of the alcoholic phenomena. All physicians who are interested in the scientific literature, research work, and studies of medical men at home and abroad are urged to send their names and addresses for registration, and also to receive copies and abstracts from authors and persons who may wish to have their work read and examined by interested parties. As chairman of the board of directors of the Federation Bureau, I urgently request every physician interested in this subject to send me not only their own names, but lists of reputable

physicians who would care to receive some of this most important literature coming from the press, and hear what is said in the scientific world concerning this problem.

(Signed) T. D. CROTHERS, M. D., Chairman,  
Hartford, Conn.

## Official News.

### Public Health and Marine Hospital Service

#### Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending January 20, 1908:

Places	Date.	Cases.	Deaths.
Alabama—Mobile.....	Feb. 1-20.....	6	2
California—Los Angeles.....	Feb. 22-29.....	2	2
California—San Francisco.....	Feb. 22-29.....	8	1
Illinois—Chicago.....	Feb. 29-Mar. 7.....	3	1
Illinois—Springfield.....	Feb. 27-Mar. 5.....	7	1
Indiana—Elkhart.....	Feb. 29-Mar. 7.....	3	1
Indiana—Marion.....	Feb. 1-20.....	54	1
Iowa—Cedar Rapids.....	Feb. 1-20.....	5	1
Kansas—Kansas City.....	Feb. 29-Mar. 7.....	2	1
Kansas—Wichita.....	Feb. 1-Mar. 7.....	57	1
Kentucky—Covington.....	Feb. 29-Mar. 7.....	1	1
Kentucky—Lexington.....	Feb. 1-20.....	1	1
Louisiana—New Orleans.....	Feb. 29-Mar. 7.....	11	6 imported.
Michigan—Detroit.....	Feb. 29-Mar. 7.....	7	2
Minnesota—Winona.....	Feb. 29-Mar. 7.....	1	1
Missouri—Kansas City.....	Feb. 29-Mar. 7.....	1	1
Montana—Butte.....	Feb. 25-Mar. 3.....	3	1
New York—Buffalo.....	Feb. 2-20.....	1	1
New York—New York.....	Feb. 29-Mar. 7.....	7	1
North Carolina—Charlotte.....	Feb. 29-Mar. 7.....	1	1
Ohio—Cincinnati.....	Feb. 28-Mar. 7.....	1	1
Ohio—Toledo.....	Feb. 29-Mar. 7.....	2	1
Oregon—Portland.....	Feb. 1-15.....	3	1
Tennessee—Knoxville.....	Feb. 29-Mar. 7.....	1	1
Tennessee—Nashville.....	Feb. 29-Mar. 7.....	4	1
Texas—San Antonio.....	Feb. 29-Mar. 7.....	1	1
Virginia—Norfolk.....	Feb. 29-Mar. 7.....	1	1
Virginia—Richmond.....	Feb. 29-Mar. 7.....	23	1
Washington—Vancouver.....	Feb. 29-Mar. 7.....	1	1
Wisconsin—Milwaukee.....	Feb. 29-Mar. 7.....	1	1

Hawaii—Honolulu.....	Feb. 28.....	1	1
On S. S. Columbia.....	Feb. 28.....	1	1

Arabia—Aden.....	Jan. 28-Feb. 1.....	1	1
Argentina—Rosario.....	Dec. 1-10.....	1	1
Brazil—Paris.....	Feb. 1-10.....	1	1
Brazil—Rio de Janeiro.....	Jan. 28-Feb. 13.....	20	1
Canada—Halifax.....	Feb. 22-Mar. 7.....	2	1
Canada—Hamilton.....	Feb. 1-20.....	5	1
Canada—Toronto.....	Feb. 28-Feb. 29.....	24	1
Canada—Winnipeg.....	Feb. 1-20.....	1	1
China—Amoy (Shanghai).....	Feb. 21-Jan. 4.....	1	1
China—Tientsin.....	Jan. 1-10.....	1	1
China—Harbin.....	Jan. 1-10.....	1	1
China—Shanghai.....	Jan. 28-Feb. 9.....	8 cases for cognate and 12 deaths native.	
China—Hongkong.....	Dec. 28-Feb. 9.....	25	17
Ecuador—Guayaquil.....	Feb. 1-8.....	1	1
Egypt—Cairo.....	Feb. 28-Feb. 13.....	7	4
France—Brest.....	Feb. 1-10.....	1	1
France—Paris.....	Feb. 1-10.....	1	1
Gibraltar.....	Feb. 1-10.....	1	1
Great Britain—Liverpool.....	Feb. 1-10.....	1	1
Great Britain—London.....	Feb. 1-10.....	1	1
India—Bombay.....	Feb. 1-10.....	1	1
India—Madras.....	Feb. 1-10.....	1	1
Italy—Genoa.....	Feb. 1-10.....	1	1
Italy—Naples.....	Feb. 1-10.....	1	1
Japan—Kobe.....	Feb. 1-10.....	1	1
Japan—Manila.....	Feb. 1-10.....	1	1
Japan—Yokohama.....	Feb. 1-10.....	1	1
Japan—Osaka.....	Feb. 1-10.....	1	1
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reported to be afflicted with trachoma. Detail for the board: Passed Assistant Surgeon M. W. Clover, chairman; Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. R. Underwood, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending March 21, 1908:*

**BIRMINGHAM, H. P.**, Major and Surgeon. Having reported in compliance with paragraph 2, S. O. 54, War Department, March 5, 1908, is announced as chief surgeon, Army of Cuban Pacification, relieving Lieutenant Colonel Clair D. Taylor, deputy surgeon general.

**ROBERTS, W. M.**, Captain and Assistant Surgeon. Ordered to Fort Hancock, N. J., for duty.

**SCHREINER, E. R.**, Captain and Assistant Surgeon. Ordered to report to the commanding officer, Headquarters Band, First and Third Battalions, Twenty-fourth Infantry, San Francisco, Cal., for duty to accompany that command en route to Madison Barracks, N. Y., and upon completion of this duty to return to his proper station.

**SHEPARD, J. L.**, Captain and Assistant Surgeon. Now on leave of absence, will proceed on or before the expiration of said leave to Fort Sam Houston, Tex., for duty at that station.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending March 21, 1908:*

**BACON, S.** Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**BIELLO, J. A.**, Acting Assistant Surgeon. Detached from duty at the naval medical examining board, Washington, D. C., and ordered to report to the president of the naval medical examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**DE LANCY, C. H.**, Passed Assistant Surgeon. Detached from the Navy Yard, New York, N. Y., and ordered to duty in connection with fitting out the *Newark*, and to duty on board that vessel when commissioned.

**GARRISON, H. A.**, Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Philadelphia, Pa.

**HAINES, B. F.**, Acting Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval medical examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**HIGGINS, M. E.**, Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to duty at the Naval Training Station, San Francisco, Cal.

**HOLEMAN, C. J.** Detached from the Naval Medical School, Washington, D. C., and ordered to duty at the Naval Training Station, San Francisco, Cal.

**HOUGH, F. W. P.**, Acting Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**MCGUIRE, L. W.**, Acting Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**MORGAN, C. R.**, Acting Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval medical examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**MILLER, J. T.**, Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval medical examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**MORGAN, C. R.**, Acting Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval medical examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**OHNESONG, K.**, Surgeon. Detached from duty at the Naval Hospital, Philadelphia, Pa., and ordered to the Navy Yard, League Island, Pa., for duty in connection with fitting out the *New Hampshire*, and for duty on board that vessel when placed in commission.

**PLUMMER, R. W.**, Passed Assistant Surgeon. Detached from the Naval Recruiting Station, Chicago, Ill., March 30, 1908, and ordered to Washington, D. C., April 1, 1908, for examination for promotion, and then to await orders.

**RHOADES, G. C.**, Acting Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to report to the president of the naval examining board, Washington, D. C., April 1, 1908, for examination for appointment as an assistant surgeon, and then to await orders.

**SNYDER, J. J.**, Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered to instruction at the Naval Medical School, Washington, D. C.

**VERNER, W. W.**, Passed Assistant Surgeon. Detached from the Naval Training Station, San Francisco, Cal., and ordered to duty in connection with fitting out the *Wisconsin*, and to duty on board that vessel when commissioned.

**WILLIAMS, R. B.**, Passed Assistant Surgeon. Detached from the *Franklin* and ordered to the Naval Hospital, Philadelphia, Pa.

## Births, Marriages, and Deaths.

### Born.

**KIERULFF.**—In San Francisco, California, on Friday, February 28th, to Dr. H. Newton Kierulff, United States Army, and Mrs. Kierulff, a daughter.

### Married.

**CAREY—MILLER.**—In Philadelphia, on Tuesday, February 18th, Dr. H. M. Carey, of St. Georges, Delaware, and Miss Minnie E. Miller, of Pomona, Kansas.

### Died.

**BRYANT.**—In Boston, on Friday, March 20th, Dr. John Bryant, aged forty-seven years.

**BYSFIELD.**—In St. Louis, Missouri, on Monday, March 16th, Dr. Frank B. Byfield, aged sixty years.

**CANNON.**—In Lawrenceburg, Kentucky, on Wednesday, March 11th, Dr. F. M. Cannon, of Oxford, Scott County, aged seventy-six years.

**DEVLIN.**—In Denver, Colorado, on Saturday, March 14th, Dr. James B. Devlin, aged fifty-six years.

**EATON.**—In Philadelphia, on Tuesday, March 17th, Dr. William Bradford Eaton, aged thirty-nine years.

**LAMB.**—In Chicago, on Wednesday, March 11th, Dr. Orin C. Lamb, aged sixty-eight years.

**LANGREHR.**—In Philadelphia, on Sunday, March 15th, Dr. Hiram Langrehr, aged sixty-eight years.

**NICKELS.**—In Sellersburg, Indiana, on Thursday, March 12th, Dr. John M. Nickels, aged sixty years.

**NINDE.**—In Colonial Beach, Westmoreland County, Virginia, on Tuesday, March 10th, Dr. Frederick F. Ninde.

**PETTIT.**—In New Orleans, Louisiana, on Monday, March 16th, Dr. Absalom Pettit, aged sixty-eight years.

**ROGERS.**—In Charlottesville, Virginia, on Sunday, March 15th, Dr. William G. Rogers, aged eighty-six years.

**ROWLAND.**—In Atlanta, Georgia, on Tuesday, March 10th, Dr. Anak A. Rowland, aged seventy-four years.

**SCARFF.**—In Govans, Maryland, on Wednesday, March 11th, Dr. John H. Scarff, aged fifty-seven years.

**SCHPEPERS.**—In Chicago, on Wednesday, March 11th, Dr. D. Q. Schpepers.

**TOTTEN.**—In Cleveland, Ohio, on Monday, March 16th, Dr. Roy O. Totten.

**WILSON.**—In Washington, D. C., on Friday, March 13th, Dr. Anne A. Wilson.

**WYCKOFF.**—In Trenton, New Jersey, on Thursday, March 19th, Dr. William A. Wyckoff, aged seventy-one years.

# New York Medical Journal

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### Original Communications.

#### WHAT WE HAVE NOT DONE FOR THE INSANE.\*

BY FREDERICK PETERSON, M. D.,  
New York,

Former President of the New York State Commission on Mental Diseases,  
Professor of Psychiatry, Columbia University.

It is a wonderful catalogue of achievement for the welfare of the insane that Dr. MacDonald has outlined this evening. New York now leads the States in its provisions for the insane. I, too, bear witness to how much has been accomplished in less than twenty years by the Lunacy Commission, the superintendents and managers of the hospitals, and the State Charities Aid Association.

But, as with most human undertakings, there is still a higher standard to which we must aspire. Let us not be too easily satisfied. There are defects to remedy, and ideals to attain, and I feel it my duty to point out as briefly as possible some of these defects and these ideals. We could fill a book with praise for what has been accomplished, but we might also fill a book with criticism of conditions as they are. The people having assumed the burden of State care are bound to be interested in all that pertains to it, in the conditions that lead to the asylum, in prophylaxis, in the care of the patient before admission to the hospital, in the hospital conditions themselves, and in the after care of the convalescent and recovered insane.

What are we doing for prophylaxis? There are several preventable causes of insanity. It has been estimated that nearly 20 per cent. of the insane under State care owe their insanity to alcohol, a preventable cause. That is nearly 6,000 patients in this State in round numbers. Dr. MacDonald has just told us that one insane person means an approximate loss to the State of \$400 per annum. Surely the people of the State have an interest in this \$2,400,000 annual loss to the State through alcoholic insanity. The asylum physicians in each hospital district should be the leaders in a campaign of education for the regions round them. They could preach prophylaxis understandingly, and they are able to open outdoor clinics in connection with each hospital, where free advice and treatment might be extended to the poor insane in the early stages before commitment becomes necessary.

Owing partly to the prisonlike plan on which the older asylums were built, and partly to the complicated judicial procedure necessary for the

commitment of patients, there still exists among the people an ancient legacy of feeling about an asylum, and they pass it as they do a prison or a cemetery, with mixed dread and mistrust. Out of this, too, they must be educated. Though we exchanged the word asylum for the word hospital, we have not yet succeeded in instilling into the minds of the public that the insane are sick. They must learn that insanity is an illness, a preventable and curable one. When this is once learned they will never again permit the acutely insane to be taken to jails and station houses, as they are at the present time frequently all over this State, pending commitment to a hospital for the insane. They will provide psychopathic hospitals in all of our larger cities or pavilions in connection with general hospitals (as at Bellevue Hospital in New York, Kings County Hospital, Brooklyn, and the General Hospital, in Albany), to which all emergency cases of insanity can be taken for observation and treatment before transfer to hospitals for the insane. The period of detention in such general hospitals or psychopathic hospitals should be at least ten days, instead of five days, and without any magistrate's or judge's order whatever. This is a purely medical and not a legal matter. It is a question for a board of health to regulate, not the courts. As Dr. Meyer has suggested to me, it should fall altogether under the rules of quarantine. An insane person is sick, and is a menace to himself and the public while thus sick. If we can restrain a person of his liberty without commitment papers when he has diphtheria and other contagious or infectious diseases, why have recourse to a judicial proceeding in emergency cases of insanity? If physicians unite in demanding the recognition of insanity as a disease this point will be gained. Of course for longer stays in hospitals and retreats for the insane a regular form of commitment is necessary for the protection of the sane. But chartered general hospitals should be permitted to receive and treat cases of insanity for whatever length of time is expedient, and all hospitals and retreats for the insane should be permitted to receive, on the recommendation of any physician or relative, emergency cases of insanity for a ten-day period for observation and treatment pending commitment.

After the patients have been admitted to the hospitals what conditions do they find there that are unsatisfactory? In the first place, I should mention overcrowding. The Lunacy Commission reports overcrowding every year. The responsibility for its continuance rests with the legislature, and

\*The subject of this paper was discussed at the meeting of the Academy of Medicine, February 22, 1908.

there responsibility is so finely divided that it is practically nothing at all. It is like some of the smaller currency of India, which Mark Twain says is so attenuated that you can give nothing and get nothing for it. With an addition of nearly one thousand patients a year it means that we ought to build practically a new hospital for the insane annually. It means an expense of at least \$600,000 annually for new accommodations. Only one new hospital for the insane has been established and constructed by the State in eighteen years. Some additions are made every year, but they are never adequate, and such additions are made to existing asylums until they are growing unwieldy. Three of our asylums are already probably the largest in the world. In the report of the Lunacy Commission for October, 1906, the excess of patients in the hospitals over the estimated capacity was 1,812. But the estimated capacity in itself has always been forced far beyond what it ought to be. It is forced some 20 per cent. above what it ought to be. To estimate such capacity every available space for a bed is utilized. Hallways, day rooms, and corridors are used for dormitories. Single rooms intended for one patient are made to accommodate two or even three. Beds are placed side by side in dormitories, so that patients are compelled often to climb over the foot of the bed to get into it. Even were the 1,812 excess not there, there would still be overcrowding. The overcrowding on Ward's Island is said to be 30 per cent. above capacity, and some 2,000 of New York city's insane are scattered about the State in various other hospitals, even as far off as Buffalo and Gowanda.

Of course the first remedy for this state of affairs that suggests itself is that the money be appropriated at once for the construction of new asylums. But there are other ways of reducing the hospital population. A great part of the accommodation in the asylums is due to admission of old people. Some 16 to 17 per cent. of the admissions are people between sixty and one hundred years of age. A considerable proportion of these are not insane. They are physiologically senile or dotards. In the struggle for life among the poor, old people are a burden, especially when they become decrepit and feeble in mind. When the State Care Act went into effect, the relatives soon found that the State hospitals were better by far for the aged and infirm dependents than the notorious almshouses. Hence by all manner of subterfuge the senile have been certified as insane, and help to swell the hospital population. Doubtless if the State could help the sons or daughters to the extent of paying the actual cost to the State of the board of such patients, now about \$172 per year, a very large proportion of these aged people would be taken back to their own homes. This would not only be better in some respects for the senile patients, but more satisfactory to the relatives. It would be, in a way, inaugurating the boarding out system, which has been so successful in Scotland, where nearly 3,000 patients are boarded out in private families, a considerable proportion with their own relatives. If it were begun with the senile, the same principle might be extended to other

classes. The scheme has been in successful operation in Massachusetts for many years.

Besides being overcrowded, the State hospitals are inadequately supplied with physicians. Many years ago the physicians were in the proportion of 1 to 128 patients. Since the State undertook the care of the insane, the proportion has fallen, partly for economy's sake (the cost of all physicians' services being \$8 to \$10 a year, or 3 cents a day for a patient) and partly through difficulty in securing medical men to fill vacancies, to the present figure of 1 to 174. The proportion should be much larger, at least 1 to 150.

The number of nurses and attendants is also inadequate, and there is great difficulty in obtaining even a sufficiency of inferior individuals to fill vacancies in some of our asylums. The wages should be made high enough to attract a better class, and the training school system, which has done so much good, needs extension, and ought to be put under some competent superintendent of nurses as in general hospitals.

While recreations and occupations for patients have been multiplied and improved upon to a great degree in the State hospitals, this is still a form of psychotherapy that is far from sufficiently developed. It is probably the most important form of therapy for the vast majority of the patients, yet it plays a very small part, after all, in the hospital régime. Each hospital should have several employees whose sole duty should consist in keeping patients occupied in various recreative exercises, industries, and handicrafts. The exercise and occupation cure nowadays so extensively applied to various neuroses, both here and abroad, as at the Craig Colony, at Dr. Hall's place at Marblehead, and at Dr. Sharp's at Katonah, should be carried out quite as elaborately, and really with more reason, at every hospital for the insane.

Thus far I have been discussing conditions in the State hospitals. When we take up the matter of the twenty-two private retreats for the insane in the State of New York, we find that while there has been some advance on the whole in the methods and manner of care, there is still much to be desired. In fifty per cent. perhaps of the twenty-two institutions the standard of care is scarcely equal to that of the State hospitals. There is not the same painstaking, scientific study of the cases, not the same alert medical spirit, not the same ambition to excel and progress, and no systematic occupation of patients, such as would be easily possible in an institution of small size with considerable income. One would think that with such abundant leisure and select material, substantial contributions to science might emanate from these smaller institutions, and that instead of lagging behind the great State institutions they would be in the van, in the lead, and point the way to further advance in psychiatry and in methods of treatment and care. This has been possible to one private institution in America at least, the McLean Hospital at Waverley, Mass.

And now a few words as to the after care of the convalescent and recovered insane. Within two or three years, chiefly through the efforts of Miss Louisa Lee Schuyler, of the State Charities Aid



Association, an after care organization has been founded, and already some good work accomplished in connection with several of the State hospitals. This work should be extended to all parts of the State, and it should include among its functions forecare or prophylaxis as well as after care. The hospital physicians themselves should be the most active members of such a body, because of the opportunities thus afforded for the better study of the conditions under which the mental disorders have arisen, because they may thus secure fuller histories of their patients, both before admission and after discharge, and in order to more clearly understand and disseminate the facts in relation to prophylaxis.

4 WEST FIFTIETH STREET.

### GENERAL SURGICAL CONSIDERATIONS OF JOINT AND BONE TUBERCULOSIS.\*

By JOSEPH WIENER, M. D.,  
New York,

Adjunct Attending Surgeon, Mt. Sinai Hospital.

**Diagnosis.**—The diagnosis is made from the family history, the previous history of the patient, the examination of the entire body, and the use of the x ray. In doubtful cases tuberculin may be injected, both for the local and for the general reaction. In children, the new method of dropping tuberculin in the eye, by which we obtain a local reaction within eight hours, is free from danger of lighting up an old focus [Calmette reaction]. Occasionally the aspiration of a joint, together with animal inoculation, will be of service. The distinctive diagnosis must be made from lues, acute osteomyelitis, and arthritis. In acute osteomyelitis the sudden onset, high fever, marked prostration, and high leucocyte count will make the diagnosis. In lues, antilutetic treatment will clear up the diagnosis. Tuberculosis of the joint may, secondarily, infect the shaft of the bone; and, conversely, the primary infection of the bone may secondarily infect the joint. Sometimes, especially about the knee, it is difficult, even at operations, to determine where the primary focus was.

The hip and knee make up forty per cent. of all cases of bone and joint tuberculosis. These joints must carry the weight of the body, and they are more prone to injury than other joints. As in other tuberculous lesions, predisposition plays a great rôle. To this must be added poor housing, poor nourishment, and debilitating sickness of any kind.

Advanced tuberculosis of the joint may lead to subluxations; at times, especially in the hip, a dislocation may result from a slight injury. Owing to disuse of a joint, the neighboring muscles atrophy, and there is often a contracture of the muscles, particularly cicatricial, partly nutritive. In advanced cases, where an entire extremity falls into disuse, all the muscles of that extremity are thus affected. Even the blood-vessels are involved. Lannelongue has pointed out that the femoral artery and its large branches are often decreased in diameter in cases of tubercular hip.

**Prognosis.**—The prognosis varies with the joint

that is affected, and with the degree of infection. In the hip a cure, so called, will often be followed, after years, by tuberculosis in other parts of the body. There is usually some shortening remaining after hip disease. In the knee there is almost always some limitation of motion and some stiffness resulting. This is found in most cases, be the treatment expectant, palliative, or radical. There often remains a condition of genu valgum. The growth of the limb is often interfered with, partly by destruction of the epiphyseal centre by the disease or by operation, and partly through disuse of the limb. The amount of shortening varies with the amount of bone destroyed and with the age of the patient.

**Treatment.**—This may be divided into three parts: First, general hygienic; second, prevention of further involvement; third, direct treatment of the lesion.

1. General Hygienic.—Patients should receive fresh air day and night; they should sleep out of doors, if possible. A change of air is very beneficial. Everything possible should be done to improve the general condition, and in that way the local condition will be improved. A quiet, regular mode of living is one of the great advantages of sanatorium treatment.

2. Prevention of Further Involvement.—The *sine qua non* is absolute rest. This can be accomplished by an immobilizing dressing or by a suitable orthopaedic apparatus.

3. Direct Treatment of the Lesion.—We will not, in this paper, take up the operative treatment. The palliative treatment includes rest, orthopaedic treatment, the Bier hyperæmic treatment, the use of iodoform injections, and the use of tuberculin. Iodoform glycerin in ten per cent. solution or iodoform oil will, without any other treatment, often bring about a complete cure.

**Technique of iodoform injection.**—After rigid sterilization of the skin about the joint, a trocar and canula with a rubber tube attached are plunged obliquely into the joint in such a way that the skin opening and the opening into the joint do not directly overlie. In this way the skin overlying the joint is left intact. After evacuating the contents of the joint, the iodoform emulsion is injected through the tube attached to the canula. In young children three to four grammes, in older children eight to ten grammes, may be injected. By gentle, passive motion of the joint the emulsion can be brought into contact with the entire synovial surface. Following the injection there is generally a smart local reaction, pain, redness, swelling, and some fever. No further iodoform should be injected until all inflammatory symptoms have subsided. This will usually be in eight to ten days. A few such injections, with rest of the affected joint, will often bring about a permanent cure. Any local tuberculous abscess may be treated in this way. Fistulae may also be injected with iodoform. It may sometimes be well to follow the suggestion of Wendelstadt and insert the canula into the synovium around the *patella*. Carbolic acid, boric acid, and other similar agents have not proved as efficacious as iodoform. It is not always easy to decide in which cases to advise the iodoform injection. The greater field of usefulness is in children. In them an operative procedure about a joint

\*Read before the American Medical Society, at one of its sessions at the Hotel New York, January 1, 1908.

is only too prone to interfere with the further growth of the affected bone. And it is in children that we obtain the most brilliant functional results by the conservative treatment of bone and joint lesions. So that, in the early tuberculous joint disease the injection of iodoform is usually to be advised. However, valuable time should not be lost. If in three to four weeks there is no improvement, then some operative procedure must be undertaken. If there has not been too much delay this procedure will usually not be a severe one.

In some cases the iodoform will bring about a cure of the lesion in the joint, but there will still be some pain and tenderness around the joint. In such cases the x ray will render valuable assistance by showing a small bone focus which the iodoform could not reach, but which can be rapidly cured by a minor operation.

There is a difference of opinion as to the importance to be attached to small sequestra in bone tuberculosis. According to Riedel they occur very frequently, and he advises in all bone abscesses incision and curetting, as he believes the sequestra will prevent healing. On the other hand, Mikulicz's experience taught him that small sequestra need not be removed, as they do not interfere with the healing process.

Mikulicz regarded the Bier treatment as an adjunct of the conservative iodoform treatment. If no improvement takes place in four weeks and the process is spreading, then an open operation is indicated. But in children we should be as conservative as possible, as we often get surprisingly good functional results without extensive operations.

#### Hip.

Pain and disability are the cardinal symptoms. The former is usually the first symptom. The pain may be spontaneous or occur after prolonged exercise. In many cases the pain is chiefly nocturnal. Children in the early stages of the disease often awake at night with a sudden cry, complain of pain in the joint, and go to sleep again. The pain is probably elicited by a sudden muscular contraction. Frequently the pain from an affected hip is referred to the knee, especially on its inner side. Errors in diagnosis may thus occur. The second early symptom of hip disease is the limp. It is often the first striking symptom. The patient involuntarily drags the affected limb in order to favor the diseased joint. The limp may be constant or intermittent, usually the latter in the early stages. Besides the two cardinal symptoms of pain and limp, there is one other of great importance. If the affected limb is passively abducted or rotated ever so carefully, there will be a distinct contraction of the hip muscles. This symptom will be found present even in patients that are still able to walk quite well. By this time also the inguinal glands will usually be found enlarged. In all doubtful cases an x ray picture should certainly be taken, for, as we have mentioned above, small bone foci may be present without giving any symptoms. The x ray picture, which should include the opposite joint, will also show the presence of an exudate in the joint.

In the early stages the child favors the affected limb by bringing into play the joints of the pelvis and spine, and by not standing on the limb more

than absolutely necessary. At this time there is pain and tenderness on pressure over the joint. In the fully developed stage the limb is usually held in abduction and outward rotation and at the same time kept slightly flexed. In doubtful cases rectal examination should always be made. The examining finger will often find tenderness about the affected joint, or swelling, or even fluctuation. Swelling of the joint is due to the exudate in the joint and to a periarticular inflammatory process. A typical location of the swelling is posteriorly above the trochanter. In some cases pus develops early in the disease, in others not until the later stages. The abscess may perforate and a fistula develop on the anterior or the posterior aspect of the joint. Often the pus burrows along the abductors and perforates on the inner aspect of the thigh. Posteriorly the abscess often points at the lower border of the gluteus maximus. There is usually with the development of an abscess some rise of temperature. In most cases we cannot distinguish between a primary synovial and a primary osseous tuberculosis. Crepitation in the joint points to bone destruction, and in this stage there will usually be some shortening of the limb.

Healing can take place at any stage of the disease. In the early stages complete return of function may be expected. In later stages there will be some contraction and some limitation of motion. Still later, there will be healing, with more or less ankylosis and with shortening of the limb.

Distinctive diagnosis must be made from arthritis deformans, fracture of the neck of the femur, congenital dislocation, coxa vara, hysteria, neuralgia, articular rheumatism, spondylitis, osteomyelitis, syphilis, or gonorrhoeal infection. For some of these the x ray will help us materially in making the diagnosis. For others the distinctive diagnosis can be made from the history and general examination of the patient, and by instituting specific treatment.

*Treatment.*—Some form of extension is always indicated. This relieves the pain and prevents the limb from assuming a pathological position. For children five to fifteen pounds, for adults twenty pounds and more will be indicated. The extension separates the two ends of the bones and puts the joint at rest. Immediate relief of the pain often results. Many excellent orthopaedic splints have been devised. These, while carrying out the idea of extension, enable patient to walk about. Plaster of Paris also has a wide field. Iodoform injections are of great value. The Bier treatment is not applicable. The details of orthopaedic treatment will not be touched upon.

#### KNEE.

The synovial and osseous forms occur with equal frequency. The bone focus gives only slight symptoms, slight pain increased on pressure. It is the synovial form that we diagnosticate readily. There are three manifestations: (a) Hydrops of the joint; (b) granulation tissue formation (fungus form); (c) cold abscess of the joint.

(a) *Hydrops.*—The symptoms are similar to those of serous synovitis. The simple synovitis occurs in adults, the tuberculous in children. The spontaneous afebrile occurrence or after a slight



trauma, the chronicity of the exudate in spite of treatment, or the continued recurrence of the exudate, point to tuberculosis.

(b) *Fungus form*.—According to König, this is always preceded by hydrops of the joint. But in some cases the amount of exudate was so small as hardly to be appreciated. The thickening of the capsule is most marked in the upper part of the joint. This, together with the atrophy of the muscles, especially the quadriceps, gives the joint the characteristic spindle shape. The skin becomes thin and glossy, and the subcutaneous veins are visible. Motion of the joint becomes limited and contractures in the flexed position take place.

(c) *Cold abscess of the joint*.—This is comparatively rare, and is not to be confounded with suppuration in the fungus form. It is rarer in the knee than in the hip. Swelling of the capsule is moderate, but the synovial membrane is riddled with miliary tubercles and is lined by a pyogenic membrane which secretes a thin, purulent exudate. There is no tendency to perforation of the capsule. In doubtful cases a puncture of the joint should be made.

*Prognosis*.—Recovery can take place at any stage. The disease may last for years, and complete recovery with full mobility is very rare. We must usually be satisfied with some limitation of motion, often with ankylosis. The contractures often interfere very much with the usefulness of the limb. In children the growth of the limb is often interfered with.

*Treatment*.—The general tendency of all surgeons is toward conservatism. Any contracture should first be overcome, if necessary under anesthesia. The limb should then be put up in plaster of Paris. If complete extension is not obtained the process may be repeated in two to three weeks. If the limb cannot be straightened in this way, permanent extension for two or three weeks will usually overcome the contracture. The child can wear an orthopaedic splint which allows the weight of the body to rest on the pelvis. The knee should be kept immobilized until all pain and swelling have disappeared. For several months longer a removable splint should be worn in walking. After this long period of immobilization the joint will be quite stiff. But it is very important not to break up these adhesions too soon or too suddenly, for fear of lighting up a new inflammation. The patient will accomplish much by using the limb, and after a few months a little passive motion will help. To keep up the nutrition of the muscles massage will be found useful. *Festina lente* should be our motto in these cases.

During the period of rest of the joint, iodoform infections will be found very beneficial. Where iodoform fails, König has had good results by washing out the joint with two per cent. carbolic acid and then injecting five per cent. carbolic acid. The Bier treatment is also a valuable aid.

#### JOINTS AND BONES OF FOOT.

They are very frequently affected, usually the calcis and astragalus. The disease seldom starts in the synovial membrane. The process may spread anteriorly or posteriorly, and fistulae may form on the dorsum of the foot or on either side of the

tendo-Achillis. The first symptoms are usually a little local pain and some limp. On examination, one or more tender areas will be found. Somewhat later we find swelling around the ankle. Very seldom does the disease start with an infection of the synovial membrane.

*Treatment*.—At the onset this should be conservative. If much bone is affected, and here the x ray helps, an open operation will be necessary. Many cases, especially in children, will get well with rest, fixation, elevation of the limb, Bier treatment, and iodoform injections. If the foot is fixed, it should be at a right angle, half way between pronation and supination, so that if ankylosis takes place, the foot will be in the best possible position for walking. An ambulatory splint of plaster of Paris, similar to the one used in fracture of the leg, is very useful. Even where abscesses have developed in young subjects a cure can often be obtained without operation. If, however, the child is losing weight, or if there is a secondary infection of the soft parts, or extensive bone involvement, then an open operation is imperatively demanded. In adults we cannot hope for much from conservative treatment. The older the patient, the earlier will operation be necessary.

#### SHOULDER.

In the shoulder joint tuberculosis occurs very rarely. The age varies from fourteen to twenty years; usually the right shoulder is affected, and usually the process starts from the head of the humerus. In forty per cent. of the cases there is pulmonary tuberculosis. The disease usually spreads very slowly. As the process is chiefly in the bone, palliative measures are not of much avail. It is often necessary to remove the diseased focus in the bone or to resect the head of the humerus. But it should not be forgotten that even purulent joint infections may heal without operation and even leave a movable joint.

#### ELBOW.

Primary synovitis in the elbow is rare, the disease usually starting in the olecranon or in one of the condyles. The usual course is slow. Small bone foci remain localized for some time without giving symptoms. The diagnosis can often not be made until perforation into the joint has taken place. Such a perforation often follows a slight trauma, and the trauma is thus looked upon as a causative factor of the disease. The x ray will find small bone areas, and is, therefore, a valuable aid to early diagnosis. When the joint becomes affected there is an exudate formed which distends the capsule. To this is soon added periarticular edema, the muscles of the arm and forearm atrophy, and we have, then, the characteristic spindle shape. After the synovial membrane becomes affected, motion of the joints is painful. In the majority of cases abscess followed by fistulae result. The ligaments may become so destroyed that abnormal mobility results. Many cases do not come for treatment until late in the disease, owing to the very gradual onset. Naturally the prognosis varies with the extent of the disease. In early cases it is very good.

*Treatment*.—Owing to its accessibility, the injection treatment of iodoform is of great value. The



Bier treatment is also useful. If a fistula is present, the iodoform can be injected directly into it. Sometimes there will be marked improvement for several weeks, and then no further progress can be made by this treatment. An x ray picture will show a small bone focus, which, after scraping out, will be followed by a rapid cure. Especially in children should we be ultraconservative, and we will often be rewarded by surprisingly good results. But we must individualize, not work by rule, and, above all, watch our cases very carefully during the whole course of treatment. Often when we are in doubt, the x ray will point out to us the next step in the treatment. Advanced cases with multiple fistulæ and much destruction of joint will, especially in adults, require resection of the joint.

#### WRIST.

We must distinguish between a lesion in the joint and a lesion in the tendon sheaths. The disease can extend from the tendon to the joint. It is rare in children, commoner in adults, but usually associated with other tubercular processes, especially of the lungs. There may be a serous exudate, a dry necrosis of bone, or general involvement of the entire joint. There is frequently a history of injury preceding the symptoms. The disease often starts in the radius or metacarpal bones, although much oftener in the carpal bones. Frequently the disease starts in the synovial membrane. There is swelling, disability, and atrophy of the forearm. We seldom find much bone pain unless the process remains localized to one focus. Here again we find the spindle shaped swelling. There is doughy œdema of the skin, increasing disability of the fingers, and fistulæ often develop. Owing to the ease with which x ray pictures can be taken, they are a valuable aid, not only in making the diagnosis, but also in locating the various foci.

*Treatment.*—In children, again, we should be very conservative. In adults, especially if other lesions are present, the treatment should be operative. The details of the conservative treatment are similar to those referred to in tuberculosis of the elbow.

46 EAST SEVENTY-EIGHTH STREET.

### GASTROENTEROSTOMY IN CANCER OF THE STOMACH.

*With Report of Two Cases; Also a Third Interesting Case Diagnosed by Examination of Shreds of Tissue which Came Away During the Use of the Stomach Tube.\**

By JOHN J. GILBRIDE, A. B., M. D.,  
Philadelphia,

Professor of Diseases of the Stomach and Intestines, Philadelphia Polyclinic; Assistant Demonstrator of Anatomy at the Medico-Chirurgical College.

Charles Kingsley in his book *Westward Ho* says of the elder Leigh of Burrough that he was one of those men, moreover, who possessed almost every gift except the gift of the power to use them.

Might not this be applied to the position of many of us in reference to cancer of the stomach. The signs, symptoms, and laboratory methods for diag-

nosing this disease early, while of value, are unsatisfactory, and of no value whatever, unless the possessor of this knowledge applies it. Too often in the early stages of the disease no effort is made to use these means of diagnosis; the result is that the disease has already passed into an advanced stage before being recognized, and either no operation can be performed, or the palliative operation of gastroenterostomy is all that can be applied.

Gastroenterostomy was introduced into surgery of the stomach by Wölfler (Die Resection des carcinomatös erkrankten Magens; *Wiener medizinische Wochenschrift*, 1882, No. 14), who performed this operation in cancer of the pyloric end of the stomach, in which complete resection of the diseased pylorus was no longer possible.

Unfortunately, in nearly 80 per cent. of the cases of gastric cancer submitted to operation the disease is too far advanced to permit of a radical operation. Out of 313 cases of cancer of the stomach operated on up to February 1, 1906, by the Mayos (*Journal of the American Medical Association*, April 7, 1906, p. 1006) only 26 per cent. were early enough to permit of radical operation.

Widespread adhesions, metastases, and great loss of strength are contraindications against resection. Extensive adhesions between the growth and surrounding structures not only render radical operation more difficult of performance, but they also form channels along which the spread of the disease is apt to occur. The Mayos state that they have dissected into the superficial surface of the pancreas a number of times without that fatality to which Haberkant (76 per cent.) and Mikulicz (74 per cent.) have called attention. Moynihan reports a case in which the involved transverse colon was also removed, together with the stomach, with the patient living at the time of the report, two years after the operation. It is true that in the great majority of cases the growth will recur either locally or generally, but the advantages of gastrectomy as compared with gastroenterostomy are that it prolongs life about ten months longer, it affords a greater degree of comfort to the patient, and the patient has a chance of complete recovery. There are also a number of surgeons who advocate resection as a palliative operation, even in those cases where lymph glands are irremovable or an early secondary deposit in the liver has occurred.

The advances made in the surgical treatment of gastric cancer have gone beyond all expectations, as the mortality following both radical and palliative operations has been a gradual but continuously diminishing one, so that at the present time, according to the Mayos, the mortality is not over 10 per cent., and in selected cases the death rate is as low as 5 per cent. Of course, cases operated on in the late stages of the disease will continue to show a high percentage of mortality. Again, it must be remembered that all the cases treated medically die. Mayo also reports 25 per cent. of the operative recoveries, after resection, as living for more than three years. Other cases are reported as living a longer time, some of which are believed to be cured: One living five years, the Mayos; one living eight years, and one living thirteen years, Kocher; a woman living and well nearly six years, and a man living and well

\*Read before the Philadelphia County Medical Society, January 22, 1906.

nearly ten years after resection, Berg. (*Hygiea*, Stockholm, No. 307, through the *Journal of the American Medical Association*, December 14, 1907, page 2048.) While the radical operation is the one of choice, if, after opening the abdomen, it is found that resection cannot be applied, and that stenosis of the pylorus, or stagnation of the stomach contents, be present, a gastroenterostomy should be performed. There is usually a stenosis of the pylorus, as about 80 per cent. of gastric cancers occur at the pylorus and lesser curvature.

In cancer involving the curvatures without stagnation of contents nothing is accomplished by doing a gastroenterostomy. However, with the perfection that has been attained in the technique of these operations it is not unreasonable to expect that a greater number of cases of cancer of the stomach will be subjected to early operation at a time when complete removal of the growth and involved lymphatics may be accomplished. There is no doubt about the advisability of performing a gastroenterostomy if indicated, because it may be possible in some cases to do a radical operation when nothing more than a palliative one was intended. There is generally considerable improvement in the health and well being of the patient after gastroenterostomy. Vomiting ceases, the appetite returns, and the weight remains stationary or improves for a time. The stomach is more quickly emptied and there is a lessening of the irritation caused by the food passing over the surface of the growth. Katzenstein (*Deutsche medizinische Wochenschrift*, xxxiii, No. 4, through the *Journal of the American Medical Association*, March 16, 1907) is of the opinion that the pancreatic juice passing over the surface of the cancer after gastroenterostomy checks the growth, the surface of which it presumably digests.

The prolongation of life after gastroenterostomy is usually from three to six months, and after resection is on an average of fourteen months.

Now that surgery has definitely shown that it has something to offer sufferers from cancer, the next thing is to create a favorable public opinion by letting it be known that cancer has been cured and can be cured by early operation. The education of the people on this point would, to my mind, give a most wholesome impetus to the proper treatment of this disease.

The delay in bringing these cases to the operating table is not only due to our unsatisfactory means of diagnosis, but to the lack of enthusiasm among many members of the profession, as well as among the laity. An early diagnosis is difficult, sometimes impossible; however, if the methods of diagnosis which we now have were more generally applied many more cases should be recognized at a time when radical operation might be performed. These methods are neglected, except by a comparatively few; even the simpler forms of physical examination, and the notwithstanding the pleading of the best men of the profession for early diagnosis and early operation. He who has made an examination of his patient and tried to make a diagnosis is doing his duty, but he who has kept a patient under treatment and made no effort to diagnose the case until the patient says he has "black vomit and a tumor" is per-

forming the function of a patent medicine. "Coffee ground vomit" and a tumor are frequently only ante-mortem signs.

Until recently the onset of gastric cancer had been considered to be usually of one type, that is, it occurred most frequently in individuals past forty who had been previously free from dyspepsia, and that if the symptoms had persisted for more than eighteen months or two years the disease was probably not cancer. However, we now recognize two other distinct types of onset; one, where the cancer develops on an ulcer that may have caused symptoms at either a recent or a remote date preceding the cancerous invasion, and it was formerly believed that this change occurred in only from six to ten per cent. of cases, whereas we now know the change happens in a much greater number of instances. According to the Mayos (*Journal of the American Medical Association*, April 2, 1906), 56.4 per cent. of their last thirty-nine cases of cancer of the stomach operated on showed direct evidence of carcinoma developing on an ulcer. Moynihan (*British Medical Journal*, February 17, 1906) gives 72.1 per cent., and some writers even a higher percentage of cancer developing on an ulcer. This knowledge has been gained from operations performed for gastric ulcer, its complications, etc., and could not have been obtained from post mortem examination. The other and third type of onset is in cases that give a history of dyspepsia extending over a period of from two to fifteen years, and, in some few instances, even a longer time. The presence of lactic acid in the stomach contents is a valuable sign in diagnosing this disease; however, it should be thoroughly understood that lactic acid is usually, I believe it is always, absent in the early stages of gastric cancer, and one should not, therefore, wait until lactic acid is present to diagnose cancer.

The presence of a tumor, if small and movable, is not a contraindication to radical operation, for the reason that the majority of tumors occur at the pylorus in the most accessible part of the stomach to examination, and the fact that there are usually symptoms of stenosis which direct the attention of the patient more forcibly to the disease and lead him to seek medical advice earlier than he otherwise would.

In the performance of gastroenterostomy in gastric carcinoma the posterior no loop method with a double row of sutures is the method of choice, with the jejunum continuing its normal course to the left. When adhesions are too extensive and do not permit the performance of the posterior operation, the anterior anastomosis should be performed, the jejunum being raised in front of the transverse colon, and the anastomotic opening in the jejunum made at a distance of from ten to fourteen inches from its commencement, sufficient distance being allowed, so that the transverse colon will not be obstructed. In the employment of either method the anastomotic opening in the stomach should be made at a point far enough away from the diseased area to avoid the probability of an early involvement of the esophagus by the extending disease, with a return of symptoms of obstruction. If the anterior operation is applied this should be followed by the performance of an

enteroenterostomy between the afferent and efferent loops of intestine comprising the anastomosis. The double row of suture method is here, too, preferable.

The cases that I have to report are the following:

CASE I.—J. V., male; white; age sixty-five years; born in the United States; bricklayer; consulted me June 28, 1906, six months after the onset of symptoms. (See Fig. 1.)

Family history: Father died of consumption of the bowels at sixty-two years of age.

Previous history: While in the army during the civil war he had suffered from intermittent attacks of diarrhoea.

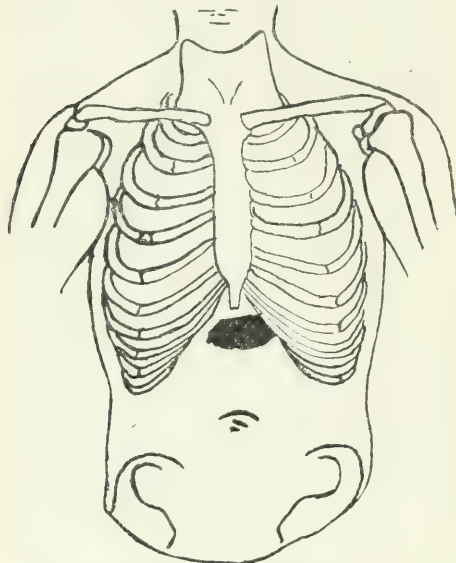


FIG. 1.—Cancer of the pylorus (CASE I).

He also had had inflammatory rheumatism at that time, and had had influenza in 1891. Otherwise he was perfectly well and in good health up to Christmas time, 1905, when he began to have a dull pain in the epigastrium after eating, lasting about two hours. The pain would then disappear to return after the next meal. There was also some fullness and distress after meals. He has been gradually getting worse. Vomiting began in May, 1906, occurring about once a week and consisted of probably a quart of a black, tarry material. His appetite began to fail about six weeks before consulting me, and food had no taste recently. He belched considerably, and the bowels were constipated. He felt very weak and tired easily. Weight at the time of onset of symptoms was 205 pounds; at the time of my examination he weighed 155 pounds—a loss of 50 pounds. Sleep was restless; no cough or headache.

Physical examination: Patient was a large, strongly built man; there was some wasting, but no cachexia. Color was good; mucous membrane slightly pale; examination of eyes was negative; teeth showed to be defective; tongue was slightly coated; there was no pulsation in the neck or palpable lymphatic glands. Chest was emphysematous; lungs and heart examination proved negative; radial pulses were equal; arteries were atheromatous. Liver dullness began at the sixth rib; lower border not palpable. Inspection of abdomen: Abdominal wall flat and relaxed with slight distention and a globular swelling in the epigastrium to the left of the median line extending under the left costal border, and corresponding in size, shape, and position to a distended stomach, the greater curvature of which was not below the normal position. Peristaltic waves were passing slowly and at regular intervals from left to right. An oblique inguinal hernia of the right side was also present. Palpation of the epigastrium showed an increased fullness

and resistance, but did not at first reveal the presence of a definite mass. However, the peristaltic waves indicated conclusively the presence of stenosis of the pylorus, and by laying my hand almost flat upon his abdomen, with a little deeper pressure exerted by the tips of the fingers over the epigastrium up beneath the liver, and gently stroking the abdomen downward during deep inspiration, holding the parts during expiration, I was able to bring down below the liver a tumor of the pylorus which was about nine centimetres in its transverse diameter by six centimetres vertically. It was hard and nodular. The finger tips could be placed between the growth and the liver, to which it seemed to be strongly united, as the mass could not be held down during expiration. This I attributed to a densely involved gastrohepatic omentum and to the fact that the growth was also adherent posteriorly, both of which conditions allowed but a slight mobility of the growth, and the operation which followed a few days later showed this supposition to be correct. The epigastrium was only slightly tender, and the growth could be handled without causing pain or discomfort, except a little nausea. Gastric tympany began at the sixth rib in the left nipple line and the greater curvature extended two and a half inches below the left costal border. Gas could be heard escaping through the pylorus. Kidneys or spleen were not palpable. Webster's and Stillé's signs were absent. Left supraclavicular lymph glands were not palpable. Physical examination was otherwise negative. Urine examination was negative. Analysis of gastric contents after an Ewald test breakfast: Aspirated 100 c.c. of a black "coffee ground material"; contents fairly well digested; slight amount of mucus present; reaction to Congo negative; total acidity 0.30; free hydrochloric acid absent. Lactic acid test showed a positive reaction. Blood positive. Microscopical examination of the gastric contents was not made. Occult blood also in the faeces, using the alouin test.

The diagnosis of gastric cancer was made, and an operation was advised which I performed at St. Joseph's Hospital on July 5, 1906. On opening the abdomen the stomach presented showing the growth as described and involving the whole pyloric end of the stomach, also extending more along the lesser curvature. The gastrohepatic and gastrophrenic ligaments were thickened and the lymph glands enlarged; one lymph gland overlying the cardia was the size of the distal phalanx of an adult's thumb. Adhesions were so extensive posteriorly as to render it impracticable to do a posterior gastroenterostomy, therefore, an anterior one was performed without doing an enteroanastomosis. The abdomen was closed in the usual manner, and the patient recovered from the operation without a bad symptom. He was up in a chair at the end of five days and had his clothes on, and out upon the floor at the end of eight days, leaving the hospital in three weeks. His appetite was excellent and he relished his food; he resumed light work during September and October, and died November 26, 1906. No autopsy.

This man had been under treatment for dyspepsia from the time of onset of symptoms and he said he had not been examined even in so far as to show his tongue. The man was an admirable patient and anxious for anything which might save his life, but alas, too late!

CASE II.—(See Fig. 2.) L. S., female, age forty-seven, housewife, born in the United States, was seen in consultation with Dr. James L. Hornbeck, of Catauqua, Pa.

Family history: Father, seventy; mother, sixty-eight; both living and well.

Previous history: Married twenty-five years; eight children living and well. Patient had had measles when a child; malaria eighteen years ago.

Present condition began fourteen years ago by vomiting off and on at variable intervals of from once a day to once in two weeks or once in two months; no blood was vomited; there was belching, regurgitation of sour liquid at times. She had been gradually getting worse. Four years ago she had a rather severe attack of stomach disturbance which lasted between three and four weeks, confining her to bed. She had had similar attacks about once a year since the one mentioned. She vomited blood during an attack that occurred about a year ago. Constipation had pain during attacks only. The present and last spell began March 11, 1907, by loss of appetite, fullness, and distress after eating, vomiting every few days, the quantity depending upon the interval between each vomiting spell; bowels constipation alternating with diarrhoea; complained



of thirst and weakness; was gradually getting worse. She alternated with diarrhoea. Appetite was usually good in the intervals between attacks. Patient slept soundly and had been confined to bed from the middle of June until the first week of July, 1907; was then up and about for two weeks when she again took to her bed, where she had been for five weeks when I saw her, August 22, 1907.

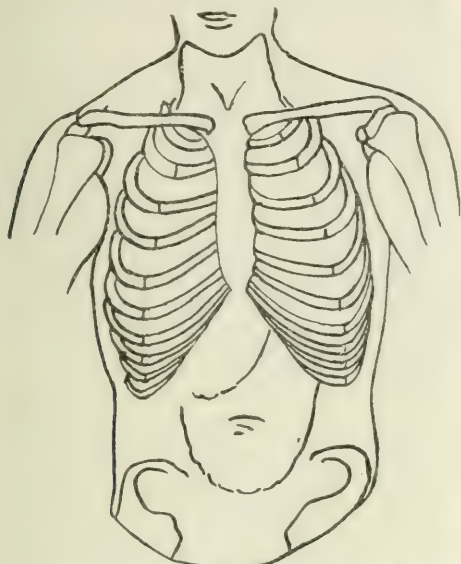


FIG. 2.—Cancer of the stomach, gastroptosis, with dilatation. (Case II.)

**Physical Examination:** A large boned woman who was very much emaciated. The skin was dry, brownish, and shriveled. Tongue was dry, red, and slightly coated, showing that she was suffering from a toxæmia; lips were dry; teeth defective. Supraclavicular lymph glands were not palpable. Examination of lungs was negative; pulse was small, hard, and accelerated. Myocarditis and arteriosclerosis were present. Inspection of abdomen showed considerable prominence in the umbilical region and scaphoid above and below. This bulging was the dislocated and dilated stomach, the greater curvature being midway between the umbilicus and symphysis pubis, and the lesser curvature was midway between the xiphoid cartilage and umbilicus. Peristaltic waves were passing from left to right; succussion splash was present over stomach. There was a diffuse thickening of the stomach wall at the pyloric end. Gas could be heard passing through the pylorus at delayed intervals of from 30 to 40 seconds. The normal tone of peristaltic sounds at the pylorus was, according to Cannon, at intervals of about nineteen seconds, which observation I have also noted. The pylorus could also be felt to alternately contract and relax under the palpating fingers. Examination of liver, kidneys, spleen, etc., were negative. There was but slight tenderness over the stomach on palpation. A right femoral hernia was present. The woman was almost a skeleton, the muscles, as well as the paracostals having wasted away. Apiration of the stomach contents. It was not aspirated in truth, as the contents were so thick as to obstruct the tube and the patient vomited about two quarts of a thick, brownish, fairly well digested material of a sour odor. This on examination showed a total acidity of 0.58, free hydrochloric acid to Congo negative; free and lactic acid negative. Blood present, some mucus.

Diagnosis: tumor of pylorus; body's malnutrition; gastroptosis with dilatation; arteriosclerosis and chronic interstitial nephritis.

Operation upon the stomach was advised, and that in the event of the pyloric tumor not being malignant she would be given a chance for recovery. Dr. Hornbeck had ex-

hausted all medical means, including belts, drugs, diet, etc., and to his credit be it said he had had the patient under observation only a few months. Operation was consented to and she came to Philadelphia on August 27, 1907. I operated upon her at St. Agnes Hospital the following day, doing a posterior gastroenterostomy, as pylorotomy was out of the question on account of the emaciation, weakness, etc. There was a diffuse thickening of the pyloric end of the stomach, almost complete stenosis of the pylorus, which was hard and indurated, the glands at the pylorus along both curvatures were large and hard. The patient recovered nicely from the operation, getting up in a chair at the end of five days. Nourishment was begun early and forced. She had a good appetite and relished her food. The urine went as low as ten ounces a day for two days following the operation, and never above twenty-four ounces during the four weeks she remained in the hospital, although treatment against this condition was begun before the operation and by filling the abdomen with saline solution before closing, this was followed with saline by the rectum (Murphy's method), diuretics, including sparteine sulphate in two grain doses hypodermatically as the occasion required.

She had no further trouble with the stomach following the operation and returned to her home four weeks later. Her bowels continued loose off and on as before. Appetite was good. She ate her food well, but never gained strength, nor did the kidneys increase their function. She died the latter part of October, 1907. Dr. Hornbeck wrote me after her death that following the operation she did not suffer at all from her stomach and complained only of weakness. The cancer in this case, I also believe, in all probability, followed a chronic ulcer which was the cause of her long continued dyspepsia.

I will cite one other case, because it illustrates three points: (1) Diagnosis of cancer by examination of a piece of tissue that came away in the wash

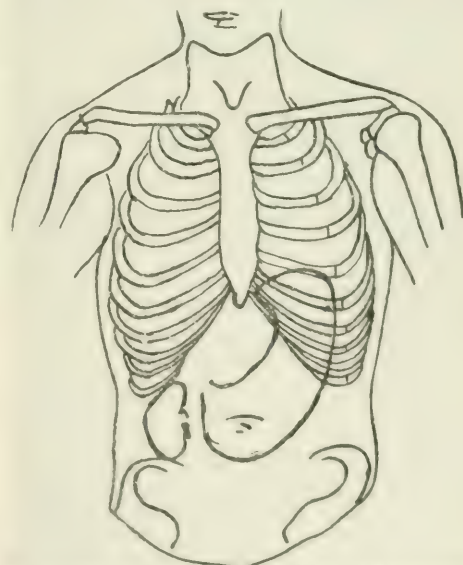


FIG. 3.—Cancer of the stomach, with dilatation and gastroptosis. (Case III.)

water while using the stomach tube; (2) absence of lactic acid; (3) a clear history of ulcer of the stomach dating back twenty-eight years. Lactic acid was also absent in the other case above reported.

**CASE III.**—(See Fig. 3.) A. B., female, white, age forty-five years; born in Germany; housewife; came from Connecticut. Seen in consultation with Dr. Edward J. Menger,

of Philadelphia, November 5, 1907. She had been married twenty-two years; had had five children and one miscarriage.

Family history: Mother died of cancer of the stomach at forty-five years of age. One brother died of tuberculosis of the lungs at the age of twenty-five years.

Previous history: Vomited blood at seventeen years of age, believed to have had gastric ulcer and was kept in bed about twenty weeks.

Present condition: Began four years ago by failing appetite, fulness and distress after eating, belching, vomiting at variable intervals of from once in two weeks to once a day or once in two days. The quantity of vomitus was about a quart when she vomited every day, and may have been a little more when the intervals between vomiting attacks were longer. Sometimes her appetite improved off and on for a few days at a time; she then ate a little more and this was again followed by vomiting; but she felt better when she ate least. Pain had been present in epigastrium more or less all the time for the past several years. It was relieved by vomiting or by lying down. No headache; bowels were regular; there was burning sensation occasionally in the epigastrium; regurgitation of some liquid at times. Patient had lost about thirty pounds in weight in the last year; sleeplessness and palpitation; no swelling of the feet.

Physical examination: A medium sized, fairly well built woman showing some wasting, but not cachectic or emaciated; teeth very defective and tongue coated; examination of lungs and heart were negative; supraclavicular lymph glands were not palpable.

Inspection: Abdominal wall was relaxed and there was a prominence about the width of a hand extending from beneath the left costal margin downward and to the right parasternal line. The centre of its vertical diameter was at the umbilicus. Below the xiphoid cartilage tenderness on palpation was quite marked. Splashing was present over the stomach, which was dislocated downward; no peristaltic waves were visible, nor was there any mass palpable, the right kidney and stomach, of course, being excepted. The right kidney occupied the third position of dislocation, as the tips of the fingers could be placed above the upper pole of that organ. Liver, left kidney, or spleen, were not palpable. Webster's and Stiller's signs were not present, no tenderness along the left side of the spine posteriorly (Boas sign of gastric ulcer). Examination of gastric contents following an Ewald test breakfast: Time forty-five minutes; aspirated 20 c.c. of fairly well digested contents; some blood streaked mucus, and a few drops of bloody liquid dangled from the end of the tube on withdrawal. Total acidity 0.50. Free hydrochloric acid to Congo positive; by analysis 0.10. Blood was macroscopically present. On examining the wash water I noticed a few small pieces of supposed mucus which resembled mucous membrane and which I had examined by Dr. Wieder at the Medico-chirurgical College and by Professor Joseph McFarland, of the same institution. It was pronounced by them cancerous.

An operation was advised, but the woman, who had returned to her home in Connecticut, refused her consent to operation.

A patient who in middle or advanced life is suffering from dyspepsia should have the stomach contents examined, not once, but several times, if necessary. This can be readily carried out by giving an Ewald test breakfast on a fasting stomach; two small slices of bread and about a pint of water are given. Aspirate the stomach contents in forty-five minutes and examine. If the attendant is unable to examine the contents himself, he should shake it up, put some or all in a bottle, seal, and send it to some one for examination and report.

Suspicion of the presence of malignant disease of the stomach calls for an exploratory laparotomy. Contraindications to any operation on the stomach are involvement of the supraclavicular lymph glands, particularly those on the left side, other extensive involvement, advanced cachexia, and

One hears the statements made on every side, by the uninformed, of course: "We have nothing that will cure those cases, and what can we do until we know the ætiology?" These are but lame excuses for inactivity.

Let those who offer these statements arouse from their lethargy, and when a diagnosis has not been made until the life of a dear one is ready to pass over the river beyond, not console themselves with the thought that the disease was incurable anyway. Why sit idly by when men like Billroth, Krönlein, Mikulicz, Robson, Moynihan, Deaver, the Mayos, and others have carried or are carrying the light and showing us that some of the cases subjected to early radical operation are cured? We have a remedy, the only one at present—surgery. Apply it promptly and judiciously, and when the last shades of the twilight of life will have fallen around the chamber of those afflicted with this disease, let us be able to feel and say, even though we fail at times, but not always, that we have done our duty, we did our best to save our patients from death by this disease.

2412 NORTH SIXTH STREET.

#### CHRONIC ALCOHOLISM:

*What Can and What Cannot Be Accomplished by Treatment.*

BY GEORGE E. PETTEY, M. D.,  
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Member, American Association for the Study of Inebriety, etc.

The question is frequently asked: "What can be done by treatment for those who are enslaved by alcoholic liquors—can they be cured?" To this question both an affirmative and a negative answer can be made, and each would be correct when referring to a certain class of cases. Chronic alcoholism is not only a disease itself, but in many instances it springs from other diseases. These diseases may be either physical, mental, or moral. To cure any disease the cause must be removed. In some cases of alcoholism this can be done by treatment, while in others it cannot; then the question naturally arises, what class is curable and what is not? In endeavoring to answer this question it is necessary to consider the type of the addiction as well as the influence which led to its formation. In doing this it is well to first divide the drinkers into two classes, the regular drinkers and the periodical drinkers, then to study very carefully the influences and causes that led to the formation of the addiction. It will be found in many instances that these differ materially in the case of the regular drinker from those of the periodical drinker.

#### *Regular Drinkers.*

Probably 80 per cent. of all persons who drink whiskey regularly, day by day and week by week, got into the habit inadvertently, unintentionally. They were persons of sound bodies and minds, good habits and high aims, who began to use liquors in a social way, or probably with the idea that their effects would protect them from malaria or other prevalent disease. They continued this course without mature thought as to its consequences and certainly without any purpose to go to excess or

dissipate in any way. The use of a stimulant gradually grew more frequent, finally leading to the daily consumption of considerable quantities of some alcoholic beverage. For a time the effects of this beverage seemed to improve the health, to impart greater mental and physical vigor, and to generally promote the well being of the subject, but these benefits were more apparent than real, and all this time there was being created in the system a demand for the effects of alcohol, and this progressed until the user felt more comfortable when under the influence of the stimulant than when not. Thus, gradually, and almost imperceptibly, the demand for the stimulant grew, and the victim became more and more dependent upon it, until larger and larger quantities were required to meet this demand. The daily consumption of these considerable quantities of liquor necessarily brought on such changes in the system as to create an imperative demand for the continuation of their effects. After reaching this stage the victim felt that he could not begin his day's work without his morning drink; there was a degree of lassitude and lack of vigor that he was totally unable to throw off except by the aid of a stimulant. As these disorders progressed, one drink was not sufficient to give him the necessary support, and two, three, or more were taken in close succession, and this bracing process was continued throughout the day and from day to day and from week to week. The effects of this prolonged and free use of alcohol wrought serious impairment of the digestive organs; the appetite became variable or absent altogether unless freshly stimulated by an extra drink, and if, at this or any subsequent stage the victim made an effort to discontinue drinking, such a state of nervousness would result as to drive him to resume the stimulant. The entire system had by this time become so thoroughly saturated with toxic matter, of such an extremely irritating kind, that a condition of intolerable nervousness would arise whenever the system was allowed to get out from under the *novu sedative* influence of liquor, and no matter how acutely conscious the victim may become to his slavery or how heroically he struggles to throw off the yoke he finds himself unable to do so by his own efforts. The prolonged free use of alcoholic stimulants brings about such disorders of the system as to lead even the best of men, when in its grasp, to continue to seek relief from the suffering incident to these disorders by increasing the quantity of alcohol consumed. Whether that course is imperatively necessary or not, it appeals to them as being the one readily available and efficient remedy, the panacea for every ill, and it is so used.

A majority of all habitual users of alcohol in this country belong to this class, and many of them would gladly quit drinking if they could ever get the poison out of their systems, and reach a condition in which they could live in comfort without it, but they seem never to be able to do this. They never get entirely sober, and their systems are never clear from the products of tissue waste. They are always in an extremely toxic condition, and are only comfortable when the paralyzing effects of alcohol blunt their sensitivities to the presence of this poison. In habitues of this class, the

addiction has a purely physical basis, due to the effects of alcohol alone, a combined chronic auto-toxæmia, and drug toxæmia, and as both of these elements are susceptible of being removed by treatment, cases of this class are curable.

In the second division I would place a small per cent. of regular drinkers who were born with, or who from disease in early life acquired, a defective physique and an unbalanced nervous system, persons who, because of such defects, have never been normal either in nervous or physical organization. When such persons, in seeking something to overcome their habitual discomfort, experience the effects of alcohol they readily fall a victim to its seductive influences. For a time this stimulant seems to be the one thing lacking in their lives; it overcomes that discordant nervous condition which they so much dread, and they feel that they have found a panacea for all their ills, but this relief is only temporary. The demand for the effects of alcohol grows very rapidly in such cases, and its continuous use brings on the same pathological conditions that it does in others. The system soon becomes extremely toxic, and this irritating matter greatly aggravates their former nervousness, so that the two conditions together now make such an imperative demand for liquor that the victim cannot in any wise resist it, and he keeps himself constantly satiated with alcohol—in fact, after reaching this stage he must do so to enjoy the least degree of comfort. In this class of cases but little can be expected from treatment, unless it is found that the original discordant nervous element can also be removed by treatment. When these causative conditions are found to be such as to be amenable to treatment, and the treatment for the addiction embraces not only such treatment as would be necessary to give relief in an ordinary case, but also such other well directed measures as may be required to restore the primarily unbalanced nervous system to a normal condition, much benefit may be derived from treatment even in these unpromising cases, provided a reasonable degree of moral fibre was originally present.

In a third division I would place another, but relatively small, proportion of regular drinkers. To this class belong those who drink as a pure dissipation, persons who are deficient in moral fibre, lacking in purpose, supremely selfish, willing to gratify the present moment at any cost to themselves or others, without a normal sense of responsibility: those who are simply drifting through the world without *oultury*, compass, or objective point. These defective traits of character may be due either to inherited tendencies or to early environment. Such persons as these drink because they prefer to do so, and would return to the use of liquor even if some one took them up and gave their systems a thorough renovating and removed all physical necessity for the stimulant. In cases of this class more than human agency would be necessary to effect a cure. Not only would it be necessary to regenerate their bodies and put them in normal condition, but it would be necessary to effect a most radical change in their moral natures, a complete transformation of their purposes, beliefs, and nothing short of the grace of God is sufficient



for such a work. Human agency will not avail. Fortunately only a small proportion of the regular drinkers belong to this class; the great majority are of the class first described in this paper. They are men or boys of good families, of excellent traits of character, of high aims, chivalrous, generous to a fault, truthful, and honest—in fact, men with whom no fault can be found except this one weakness, and that due to the lamentable fact that they have drifted into the clutches of this monster. Victims of this class only continue to drink because their willpower and selfcontrol have been so undermined by the effects of alcohol that they cannot extricate themselves from its clutches; they cannot retrace their steps. When such men as these are once freed from the domination of alcohol and are put in a normal condition they will maintain themselves and almost invariably remain permanently free from its thralldom.

Failure to permanently benefit such men as are described in the second and third division should not be allowed to discourage us or to make us less enthusiastic in our efforts to rescue the more numerous and really noble army of enslaved ones.

#### *Periodical Drinkers.*

These should be divided into four classes, and probably some of these classes should be still further subdivided in order to get a clear conception of each class. There are at least four sets of causes that lead to periodical drinking among men who are entirely sober between such sprees. These should be enumerated as: Dipsomania, real and symptomatic; moral cowardice; environment with lack of stability of character; environment with an ever present but resisted appetite.

*Dipsomania.*—Dipsomania is defined to be “an uncontrollable desire for strong drink,” but this term should be restricted to those cases in which this desire or impulse springs from a real mental disorder, a true mania, and should not be applied to those cases where the desire for drink only becomes uncontrollable when it is excited or intensified by some general physical derangement, or where the desire is continuous. A better definition would be “periodical insanity taking the form of an uncontrollable desire for strong drink.” Real dipsomania is very rare, but that it does exist cannot be denied. Most writers leave the impression that such attacks are due entirely to some obscure structural brain lesion or inherited mental defect. It is doubtless true that there are persons in whom a real mania of this type occurs because of an inherited mental bias, or perverted nervous organization independently of the general physical condition, but, in my judgment, such cases are extremely rare. In a large majority of cases which are thus classified the attack only occurs when excited by an added general systemic derangement, an acute autotoxæmia. The irritating effects of this toxic matter serves as the exciting cause of the outbreak, and in most instances these attacks may be warded off or prevented altogether by keeping the system free from toxic matter. Where outbreaks of this kind occur as the result of an inherited or acquired mental defect, entirely independent of the physical condition, treatment cannot be expected to be of permanent benefit, but in cases in which such at-

tacks only occur when an exciting cause, such as autotoxæmia, contributes its influence, then treatment will be of real benefit, provided it embraces such instruction in the manner of living as to enable the victim to avoid the occurrence of such toxic states.

*Moral cowardice.*—Another and probably the most hopeless class of periodical drinkers are those who drink as an expression of moral cowardice. These are men who have no particular craving or appetite for liquor, and who will say at almost any time that they do not particularly care for the taste or primary effects of alcoholic drinks, but who have learned from experience that the effects of alcohol will bring them surcease of cares and worries which they have not the moral courage to take up and bear, and from time to time they seek forgetfulness in the effects of liquor. A man of this class will quarrel with a friend or his wife and go off and get drunk for spite, or he may have some business experience which to other men would be trivial, but he, not having the moral courage to face it, runs from it and seeks oblivion in the effects of alcohol. Little if any good can come from treatment of patients of this class. Therapeutic measures cannot remove these incumbrances from their lives, or impart to them that degree of moral courage that is needed to fit them to fight the battles of life in the open and to resist the adverse current which drifts them from a safe and sober mooring.

*Instability of character with bad environment.*—In another class of periodical drinkers the sprees are due to “bad environment coupled with lack of stability of character.” These are the social drinkers of the type who lose control of themselves as soon as one drink is taken. Many of these are men of estimable qualities, amiable, chivalrous, good hearted, kind, and in every way lovable men, but they are deficient in selfcontrol, fixed purposes, and positive traits of character. They are good natured fellows who drift with the current and allow others to dictate their course. These men, when away from the drinking associates and out of temptation, remain entirely sober, and would not think of going alone and deliberately beginning to drink; they have no craving or appetite for liquor that they are not fully able to control, but they are negative characters, and when thrown with drinking associates they do as others do. They are of the type of social drinkers who lose control as soon as they are slightly under the influence of alcohol. When once started, such men continue to drink until some one takes control of them and gets them out of the adverse current. Then a period of entire sobriety follows, only to end in another spree when they get into the current which drifts in that direction.

Treatment in such cases can only be successful when followed by an entire change of environment. The old associates must not only be given up, but the one seeking to reform his life must be thrown with sober and moral people whose positive influence for good over him will be sufficiently strong to enable him to stand firmly in his new position, notwithstanding his defective traits of character.

*Bad environment with an ever present but re-*

*sisted appetite.*—Another type of periodical drinkers are those who have an inherited or acquired thirst or craving for liquor which is ever present with them, but who, from strong convictions, contend against this weakness with a courage that is in many cases really heroic, and, under favorable circumstances, they succeed in controlling themselves, but when thrown with drinking associates or when brought under other strong temptation then they find themselves unable to resist both the ever present thirst and the temptation. Under these circumstances they begin to drink, and as soon as one drink is taken their resisting power is gone, and they throw themselves into the spree with a vigor and abandon that is not known to the more timid or less resolute. They continue to drink until the stomach rebels and will no longer retain the liquor; then they go through a period of extreme distress and remorse, and finally get back on their feet.

Periodical drinkers of this type are more amenable to treatment than any other form of periodical drinkers, because the craving, the thirst against which they contend, can be overcome—in fact, entirely destroyed. In addition to this their attitude toward liquor can be so changed as to render the taste small, and the effects of liquor repulsive to them. When men of this type are given this much aid they find themselves quite able to successfully contend against the influence of drinking associates and to resist other currents of influence which, when associated with their former craving, would have been sufficient to cause them to fall.

#### *Principles of Treatment.*

Before undertaking to treat any disease we should endeavor to ascertain the nature of the condition to be met: whether such a condition has a real, structural pathology or is only functional derangement, and whether it is a physical or a mental disorder. That the prolonged use of alcoholic stimulants does cause serious structural lesions of the brain, liver, stomach, and other organs cannot be denied, but such lesions are not the only or principal reason for the continuation of the habit. In some cases, as we have seen in the preceding, the use of liquors are continued from preference, or because of some mental or moral defect, but in the great majority of cases alcoholic drinks are continued because of a strong demand in the system for their effects. *The habit has a real physical basis.* This demand for the effects of alcohol is due to the extremely toxic condition of the system. Alcohol blunts the sensibilities of the nervous system and retards the excretion of the products of waste. The life of the human organism is a continuous process of waste and repair. When the excretion of this waste is retarded, even to a slight degree, day by day, the system finally becomes so saturated with poisonous matter as to cause serious functional derangement of almost every organ in the body. One in this condition finds it necessary to keep the nervous system constantly blunted with the effects of alcohol or other narcotic to enable it to carry on the work necessary to support life and promote a reasonable degree of comfort. While it is true that alcohol has caused these disorders, still its effects relieve the acute distress springing

from them more promptly and in a manner more acceptable to the sufferer than anything else with which he is familiar, therefore he continues to seek what comfort he can get by taking more alcohol, and thereby burns the taper at both ends.

In endeavoring to bring about such a change in this condition as to render the further use of alcohol unnecessary, the first and most important step is to thoroughly cleanse the system from the products of waste which the effects of alcohol have forced it to retain. In doing this the bowels, kidneys, and skin should all be made to do their full share—in fact, for a time these should be made to do many times their ordinary duty. Just in proportion as the excess of toxic matter is eliminated will the nervous system become quiet and the urgent demand for the effects of alcohol disappear. As a rule, in the course of three or four days the system may be so cleansed of toxic matter as to permit the withdrawal of alcohol without risk or discomfort to the patient. I do not consider it safe or at all advisable to abruptly withdraw alcoholic stimulants from one who has been using them in large quantities without first preparing the system for such withdrawal. After the system is properly prepared for the withdrawal it may be made with perfect safety and without discomfort, but I cannot agree with the arbitrary rule of cutting off the alcohol as soon as the patient is taken in hand.

Up to this point the treatment of the several classes of alcoholic cases is practically the same, as all of them require elimination of the toxic matter and the withdrawal of alcohol, but from this point on the several classes of cases will require radically different lines of treatment. The particular nature of the treatment required to complete the cure will depend upon the cause, or set of causes, which originally led to the formation of the habit, as well as those which have had an influence in its continuation. If these were purely mental, then treatment calculated to overcome a mental disorder should be given; if they were moral or social, then those influences should be looked into and every effort made to direct the patient's future life so as to protect him from these damaging influences and prevent a return to his old haunts and habits.

If the patient belongs to the more promising class, the regular drinkers, in which the habit was continued because of the usual mental bias favorable to the use of alcohol, and because of the deranged physical condition resulting from its effects, then the succeeding step in the treatment should be to neutralize the remnant of alcohol remaining in the blood, to overcome any appetite which may remain for it, and to supplant the mental bias favorable to alcohol with a dislike or complete disgust both for its taste and effect. The means available for these purposes are so numerous and their application so varied that they do not admit of detailed discussion in an article of this kind. In addition to the well known therapeutic agents, static and other forms of electricity, vapor, shower, or neutral or electric baths, suggestion, and in some cases even hypnotic suggestion, dieting and physical training may be used to advantage.

While these corrective measures are being con-



ployed active therapeutic measures calculated to overcome the catarrhal condition of the stomach should also be employed. This condition is the remaining disorder which would exert the greatest influence toward a return to the old habit, because of its effect in impairing digestion.

Fortunately catarrh of the stomach yields readily to treatment in these cases after alcohol has been discontinued, but active treatment for this disorder is essential, and it should be continued until all trace of it has disappeared and the patient's digestion is perfect. He should be able to eat and enjoy three good meals a day. Patients of this class need the strength derived from the digestion of a hearty breakfast in order to prevent them from feeling the need of the support they formerly received from alcoholic stimulants. No part of the treatment is of greater importance than this, since, if it is not successfully carried out, the patient will not be as secure from relapse as he should be. Impaired digestion, with its attendant lack of strength, operates as an ever present influence suggesting the need of some stimulant, some outside supportive, and this amounts to an autosuggestion to take a drink. This is a dangerous condition for the patient to be left in.

The conditions to be met in a majority of cases of alcoholism are simple, and the treatment can be easily carried out, while in others they are so complicated that the resources of the best equipped institution as well as the skill of the most resourceful physician will be taxed to the uttermost; but with the aid afforded by a well equipped institution a competent physician can effect as large a percentage of permanent cures in cases of chronic alcoholism as can be effected in any other serious ailment. The most skilful physician cannot treat them successfully at their homes. The disadvantage due to their home surroundings and to lack of perfect control of his patient will defeat his best efforts. Even a general hospital does not assure the physician such control and protection as this class of patients require.

I do not feel that I should close this paper without a warning against any institution or physician offering to send a home treatment for alcohol or drug cases. Such an undertaking is worse than folly, and when a proposition of that kind does not spring from entire ignorance of the conditions to be met, it is prompted by criminal avarice. Especially fraudulent is the offer to send a remedy that can be administered in coffee, etc., without the patient's knowledge, and thus overcome the desire for liquor and break up the habit.

In undertaking the treatment of alcoholic cases the physician should take a comprehensive view of the patient and his surroundings, and endeavor to correctly estimate every influence which has in any way contributed to his enslavement, and to so manage the treatment of the case, and to so direct the life of the patient thereafter, as to remove every one of the hurtful influences as far as it is possible to do so. The physical man must be completely renovated, and every function of his body restored to normal activity. The mental bias favorable to the use of alcoholic liquors must be eradicated, and in its stead a positive aversion to alcohol be established. The patient is to be given a new chance in life by being put back on his feet with a clear head, in full

control of all his faculties, and free from the dominating influence of alcohol. The consummation of such a work is certainly worthy of the best efforts of any man.

958 SOUTH FOURTH STREET.

## CARIOUS TEETH IN THE TENEMENT POPULATION OF NEW YORK CITY.\*

BY HAVEN EMERSON, M. D.,  
New York.

From June to September, 1907, I had the opportunity of examining the teeth of 2,301 applicants for the Sea Breeze Health Home at Coney Island, under the auspices of the New York Association for Improving the Condition of the Poor. In each instance the mouth was examined in the usual manner with a tongue depressor, for evidences of contagious disease. The moment of this examination was used to note the number of teeth decayed as well as to count those lost, and the number replaced by artificial teeth. The data acquired in this manner are the basis of this report.

It is to be noted that none of these people, adults or children, were suffering from any acute diseases. The applicants were mothers and daughters over fifteen years, and children of both sexes from three weeks to fifteen years.

They had been invited to apply for a two weeks' stay at Sea Breeze, because they were known to need an outing, often owing to sickness during the previous winter, but in the majority of cases because their general health was failing, or they were giving evidence of lowered vitality, in various forms of malnutrition, anemia, and general debility. As they presented themselves for examination, they appeared rather above the poorest class of tenement dwellers. None had suffered from hunger, and all were sufficiently clothed.

The rapidity with which the examinations were made, and the lack on the part of the examiner of technical skill in observing dental defects, are responsible for at least a very conservative estimate. Only such cavities or distinct evidences of destructive decay in a tooth as were plainly visible on direct inspection were taken in the count as decayed teeth.

Of the 2,301 applicants examined, 189 were infants under one year, 1,478 were children from one to fifteen years, and 634 were women and girls over fifteen years.

Of the 1,478 children, 278, or 18.8 per cent., had no defective teeth, leaving 1,200, or 81.2 per cent. Among these 1,200 children I found 5,996 decayed teeth, almost five apiece, or an average of 4.7 decayed teeth for each one of the 1,478 examined.

Of the 634 applicants over fifteen years old, only 19, or 3 per cent., had no defective teeth, leaving 615, or 97 per cent., in whom 4,022 teeth were found to be decayed. This makes an average of 6.5 decayed teeth for each of the 634 examined. There were also found in this group 1,655 teeth missing, and, in addition, 1,444 artificial teeth, making a total of teeth which had been removed presumably for advanced caries of 3,099, or an average of 4.8

\*Read at a meeting of the Institute of Stomatology, on December 8, 1907.



for each one of the 634. Combining the numbers of those removed and those at present decayed, we have an average of 11.3 teeth decayed, or 28.8 per cent. of all the teeth of 634 adults severely enough diseased to be more or less permanently ineffective. It also appears that 7.2 per cent. of the entire number of teeth of these 634 adults were replaced by artificial teeth. Inquiry elicited the fact that only in the rarest instances were the toothbrush or even mouth rinsing used, and, as far as I could find out, no means of cleansing the mouth and teeth were considered to be worth while until the permanent teeth had appeared.

To those who are familiar with the conditions of patients who frequent the public medical dispensaries, these figures will probably seem moderate, and I do not doubt that an examination by a dentist would reveal a material increase in the number of carious teeth. These figures are, however, sufficiently striking to emphasize my point, that this defect in the teeth of the tenement dwellers must be corrected before we, as physicians, can remedy some of the serious evils of health and development which these people suffer from. I refer especially to the errors in digestion which originate in incomplete mastication and salivary digestion, with constipation as an almost universal accompaniment. The advanced results appear as malnutrition, underdevelopment, and lowered general resistance to infectious disease.

That mouth infections involving the fauces and tonsils are more common in individuals with many carious teeth, I have no figures to prove; but the condition of the soft tissues which come in contact with carious teeth, at the gum margin or upon the buccal or lingual mucous membranes, certainly suggests that there is a pretty constant source of septic or putrefactive bacteria in the crypts of the decayed teeth.

Wadsworth (*Journal of Infectious Diseases*, iii, No. 5, October, 1906) says: "From the hygienic standpoint, the secretions of the mouth constitute the chief, if not the only, source of respiratory infection, and the infectious material is transferred from one person to another in some instances through the air, as from sneezing or coughing, but to a much larger and more serious extent directly by personal contact, or the use in common of the various accessories of life."

I venture to suggest that one way in which the prevalence and increasing incidence of respiratory disease may be checked will be by a prevention and correction of dental diseases, supplemented by the use of bland alcoholic solutions as mouth washes, which Wadsworth found to be the only mouth disinfectants of practical value.

To summarize my ideas upon this subject I may say that carious teeth are so numerous among the tenement population of New York, and the manifest results of digestive disturbances caused thereby are so far reaching in their effect upon the welfare of the individual and the state, and the danger of communication of infectious disease is so much increased by the presence of unclean mouths, that prophylaxis and treatment of decayed teeth should be undertaken on a comprehensive scale as a public necessity.

The economics of public hygiene occasionally de-

mand considerable present burdens to avoid certain increasing difficulties and expenses in the future.

I believe the dentists of this city would be doing a work of great value to the public health, a work which they alone can do, and a work of immediate importance, if they would undertake the betterment of existing conditions in the present sufferers from decaying teeth, and so spread the knowledge of the needs and means of caring for the teeth that the children of the poor will not continue to grow up under a handicap, which, aside from the physical suffering often entailed, stunts their mental and bodily development and renders them alike disseminators of infection and fit subjects for infectious disease.

120 EAST SIXTY-SECOND STREET.

#### A PRACTICAL SYSTEM OF MEDICAL INSPECTION WITH TRAINED NURSES. ADAPTED FOR PUBLIC SCHOOLS OF LARGE CITIES.

By S. W. NEWMAYER, M. D.,  
Philadelphia.

After studying the various systems of medical inspection, with the aid of trained nurses, as employed in several large cities of the United States, and eliminating the useless and unpractical features, I devised the following system, which seems to give the best results. The chief factors to which I gave consideration were: 1. The elimination of useless clerical work. 2. Methods which would assure cooperation between medical inspector, nurse, principal and teacher, and parents. 3. The unnecessary exclusion of pupils, and, when excluded, their return in the shortest possible time. 4. Each party concerned assumes his or her share of the responsibilities, and errors can easily be traced to their source. 5. Records and reports are few and can readily be referred to for practical purposes.

Various bad features are noted in the systems employed in the different cities. One city is hampered by a law which admits of the doctor and nurse supervising only contagious diseases. This prevents them from recommending or treating some of the most important ailments of school children, such as defective vision or hearing, enlarged tonsils, and adenoids. Some cities have too few doctors and nurses to attend to the work, or the allotment of territory is poorly arranged. Consideration must be given to the distances between schools, and the kind of and not number of population in a district. A nurse or doctor can attend to more schools in a section of a city inhabited by the higher social classes than the doctor who attends to schools among the congested foreign element. In some schools the physician may see no more than a half dozen patients a month, whereas in the district of poorer people each school may send each day from twenty to fifty patients. School population is not a safe guide by which to allot the work. Sometimes a small annex with one hundred children takes as much time to inspect as a school of one thousand pupils.

Through a lack of understanding of the duties of the doctor and nurse, in some schools there is a waste of valuable time disposing of trifling worms, etc., when the same time could be used for most important examinations. Again, there is no necessity

of a teacher sending to the inspector the same child with the same ailment each day. The nurse should judge when she desires the doctor to again see the patient.

Instead of examining and re-examining normal children, every new child should receive a thorough physical examination on being enrolled, such as is performed in the schools of Philadelphia.

The blanks and system of keeping records seems to be the most difficult problem. Any system which requires writing a half dozen times the same name of school, patient, disease, recommendation, and treatment for each case is faulty. Aside from the enormous expense of printing large quantities of index cards and blanks which serve no purpose, one third of the time is wasted in recording and re-recording, with the result that it is difficult to again refer intelligently to the records. These facts should be written once, and arranged and filed so they can be referred to at a moment's notice. The blanks are the medium to give the cooperation between the teacher, nurse, and doctor, so they can closely follow each other's work without friction. The work has many responsibilities, and each should assume his part. The teacher is to recognize each day the pupils who require the attention of the attending physician. A contagious disease, whether diphtheria, scarlet fever, or a contagious skin disease like scabies or ringworm, should not remain in the class several days before it is sent to the doctor for diagnosis. The doctor can bring the teachers in closer contact with his work by an occasional talk when they hold their monthly teachers' meeting. Before beginning the day's exercise the teacher should go through her class and note which pupils she is to send to the doctor.

The following system of medical inspection with trained nurses is based on using but one card and one blank. Some of these index cards are in each classroom. Each morning the teacher fills out for each pupil she desires examined by the inspector that part of the card above the dotted line. This may seem as though more clerical work is being shifted on the already overworked teacher. But a moment's reflection will prove it saves her time, trouble, and responsibility. Many of the younger pupils do not know their name, address, and number of classroom, much less why the teacher sent them to the doctor. This necessitates the return of the pupil to his class with a note requesting the desired information, which is eventually written on any scrap of paper, to again be copied by the doctor, and a third time by the nurse. I have heard teachers say, "Who wishes to go to the doctor?" There are a few shiftless pupils who are only too ready to accept such an invitation to get out of the classroom. With the teacher answering the question, "Why sent to medical inspector?" this imposition is avoided.

In schools having a system of bells, the physician on visiting the school rings the bells on each floor a number of taps, which informs the teachers of his presence. Immediately the children are sent to him with their respective cards. In schools having no bells, each morning the teachers send to the principal's office the cards of children to be examined, and the inspector sends to the classes for these pupils. The diagnosis and disposition of the case are written on these same cards, which are then kept in the office.

Each pupil sent to the inspector for examination receives one of the following slips to take back to his teacher:

To Teacher:—

This child is referred for treatment to .....

NURSE  
DISPENSARY  
FAMILY PHYSICIAN.

This child is ..... excluded from the class room until you receive notice for his (her) return.

S. W. NEWMAYER,  
Medical Inspector.

School, *Jas. Campbell*. Teacher, *R. E. Saunders*, Room No. 7.  
Name, *William Brown*. Address, *732 Bainbridge St.*  
Date, *Jan. 8, 1908*. Sent to Med. Insp. for sores on face.

Diagnosis—*Impetigo*.

Referred to physician—Dispensary—Nurse.

Excluded—date ..... Returned .....

Treatment by nurse—at home—at school.

*Antiseptic ointment*.

(3) Dates of treatment—*1/8, 1/9, 1/10*.

Results—Cured, *1/10/08*.

Improved.

Not improved.

S. W. NEWMAYER,  
Medical Inspector.  
A. L. STANLEY,  
Nurse.

On these slips the doctor underscores whether the pupil is to go to the nurse, dispensary, or family physician for treatment, or whether excluded from the class. This admits of no mistake by the teacher, and aids her in knowing the exact nature and disposition of each case. The child cannot go home for the remainder of the day, when he was instructed to wait for treatment by the nurse, and, again, a child excluded cannot return to his seat in the classroom and the teacher remain ignorant of his exclusion by the inspector. It admits of the principal having a full written record of the disposal of all cases sent to the doctor.

When the case is referred to the nurse, the doctor specifies on the card if the child is to be treated at home or at school, or both; also the treatment recommended. This concise written report makes mistakes impossible, and may prove valuable if legal or other questions arise. These cards are filed in the office in a box with three compartments: 1, New cases; 2, unfinished cases; and, 3, cured cases. Each of these compartments is arranged according to the number of classrooms.

The nurse, on visiting the school, first takes all cards in the compartment of new cases, and sends for each pupil individually. The information on the card makes it possible for her to perform all her work without troubling the principal or teachers. After attending to the new cases and recording on them the date of treatment, she replaces them in the cabinet, in the compartments of unfinished or cured cases. She now looks over the unfinished cases and sends for those requiring treatment, again recording the date. She so proceeds each day until the child is cured or disposed of, when she records the date of cure, when the card is filed in the third compartment. Once a month all finished cards are sent to the Bureau of Health or Bureau of Education, where they are filed in a cabinet according to school and

disease. One can readily see how easy it would be to refer to these records. For example, should one desire to know how many cases of defective vision were treated and obtained the necessary glasses, or the average number of treatments required at school to cure a certain skin disease, these facts can readily be obtained.

The following are copies of weekly reports of the nurse which are successfully used in the city of Philadelphia:

A. A. CAIRNS, M. D.

CHIEF MEDICAL INSPECTOR

Dear Sirs:—

The following is a weekly report of Nurse of Schools of Fourth Section.

REPORTING	DISEASES FOR WHICH PUPILS ARE TREATED										TOTALS
	Date	Schools visited	Old cases	New cases	Cured	Went to Homes	Taken to Dispensary	Peduncles	Ac. Conjunctivitis	Rosacea	
Monday											
Tuesday											
Wednesday											
Thursday											
Friday											
Saturday											
Sunday											
Total											
Total number of cases treated											

#### CASES TREATED AT HOMES

Date	Name	Address	Disease

#### CASES TAKEN TO DISPENSARY

Date	Name	Disease

### THE CLINICAL LABORATORY OF THE GENERAL PRACTITIONER.\*

By MALCOLM MACKAY, B. A., M. D., C. M.,  
Windsor Mills, Quebec, Canada.

"A room fitted up as a small laboratory, with the necessary chemicals and a microscope, will prove a better investment in the long run than a static machine or a new fangled air pressure spray apparatus."—Osler.

That a laboratory is needed in the daily work of a general practitioner no one will deny, but the ideas of what should be attempted and what omitted in routine work vary greatly with the individual physician.

Some go so far as to state that they prepare and cut paraffin or celloidin sections, and make microscopical slides. Some that they do not even venture to stain for the all pervading tubercle bacillus. Others, again, will acknowledge that they do not look through a microscope from one year's end to the other.

I believe that one reason for the lack of attention to this most important branch of our work is that

the majority of books speak of tests and reagents in an abstract way and do not give definite methods for keeping the laboratory in good working order, ready for instant use, without any delay for the purpose of making up new stains and reagents which have gone bad since they were last used. It is therefore with no apology for my subject that I bring before you one man's idea of a practical laboratory well within the reach of every one, together with a few words on the actual manipulations.

If there is any who is not convinced of the use of such a laboratory I confidently refer him to an article by Dr. R. N. Willson, which appeared in the *New York Medical Journal* of September 28, 1907, and which takes up this side of the question in a very convincing way.

In the first place, a microscope is essential. No analysis of any of the secretions or excretions is complete without a microscopical examination, and no man can consider himself to be carrying on a modern practice unless he is able to intelligently carry out such an investigation. One would think that at the present stage of development of medical science that such a statement would be unnecessary, but when one sees time and again offices and dispensaries guiltless of such an instrument, except possibly one kept for show, the fact cannot be too strongly insisted upon.

Two objectives, say a 3 and a 6 or 7, will give fair results, but if bacteriology is to be attempted an oil immersion lens will be required.

Taking up, in the first place, the examination of blood, we find that for its detection in small quantities few tests are more satisfactory than the hæmin test, for which all that is required is common salt and glacial acetic acid. Frequently the guaiacum test is more convenient, and it is best to keep it in the form of gum and make up the tincture as required, using a fresh preparation of hydrogen peroxide to complete the test. The microscope will of course reveal blood, provided that the corpuscles are not disintegrated. Slides, and perhaps cover glasses as well as Canada balsam, will be required for the making of smears. In order to fix the blood before staining, the old method of using equal parts of alcohol and ether for several hours will give excellent results, but I have found that a few drops of wood alcohol poured directly on the slide will fix within a minute and give a perfect picture. The eosin staining may be taken up along with this process by adding the stain to the wood alcohol. I have never seen this method of fixing in any textbook, although doubtless the principle is the same as that upon which Wright's modification of Leishman's stain, or Jenner's stain, is based, methyl alcohol being the fixing agent. Fixing by heat has in my experience to be very carefully done in order to get any satisfactory results. For staining purposes an aqueous or alcoholic solution of eosin will keep indefinitely, and I have found that Ehrlich's acid hematoxylin,

1. Haematoxylin	2. 10 per cent.
Absolute alcohol, .....	.60 cc.
Glycerine, .....	.50 "
Water, .....	.60 cc.
Ammonia, .....	1.00 "
Alcohol, .....	1.00 "

thus prepared, the solution will keep almost indefinitely, and this can be kept in the bottle of Dole-

\*From the lecture course at the request of Dr. J. H. T. Mackay, Windsor Mills, Quebec, Canada.



field's hæmatoxylin, which keeps better than the majority of such preparations.

Methylene blue may be used as a nuclear stain, and I have found it convenient to keep a saturated solution (alcoholic) in stock, to be diluted as follows:

Löffler's blue:

Saturated alcoholic solution, .....30 c.c.;  
Solution 1 in 10,000 caustic potash in water, ..100 c.c.

Kühne's blue:

Saturated alcoholic solution, .....10 c.c.;  
5 per cent. carbolic acid water, .....90 c.c.

Ordinary staining:

Saturated alcoholic solution, .....1 part;  
Water, .....9 parts.

To examine for hæmoglobin there is no doubt that Dare's instrument is the neatest and quickest of the translucent methods, and with a little experience results soon become consistent, but the Tallquist hæmoglobin scale is by far the easiest and cheapest of all ordinary tests, and is almost, if not quite, as accurate as any of the others. It simply consists of a series of colored plates with which the blood, sucked up on a specially prepared absorbent paper, is compared.

Wetherill's scales are similar in design, but contain plates for the comparison of urine, fæces, moisture (perspiration), and post mortem blood.

For counting the blood cells the Thoma-Zeiss apparatus is probably the most popular, and is accurate when the technique is good. But it must be remembered that the count cannot be relied upon until the procedure has been carried out for a number of times. The solutions, which can easily be made in the laboratory, are as follows:

Toison's solution for counting the red cells:

Distilled water, .....160 c.c.;  
Neutral glycerin, .....30 c.c.;  
Sodium sulphate, .....8 grammes;  
Sodium chloride, .....1 gramme;  
Methyl violet 5 B., .....0.025 gramme.

This must be filtered before use, as a mould quickly grows in the solution.

For counting the white cells:

Glacial acetic acid, ...0.5 per cent. solution in water;  
Methylene blue, .....q. s. to color.

The physician omits one of his greatest aids in a doubtful diagnosis when he neglects to make a blood count, for when compared with a blood slide and differential count it will often turn a possibility into a certainty. Yet how often men outside of the hospitals make a practise of carrying out this comparatively simple procedure?

The Widal test, as performed with dead cultures, has given fair satisfaction, and the test can easily be obtained through some of the pharmaceutical houses.

It may be performed in bulk or microscopically, and saves one taking a culture from a stock tube and using an incubator.

The examination of urine requires litmus paper, a urinometer, a pipette, test tubes, alcohol lamp or Bunsen burner; nitric and acetic acids for the ordinary tests for albumin; and Esbach's albuminometer and solution (picric acid, 1 gramme; citric acid, 2 grammes; water, 100 c.c.) for the quantitative estimation.

Fehling's solution for detecting sugar should be kept in the form of two solutions, keeping the copper apart from the alkali. A yeast saccharometer gives a fair estimate of the quantity in a given specimen.

For the quantitative determination of urea the Doremus ureometer is generally used. The sodium hydroxide solution (6 ounces to 1 pint water) should be kept in a rubber stoppered bottle separate from the bromine until the test is actually being made. Then it is poured into the apparatus until it reaches the mark, when 0.1 of its volume of bromine is added. The addition of water to fill the tube is followed by the introduction of 1 c.c. of urine by means of the pipette, the resulting nitrogen being read off as the index of the amount of urea.

Acetone is most easily detected by adding potassium hydrate solution to a distillate of the urine and adding a few drops of a solution of iodine in potassium iodide, the result being iodoform when the reaction is positive.

Tile may be considered to be present when, placed alongside a drop of nitrous acid on filter paper, the urine shows the play of colors so often described. Ehrlich's diazo reaction is easily performed by keeping in stock two solutions:

- I. Sulphanilic acid, .....1 part;  
Hydrochloric acid, .....50 parts;  
Aq. destil., .....1,000 parts.
- II. Sodium nitrite, .....1 part;  
Aq. destil., .....200 parts.

In addition, there is required some liquor ammonia. Personally I never obtained much satisfaction with this test in the early diagnosis of typhoid fever. For one year it was carried out daily in 166 cases. Less than forty per cent. showed the reaction at any time, and it practically never appeared before the second week. Others have had better results than this; but few authorities show much enthusiasm at the present time.

Indicanuria is detected most surely by taking 10 c.c. of urine, 10 c.c. of hydrochloric acid (c.p.), and shaking up with 25 drops of 0.5 per cent. solution of potassium permanganate. Adding 5 c.c. chloroform and shaking will bring down a purple coloration followed by a blue deposit, provided that indicanuria is present.

A centrifugal machine is a very useful instrument to have in the laboratory, but, contrary to the opinion of some, it is not essential to the study of urinary sediments. Use a conical glass, keep the urine cool, take plenty of it, and let it stand for from six to eighteen hours, and very little will be missed. A little salicylic acid will in summer time be found a useful addition to prevent decomposition.

Looking for tubercle bacilli is at the best a tedious affair, and without a centrifuge is desperately slow, but by letting the urine stand for a day, then pouring off all but the sediment, adding distilled water to the original volume, shaking, and repeating the process several times, one can get a good slide, but one must be very careful of the technique and beware the deceitful smegma bacillus.

The gastric contents present a field explored by surprisingly few general practitioners, considering

that the apparatus and reagents required are but few, and the methods simple. Once the contents are removed, a glass funnel with filter paper soon gives a clear solution, which should be tested at once with litmus paper. A burette filled with a decinormal solution of sodium hydrate (4 grammes in 1,000 c.c. distilled water) when carefully titrated into a given volume of stomach contents containing a little phenolphthalein (one per cent. alcoholic solution) gives the total acidity.

Congo red paper will detect free acids, though a large amount of combined hydrochloric acid also gives this reaction.

To test for free hydrochloric acid a 0.5 per cent. alcoholic solution of dimethylamidoazobenzol is very simple and delicate, and as it is used in the quantitative examination of free hydrochloric acid it is to be preferred if but one reagent is used.

The tests for acetic and butyric acid require no special reagents, while lactic acid may be detected by the old carbolic acid and ferric chloride method or by the new technique described by J. L. McPhedran, of Toronto.

The microscopical examination of gastric contents as well as of faeces requires no additional apparatus, and often gives a clue to an obscure diagnosis.

A glance at the sputum is at times sufficient to point to a diagnosis in certain pulmonary conditions, but a microscopical examination is infinitely more satisfactory and indeed is most conclusive when we get a positive result—and most aggravating when we do not. After pouring out the sputum into a Petri dish and separating it with hat pins or a platinum wire, it will often be found useful to spread it out on an ordinary pane of window glass and examine it with a hand lens. Another plan is to pour it out upon the black paper which is wrapped around photographic films or plates. The peculiarities of the specimen can be easily seen on this background, and the whole can be thrown into the fire to insure complete destruction of any bacilli which may be present.

Make a saturated alcoholic solution of methylene blue and one of fuchsin as stock ready for dilution to stain the slides. In staining for tubercle bacilli the solution of fuchsin is diluted one in nine in a solution of carbolic acid (20 per cent.). While staining, heat to boiling, decolorize with 25 per cent. sulphuric acid, and counterstain with methylene blue. It is often important to use absolute alcohol as a decolorizing agent in addition to the above, as it renders the distinction between the tubercle and smegma bacillus rather more certain.

In staining for other organisms aniline gentian violet must be used, but in order that it may keep it is best to have a saturated alcoholic solution of the gentian violet in a separate bottle. When required for use, add to four parts of the alcoholic solution twenty-one parts of aniline water (5 per cent. solution of aniline oil in water shaken and filtered). It is well not to use this solution for several hours on account of precipitation. Gram's iodine is easily made by adding to 100 c.c. distilled water one gramme iodine and two grammes of potassium iodide. Safranin keeps well in a satu-

rated solution, and is one of the best counterstains we have.

In regard to the detection and classification of ordinary pathogenic bacteria it is wonderful what satisfactory results can be obtained by cultures in bouillon, gelatin, white of egg, and potato, incubated in a plate warmer of a kitchen range or some similar contrivance. It is not very often that such an examination need be carried out by the general practitioner, but the identification of diphtheria bacilli by the method of culture on the white of an egg may be accomplished by anybody, and will give most satisfactory results. Its main feature is its simplicity, nothing being required but a hard boiled egg and an egg cup. Take the swab from the throat in the usual way, and after breaking off the shell at one end of the egg, make a smear for incubation. Place the egg inverted in the egg cup, and put it in a warm place, and in nine to fourteen hours a diagnosis can be made from the culture, as no other germ grows with such rapidity in this medium. If left over twenty-four hours it is likely to be overgrown by other bacilli or cocci. A slide from one of the colonies will show vast numbers of the bacteria if stained with Löffler's blue or some distinctive stain. For a country practitioner this method is simply invaluable, and much time is saved by making a smear from every suspicious throat at the first visit.

For the study of transudates and exudates as well as cystic and cerebrospinal fluid, the reagents I have mentioned are generally sufficient, though possibly a saturated alcoholic solution of Sudan iii may be of use in detecting fats. It is well in these cases to stain at least one slide for tubercle bacilli, one with eosin and hæmatoxylin, one with methylene blue, one by Gram's method, and one with Sudan iii. This series of stains will show practically everything bacteriologically and cytologically that can be seen in such slides.

In conclusion there should be a day book on the laboratory table ready to receive notes of tests as they are made, whence they may be transcribed to the case reports at leisure. In addition, all permanent slides should be labelled and stored away in boxes made for the purpose, where they will in time form a valuable collection for reference.

A laboratory such as I have described will clear up the diagnosis in at least 50 per cent. of the cases which puzzle the man who does not think of doing anything more than testing the urine for albumin and sugar, and will save a great deal of time for the country practitioner, who anxiously waits, possibly for days, for the report on the sputum, blood, or smear he has sent for examination to the board of health, a hundred miles away.

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## LACTACID MILK IN INFANT FEEDING.

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The problem of duplicating Nature's formula is the point about which the whole subject of infant feeding has centered even before the time that Rotch first presented percentage methods of milk modification. Quantitatively it may be possible to dilute, add, and combine until the product is similar to that of Nature's laboratory, but chemically and bacteriologically the problem is far more complex; in consequence of which attempts have failed to produce a milk food identical with or even similar to the natural product in its enzymic activity and nutritional value. Following the investigations of Rotch, Holt, Cailé, Chapin, Winters, and others in our country, practical clinicians admit that in modifying cows' milk for infant feeding we are merely producing the best practical substitute which conditions permit. That we fall far short of Nature's human product is frankly granted. Past experiences with buttermilk feedings have proved equally unsatisfactory. On account of the difficulty in procuring, as well as the extreme variability in bacterial content, no system of extended buttermilk feeding has been elaborated. Therefore, in advocating a system of feeding based upon the modification of cows' milk, which has been fortified by the lactic acid ferment, we offer of necessity still a substitute, but not an attempted reproduction of human milk. We are dealing with a natural milk augmented by microscopical life, in place of an inert medium loaded with its sterilized dead. To suggest that by this method we may have at hand a means of most effectually overcoming certain difficulties in feeding and of preventing intestinal malassimilation and intoxication, is the purpose of this necessarily diagrammatical paper.

For the purpose of condensation, the term "lactacid milk" is adopted as a name for fresh cows' milk, which has been artificially impregnated with the "*Bacillus bulgaricus*" and has become in consequence a fermented product with definite parasitic inhibitory properties and an easily assimilable casein curd. The detailed method of acquiring this artificial product, as well as the process of its final adaptation to the infant's requirements, will be elaborated later in this article. For the present we may consider lactacid milk as an entity in substitute feeding.

The literature available on buttermilk feeding, corroborated by personal observation, discloses its following shortcomings, viz.: 1, Commercial buttermilk contains little or no fat; 2, it varies in the amount of its component elements on account of an equally variable degree of dilution; 3, it presents a food teeming with extraneous germs of filth or disease; 4, it is impossible to procure, at stated intervals, in required amounts; 5, finally, it is an inexact, unhygienic base for even temporary milk substitution.

On the other hand, the vital factor in buttermilk which has made it seem desirable as a food, and which has rendered it efficacious as a remedy, is

found in the lactic acid ferment. This ferment today has been isolated, cultivated, and, like the housewife's yeast, is available in convenient form for household use. Thus it is possible to give our difficult feeding cases, infant or adult, food not alone efficient in itself, but augmented by an active agent for overwhelming the pathogenic bacteria that may inhabit the intestinal tract. Like the blood stream, which carries not only food for the tissues, but also manifests the defensive phagocytic function, we have in lactacid milk a food medium inimical to all undesired fermentative process and possibly prohibitive of pathogenic growth. From what evidence do we infer that lactic acid may inhibit pathogenic germs in the intestinal tract? Herter (*British Medical Journal*, December 25, 1907) writes that lactic acid bacilli notably decreased intestinal putrefaction due to *Bacillus coli*, or *Bacillus proteus*; M. Cohendy reported (in *Archives de la Société de biologie*, November 17, 1906) that, from personal ingesta of pure bacilli lacti, intestinal putrefaction was markedly decreased, and, furthermore, these results persisted for seven weeks after cessation of the daily augmentation from the ingested cultures. Pochou, of Lausanne, reports similar results. His urine analyses showed great diminution of indol and phenol substances, which are accepted as certain indices of intestinal putrefaction. Metchnikoff concludes "that lactic acid bacilli prevent multiplication of other microbes, but are incapable of destroying these pernicious microbes." Should continued clinical results demonstrate the accuracy of such observation when applied to lactacid milk, it is rational to hope that the natural powers of resistance may more frequently win in their struggle against typhoid or even tuberculous infection of the intestines; provided we are able to decrease to any appreciable degree the fermentative and putrefactive processes of the digestive tract.

Heim states that typhoid bacilli succumb after forty-eight days when the culture is impregnated with lactic acid bacilli. Piffard has also found that the *Bacillus bulgaricus* (from Bulgarian sour milk) inhibits the growth of typhoid bacilli on dextrose broth, markedly so within one week's time. Considering the acknowledged vitality and longevity of the typhoid germ, this possibly inhibitory value of lactic bacilli in the intestine is obvious. More than that, Cohendy's comment upon their persistence seven weeks after ingestion, shows that the lactic acid bacilli in all probability adapt themselves to the anaerobic habitat of the intestine and feeding upon the carbohydrates digested, may further preserve organic matter from putrefaction. As to the tolerance of lactic acid which the human organism exhibits, it has been found that twelve grammes can be taken by mouth daily, without untoward effect. While experience has shown that moderate use of lactic acid is not provocative of rachitic changes in bone and muscle, as formerly taught, yet possible individual idiosyncrasies may occur. On the contrary, Tigersted (*Physiology*, p. 297) states that lactic acid is normally elaborated in the human metabolism as a result of the action of pancreatic juice and bacteria, upon carbohydrates in the small intestine.



To contrast with the persistence and elaboration of lactic acid in the intestine, M. Copelan's has found that the bactericidinhibitory property of fresh milk becomes inactive after four hours. This bactericidinhibitory property of strictly fresh milk is of such short life then that it may be ignored absolutely as an aid in fortifying against infective invasion. On the other hand, the inhibitory feature of lactacid milk may well be considered when we realize that 72 per cent. of all herds in New York State is infected with tuberculosis, according to V. A. Moore, of Cornell University. With an annual mortality of children under one year of 16,500 in New York city, we need to utilize every rational, available method to better these conditions.

In seeking to adapt lactacid milk to a practical utilization it is desirable to avoid what Chapin so well calls "freak or random feeding," and yet that need not be such a difficult matter when we recall the complexity of some percentage feedings. Test tube and laboratory estimates must be verified by long clinical observation before any method of body building can graduate from the awkward squad of "freak feeding," and lactacid milk may be diluted or adapted to the basis of percentage feeding according to the requirements of existing conditions.

It is appreciated that sufficient proteid of assimilable form is required for normal infant growth. That perfect digestion does not necessarily mean complete assimilation is also recognized. Therefore, an important argument in favor of lactacid milk feeding lies in the easily assimilable casein curd of the proteid. Since an excess of proteid in the intestinal tract, whether that be in excess for the type or for the individual, can be determined only when putrefactive processes ensue, the introduction of lactacid milk carrying an antiputrefactive enzyme, robs excess proteid ingesta of its dangers. Further, from this fact, it also follows that in pathological conditions of uric acid excess, with the accompanying faulty metabolism, a diet that includes lactacid milk is indicated both as an anti-fermentative and antacid.

The technique and detail of lactacid milk modification may be given best, perhaps, by reproducing the printed leaflet used in my clinical work at the Postgraduate Hospital. This may be taken in three steps, namely: First, the preparation of lactacid milk; second, the modification of this prepared milk to any desired formula; and, third, number and quantity of daily feedings:

#### TO PREPARE LACTACID MILK.

1. Pour one quart fresh bottled milk into clean pitcher.
2. Add .... glassfuls of hot water.
3. Crush one tablet and stir with clean spoon into milk.
4. Add pinch of salt.
5. Cover with clean napkin and set in warm (not hot) place for twenty-four hours.
6. After twenty-four hours keep on ice or, in cold weather, out of doors.

N. B.—Enough for two days. Prepare fresh every other day.

#### TO PREPARE DAILY FEEDINGS.

1. Stir lactacid milk with clean spoon and mix feedings for day as follows:
2. Pour .... oz. of lactacid milk in clean quart bottle or pitcher.

- |                             |   |                   |                 |           |        |        |           |
|-----------------------------|---|-------------------|-----------------|-----------|--------|--------|-----------|
| 3. Add .... oz.             | <table border="0"> <tr> <td>Barley water</td> <td rowspan="5">} to this milk.</td> </tr> <tr> <td>Oatmeal "</td> </tr> <tr> <td>Rice "</td> </tr> <tr> <td>Lime "</td> </tr> <tr> <td>Albumin "</td> </tr> </table> | Barley water      | } to this milk. | Oatmeal " | Rice " | Lime " | Albumin " |
| Barley water                | } to this milk.   |                   |                 |           |        |        |           |
| Oatmeal "                   |   |                   |                 |           |        |        |           |
| Rice "                      |   |                   |                 |           |        |        |           |
| Lime "                      |   |                   |                 |           |        |        |           |
| Albumin "                   |   |                   |                 |           |        |        |           |
| 4. Add also .... oz.        | <table border="0"> <tr> <td>granulated sugar.</td> </tr> <tr> <td>milk sugar.</td> </tr> </table>   | granulated sugar. | milk sugar.     |           |        |        |           |
| granulated sugar.           |   |                   |                 |           |        |        |           |
| milk sugar.                 |   |                   |                 |           |        |        |           |
| 5. Stir well and put on ice | until needed.   |                   |                 |           |        |        |           |
| 6. Feed of this mixture     | .... oz. every .... hrs. heated to body temperature.  |                   |                 |           |        |        |           |

N. B.—Enough for one day.

#### Resumé.

1. Lactacid milk is obtained from clean, fresh cows' milk, fermented by the lactic bacillus, isolated by Cohendy in 1903, and which he describes as "not growing under 35° F. nor above 63° F." The degree of acidity is limited by the time allowed for the activity of the bacilli.

2. Buttermilk feeding and lactacid milk feeding are absolutely distinct. The former affords an uncertain and temporary expedient always, and being a spontaneously sour milk contains, besides the lactic ferments, generally yeasts which produce alcohol.

3. In infant feeding the frequent desideratum of high proteid percentages may be found not only possible, but also safe, with lactacid modification of milk.

4. The digestive enzymes of natural milk are not killed as in the unnatural processes of sterilization or even in Pasteurization, but are augmented by the *Bacillus bulgaricus*.

5. Lactacid milk is logically indicated in children: a, In difficult feeding cases; b, in fermentative diarrhœas; c, in specific enteric infections of typhoid or tuberculous bacilli.

6. From the extremes of the scientist and the enthusiast, from Herter and from Metchnikoff come corroborative evidence that lactic acid inhibits intestinal putrefaction.

7. Promulgation of the general desirability of undiluted lactacid milk as a beverage can but lessen the ills that flesh is heir to, even if it cannot accomplish, as Metchnikoff hopes, the prolongation of man's allotted span.

8. The writer presents this as a preliminary communication, and will later submit a series of results obtained in indicated cases of lactacid milk feeding.

54 WEST FIFTY-SECOND STREET.

**Gunshot Wounds.**—In *Der Militärarts*, Dr. Kerchenberger gives a study of gunshot injuries on post mortem cases and also on the healed injuries of attempted suicide cases. He calls attention to the action of powder gas and discusses its action in general and more specifically when shot into the mouth and into the jaw. The action of the projectile alone is not so destructive. The blowing out of the brain from the cranial cavity he attributes to the action of powder gas. The powerful rushing in of the air behind the projectile may also play a part. The action of the gas is especially important in shots of the mouth. As signs of powder gas having entered the bullet wound, Kerchenberger gives the following: 1. When the bullet wound is larger than the caliber of the gun. 2. A widespread destruction of the tissues. 3. Fractures of several ribs. 4. Blackening of the internal organs by smoke of the powder.—*The Military Surgeon*.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXXII.—How do you treat fracture of the patella? (Closed March 16, 1908.)

LXXXIII.—How do you treat seasickness? (Answers due not later than April 15, 1908.)

LXXXIV.—How do you treat sunstroke? (Answers due not later than May 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXXI has been awarded to Dr. Frank B. Kirby, of Philadelphia, whose article appeared on page 594.

### PRIZE QUESTION NO. LXXXI.

#### HOW DO YOU TREAT GALLSTONE COLIC?

(Concluded from page 599.)

Dr. Richard Lightburn, of Kansas City, gives his opinion as follows:

In gallstone colic treatment is instituted for two purposes, the relief of pain and the removal of the cause.

The suffering is best combatted by the hypodermatic administration, every half hour, of small doses ( $\frac{1}{8}$  grain) of morphine sulphate, together with strychnine sulphate ( $\frac{1}{120}$  grain). At the same time a tablet of amorphous hyoscyamine ( $\frac{1}{250}$  grain), in an ounce of hot water, is given by the mouth, to be repeated in thirty minutes.

As a rule the patient rests comfortably after the second dose, and the remedies need be repeated only every three or four hours. A few whiffs of chloroform will serve to lessen the pain while the initial doses are being absorbed.

This combination, in my hands, has proved more efficient and satisfactory than the heroic amounts of morphine, alone or with atropine, so frequently employed. The disagreeable, sometimes serious, after effects of the heavy dosage are avoided, and, if the attacks are of frequent occurrence, the risk of contracting the drug habit is materially lessened. Fomentations, locally, or hot baths, the water being at as high a temperature as can be borne; will often prove valuable adjuvant measures.

The second condition, the removal of the cause, is most satisfactorily met by cholecystotomy. In competent hands the danger is slight and relief practically certain.

In case the patient refuses to undergo an operation the only course open is the administration of remedies which will aid Nature in getting rid of the concretions. Here the alkalies are of greatest value. Of these, sodium phosphate, a drachm dis-

solved in hot water and taken before breakfast, daily, is the best. I also give sodium succinate, five grains after each meal, continuing it for several months.

Starchy, fatty, and saccharine foods are to be avoided, and plenty of outdoor exercise is of great importance.

Dr. Mark H. Sears, of Denver, Colorado, says:

The pain and nausea of gallstone colic varies all from a hardly noticeable uneasiness to the paroxysms of a choked, or partially choked, duct, through which Nature is endeavoring to force a stone that frequently is too large to pass. It will usually be located in the right hypochondrium or in the epigastric region.

Very often there accompanies a decided yellow tinge of the skin, the sign of bile absorption, which may have preceded the attack for several days, or, as frequently happens, this symptom may be conspicuous by its absence.

Between these two extremes of severity, slight in the one instance, or the agony of the other, we must seek for and apply a remedy, which will relieve the symptoms of irritability, assuage the unbearable pain, and give rest and comfort to the sufferer. Be sure of your diagnosis. Do not confound the colic of the gallstone with the nephritic stem or other varieties of abdominal distress, location, severity, history, palpation, the presence or absence of elevation of temperature, or any other symptom, which may throw light upon the condition, should, be considered carefully. Nor should the masking symptoms of a neoplasm growing at or near the pyloric orifice of the stomach or at the head of the pancreas be overlooked. They should be carefully considered and excluded. A growth of this kind very often causes symptoms much resembling the distended gallbladder of a closed duct, especially if accompanied with pain and jaundice.

If the call for aid is very urgent, nothing has thus far been used which affords the relief given by the hypodermatic administration of morphine. It should be given in quarter, third, or, in very severe instances, half grain doses. The effect of the remedy should be carefully watched, and not repeated without good reason. If it is necessary to relieve the awful suffering, until various methods of medication have time to act, if for any reason they are slow in doing so, equal parts of chloroform and water poured on a flat sponge and applied over the seat of the pain will give a grateful, although only temporary, relief until more efficient and permanent remedies can be used. A few whiffs of chloroform itself will often bridge a crisis.

Great comfort will be experienced from the use of the hot bath, as hot as can be borne, but not to be continued so long as to act as a depressant. The hot water bottle is a valuable remedy also. Steaming the region of the liver is another method of applying heat, and any home which affords a tea kettle will be amply provided with apparatus. Hot fomentations, notably the flaxseed, poppy leaf, or hop stupe, will often abate the pain, and give the gallstone the opportunity to either proceed into the intestine or recede into the gallbladder.

The use of olive oil in large doses, accompanied by laxatives, has also found favor in the past, and is still used more or less, but is of doubtful utility. It was formerly thought that by using certain remedies it would be possible to dissolve gallstones, and sulphuric ether and oil of turpentine in proper dosage have long enjoyed this reputation, but they have proved disappointing and of little or no permanent value.

Sodium sulphate and sodium phosphate, the latter in saturated solution, and given in drachm doses, have shown a distinct remedial action. It is believed that they prevent in some way the formation of bile concretions by modifying the concentration of that fluid, or perhaps allaying catarrhal conditions in the bile cyst or ducts. For the intolerable itching that occurs in some cases, alkaline baths have been used. Sodium bicarbonate and sodium biborate have entered largely into this form of medication. Powdered starch applied to the skin is another remedy. It is soothing and valuable. An ointment containing menthol and ichthylol has afforded much relief in the writer's hands. These forms of medication can be extended indefinitely. Wool fat should always form the base of ointments likely to ferment.

The diet in these cases should be simple. Saccharine and starchy foods should be taken in moderation, while meats should be boiled. The bowels should be kept free by the use of the laxative alkaline mineral waters, moderate depletion of the portal circulation being the aim. The habits of life should be simple and regular, and the daily muscular exercise sufficient for the bodily needs, but in no way exhausting. It should not be forgotten that each individual case will present characteristics peculiar to itself. These should be met by modifications of treatment which will meet the conditions. In this manner recurring attacks of gallstone colic may be successfully passed, and much of a lifetime spent, with only an occasional attack. The bile passages are very tolerant, and the gallstone may exist in large numbers, without causing any symptoms whatever. The case will be very different and much more serious when constantly recurring attacks of colic render the life of the sufferer miserable. In this event surgical interference should be seriously considered. When, however, the cystic or common ducts become clogged surgical relief becomes imperative, and an operation should be undertaken immediately by a competent surgeon. The results of this operation are very satisfactory, and when practised with careful attention to the technique, which the operation demands, they are secured at once, with a minimum of danger. Any recent textbook will give the details.

Dr. Samuel J. Saxt. of Philadelphia writes:

The treatment of gallstone colic depends on the severity of the attack, which, on the one hand, may be mild and last only a few hours, while, on the other hand, it may continue anywhere from a few days to a week or more.

It is well to commence with a hypodermatic injection of morphine, 1/4 grain, accompanied by a 100

grain atropine. The morphine relieves the pain and the atropine relaxes the muscular coats of the gallbladder and the appendages thereof, thus aiding the stone to escape. I repeat this dose three or four times, at intervals, until the pain ceases. In addition, I give a few whiffs of chloroform inhalations until the effect of morphine takes place, and this invariably gives the patient relief. A very valuable adjunct is hot applications over the hepatic region. The applications should be a little above the temperature of the normal body, and continued long enough until the rigidity of the muscles of this region is well relaxed. The writer finds that gratifying results are obtained with hot turpentine stupes.

Some lay great stress on hot baths. I, however, find that it not only fails, but instead is an inconvenience to the patient. In one case where I resorted to this measure the heart action became so depressed, the pulse so weak, that I was compelled to use vascular stimulants to restore the heart's action.

Olive oil in some cases is very beneficial. It is best given in one large dose, two to four ounces. It increases the flow of bile, and thus aids materially the escape of the calculi.

If the patient complains of nausea and vomiting it is best not to give the oil, for the gallbladder at this time is no doubt very much irritated and inflamed, and the strain in producing the vomitus may cause rupture of the organ. Nausea and vomiting may be relieved by administering brandy with cracked ice. If this fails I give the following with happy results:

R Cerii oxalatis, .....	gr. xxiv;
Bismuthi subnitratii .....	gr. xxxvi;
Sodii bicarbonatis, .....	5ii
Mix. Chartae No. xii.	
Signat. One every hour until relieved.	

If the case is mild it is unnecessary to resort to the afore mentioned measures, and in such cases very often the attack will yield to codeine and acetphenetidin in capsule form.

Regarding purgatives and cholagogues in gallstone colic, I cannot too strongly emphasize that they should not be thought of during an acute attack. They not only increase the severity and duration of the attack, but may in their strong action upon the gallbladder (the time when it is most inflamed and least resistant) cause rupture of same. If, however, the liver is very torpid, calomel in small divided doses may be given.

The question of surgical interference during an acute attack should not be considered until the period of quiescence.

*Conclusions.*—I will terminate my brief remarks by stating:

1. Keep the patient at perfect rest in bed.
2. Make subcutaneous injections of morphine and atropine, followed by chloroform inhalations.
3. If there is nausea and vomiting present, relieve same by measures indicated.
4. Apply hot applications with counter irritation over the hepatic region.

5. Avoid purgatives and cholagogues. They should be given between the attacks with the hope that the irritation of the gallbladder will be diminished.



6. Take into consideration the prophylactic measures after the acute attack is over, for much can be accomplished to prevent the formation of biliary calculi.

*Dr. Lawrence M. Hynson, of Washington, D. C., observes:*

The treatment of simple cases of gallstone colic presents at first sight no striking difficulties, but in prolonged and severe cases it may be necessary to direct the treatment of the colic to the treatment of the general condition of gallstones (cholelithiasis), for the colic is only a symptom of an existing condition.

When the patient experiences the severe paroxysmal pains produced by biliary calculi, morphine, hypodermatically, in doses of one quarter grain each, should be given without hesitation. Morphine so given relieves the severe pain, produces comfort of the patient, and allows the muscular structures of the bile duct to relax, thus permitting the calculus to pass on. Care should be taken to see that just enough morphine is given to keep the patient free from pain, for too frequently large doses of this drug might mask the symptoms resulting from the possible rupture of the common bile duct, with a discharge of the gallstone into the peritoneal cavity. The inhalation of chloroform, if at hand, may produce relief from pain in the mildly acute cases, but where the pain is severe and continuous morphine, hypodermatically, is indicated.

Rest in bed during the attack is necessary, and hot applications, hot water bags, should be applied over the liver region. Where the patients cannot bear the weight of a water bag, owing to tenderness, I have found the Japanese hand stove to be very useful in that it is very light in weight and supplies an intense dry heat.

In protracted cases it is of the utmost importance to keep the bowels thoroughly open. Daily rectal irrigations with artificial Carlsbad salts, two drachms to one quart of warm water, allowing the fluid to run in slowly and encouraging the patient to hold it as long as possible before releasing it, has an effect of producing a reflex action on the bile duct through the peristaltic motion of the lower bowel. This treatment can be enhanced by the drinking, each morning, of one glass of water containing one drachm of the artificial Carlsbad salts. When the bowels are unusually sluggish give rectal injections of glycerin, one ounce, at bedtime.

Where a series of attacks of colic have occurred and the patient anticipates another, relief from pain has been observed by administering camphorated oil (*Pharmacopœia of the United States*), five to eight drops on a lump of sugar, every fifteen minutes.

In regard to the diet the only change to make is to restrict heavy and rich food, as, for instance, salads and desserts. The eating of reasonable quantities of green vegetables, stewed fruits, stewed chicken, and chopped meat is of advantage in hastening the passage of the calculus. The drinking of a glass of hot water morning and evening will do much to overcome the gastric irritation usually accompanying such attacks.

The patient should be cautioned against vomit-

ing when it is evident, as such exertion may produce rupture of the bile duct should the stone be large and firmly impacted. The hypodermatic injection of morphine given for the pain will also minimize this tendency to vomit.

In those cases in which the attack of colic lasts for several days, and when the pain is not too severe, the patient may be allowed (provided there is no fever) to walk about the house, care being taken to prevent undue pressure or tension being made over the liver region.

In cases resisting this treatment, and where great prostration, weakness, elevation of temperature, and marked jaundice occurs, the treatment of the colic can be found only in surgical intervention.

*Dr. R. S. Fitzgerald, of Richmond, Va., states:*

During the attack of gallstone colic the indications are to relieve pain and spasm, which are very severe. Hot oil of turpentine stupes are at once applied and changed every fifteen minutes, using water as hot as patient can stand, with only two or three drops of turpentine applied to side of towel next to skin; of course these stupes are applied over the region of the liver. A few whiffs of chloroform may be necessary for dulling the pain until the morphine,  $\frac{1}{6}$  grain, repeated if necessary, has time to get in its work.

Then I use the following formula: Sodium chloride,  $\mathfrak{z}$ i; sodium sulphate,  $\mathfrak{z}$ i; sodium phosphate,  $\mathfrak{z}$ i; sodium bicarbonate,  $\mathfrak{z}$ i. Give this in a glass of water at one dose, and repeat the dose every three hours. Keep up this treatment for two or three days, and after the trouble is over put your patient on granular effervescent sodium phosphate,  $\mathfrak{z}$ ii in water before breakfast, and at bedtime, or as often as necessary to keep the bowels open. Give a good tonic of hydrargyri chloridum corrosivum, gr. i; tincture nucis vomicæ,  $\mathfrak{z}$ iiss; elix. gentian, q. s., and  $\mathfrak{z}$ iv. Teaspoonful in water before meals.

If this does not relieve take him to the hospital and remove the cause surgically.

*Dr. William S. McCormick, of Philadelphia, writes:*

In this condition the object is to secure quick relief from the severe pain. In my experience nothing has served better than to give, subcutaneously, morphine in doses of grain  $\frac{1}{8}$  to  $\frac{1}{4}$ , guarded with atropine, and then give inhalations of chloroform until the effects of the morphine are noticeable. This plan usually gives ease in a few moments.

The colic can also be relieved by the hot bath and hot applications over the liver. The temperature of the bath should be from  $98^{\circ}$  to  $102^{\circ}$  F., and continued for about fifteen minutes unless cardiac depression results and pulse becomes weak. Oil of turpentine stupes over the hepatic area are also valuable.

During the interval the patient should have a well regulated diet, mostly vegetable; systematic exercise; mineral waters; sodium phosphate in regulated doses to keep the bile flowing.

Proper attention should be given to relieve the catarrhal condition of the ducts, in order that the stones can pass without causing such severe pains.

## Therapeutical Notes.

**Formulas for Skin Applications.**—From *Die Praxis der Hautkrankheiten*, a collection of the teachings of Professor P. G. Unna, by Dr. Iwan Bloch, we take the following selection of formulas:

*Lassar's Paste:*

Salicylic acid, .....	5ss;
Petrolatum, .....	5iiss.
Zinc oxide, .....	5i.
Starch, .....	5v.

M.

*Zinc Paste:*

Zinc oxide, .....	5vi;
Precipitated silica, .....	5i.
Benzoated oil, .....	5iii;
Benzoated lard, .....	5ii.

M.

*Zinc Sulphur Paste:*

Zinc oxide, .....	5iiss;
Precipitated sulphur, .....	5iiss;
Precipitated silica, .....	5i;
Benzoated oil, .....	5iii;
Benzoated lard, .....	5ii.

M.

*Red Zinc Sulphur Paste:*

Zinc sulphur paste, .....	.99 parts;
Cinnabar, .....	1 part.

M.

*Unna's Bole Paste:*

White bole, .....	5i.
Linseed oil, .....	5i.
Zinc oxide, .....	5v.
Solution of lead subacetate, .....	5v.

M.

*Unna's Lead Paste:*

Rice starch, .....	5iiss;
Linseed oil, .....	5i.
Glycerin, .....	5v.
Vinegar, .....	5ii.

M.

*Unna's Caustic Paste:*

Potassium hydroxide, .....	
Quicklime, .....	
Green soap, .....	
Distilled water, of each equal parts, .....	

M.

*Exfoliative Zinc Paste (Pasta Lepismatica):*

Zinc paste, .....	5i.
Resorcin, .....	5i.
Ichthyol, .....	5i.
Petrolatum, .....	5i.

M.

*Soluble Adhesive Paste:*

Zinc, .....	
Starch, .....	5v.
Glycerin, .....	5v.
Water, .....	5v.

M.

*Ichthyol Dextrin Paste:*

Ichthyol, .....	5i.
Dextrin, .....	5i.
Water, .....	5i.
Glycerin, .....	5i.

M.

*Ichthyol Zinc Paste:*

Ichthyol, .....	5i.
Zinc, .....	5i.
Water, .....	5i.
Glycerin, .....	5i.

M.

*Gelanth Film:*

Gelatin, hydrated, .....	5i.
Treacanth, .....	5i.
Glycerin, .....	5i.
Distilled water, .....	5i.
Benzoic acid, artificial, .....	5i.
Rose oil, .....	5i.

M.

*Gelanth Cream:*

Zinc oxide, .....	5i.
Petrolatum, .....	5i.
Gelanth film, .....	5i.

M.

Extract jasmine, .....	5i.
Extract syringa, .....	5i.

M.

**The Treatment of Acute Bronchitis.**—Martinet (*Presse médicale*, January 11, 1908) outlines the method of treating acute bronchitis in the earlier stages of the disease. He overcomes the inflammatory condition by the application of sinapisms and poultices to the chest, the limbs being enveloped in cotton wadding. Warm baths (100° F.) are given after an acute congestive attack. To allay the cough and assist expectoration the following mixture is given:

Tincture of aconite, .....	5i.
Cherry laurel water, .....	5i.
Sodium benzoate, .....	5i.
Syrup of codeine, .....	5i.
Syrup of senega, .....	5i.
Syrup of ipecac, .....	5i.

M. Sig.: One tablespoonful every three hours.

To overcome the general infection and fever a saline purgative is given, followed by antipyretic treatment, the following cachet being prescribed:

Quinine dihydrochloride, .....	5i.
Antipyrine, .....	5i.
M. ft. cachet No. 2.	

Sig.: One cachet to be given on the first and second day at 2 o'clock p. m.

**Mercurous Bromide in Syphilis.**—It has been found, after several trials, that the following is the best solution for use as an intramuscular injection in syphilis:

Mercurous bromide, .....	5i.
Sodium bromide, .....	5i.
Distilled water, sterilized, .....	5i.

M. ft. inject.

In doses of fifteen to thirty minims this injection is said to be painless and effective in action.

**Hypophysial Opothrapy.**—The part played by the hypophysis in the economy seems to have great importance. It appears to influence nutrition to a certain degree, as shown by the changes in it in acromegaly, and it is this function of which use has been made in infectious diseases by Louis Remy and Arthur Doble. The results obtained by these observers in twenty-four cases of grave infectious diseases were recently communicated to the Société de thérapeutique in a thesis by Jean Azam, according to an abstract from the *Journal de médecine et de chirurgie pratiques* in *The Practitioner* for March, 1908. In enteric fever, particularly, the therapeutic effect has been most evident; eight cases were treated, and they all recovered. Six of the patients were not bled, and among them nine he noted two cases of ascending pyæmia. In one pyæmia gave room for a glaucoma progressus and in

the other a miscarriage occurred at the outset of her enteric disease, to be followed later by a puerperal infection, associated with her typhoid infection. In both these cases the hypophysial treatment was followed by an almost simultaneous rise in the arterial tension; from 12 to 14 the tension rose by degrees to 20. The pulse, which in several patients was as high as 130 to 140, fell gradually to 90 and 84. The temperature, in both these cases, fell from one to two degrees, but went up again when the hypophysial treatment was stopped. Diuresis was well marked in all the patients; in some the quantity of urine was three to four litres. In all the cases convalescence was very quick. In all eight cases the diagnosis of enteric was confirmed by the serum test. In pneumonia the effect was less favorable, but the cases were of extreme gravity. Pituitary gland substance was given in influenzal pulmonary congestion, cerebrospinal meningitis, etc. In all there were four deaths in the twenty-four cases. The daily dose given was  $4\frac{1}{2}$  to 6 grains of the powdered hypophysis of bullock. At the end of his thesis Azam gives a résumé of the effects of hypophysial inadequacy, and the influence of hypophysial opotherapy. Inadequacy is characterized in toxine infectious diseases by (1) a fall in arterial tension, (2) quickening of the pulse. To these two principal symptoms are added secondary effects, including insomnia, loss of appetite, frequent sweat, and painful heat flushes. Under the influence of hypophysial opotherapy in toxine infections are to be noted: (1) Increase of arterial tension, (2) decrease in the rate of the pulse with increase in the force and amplitude of the beats, (3) increased diuresis, (4) increase of weight, (5) suppression of the secondary symptoms of hypophysial inadequacy, (6) a favorable influence on convalescence. It is conceivable that this form of opotherapy will be able to rank beside specific treatment of toxine infections when the quickness of the pulse and the low tension suggest a functional insufficiency, or an actual lesion of the hypophysis.

**Erythema Annulare.**—The subjective symptoms of erythema annulare are said to respond quickly to the following treatment recommended by Cocks (*Medical Record*, March 28, 1908):

R Sodium salicylate, ..... 5v;  
Rhubarb and soda mixture, ..... 3iii.

M. Sig.: 5i in a wineglassful of water every three hours.

The objective symptoms are relieved by the application of the following lotion:

R Powdered calomel, ..... 5ii;  
Zinc oxide, ..... 3ii;  
Carbolic acid, ..... 3xxx;  
Rose water, ..... 3iv.

M.

**Equisetum Arvense in Suppression of the Urine.**—This plant, popularly known as horsetail, and which was at one time reputed to have diuretic properties, has again come into use in the treatment of suppression of the urine where the ordinary therapeutic methods have proved ineffective. Breitenstein (*Correspondenz-Blatt für Schweizer Aerzte*) cites the case of a patient suffering from heart disease and extensive oedema, who, after taking six ounces of a concentrated decoction of equisetum twice daily for six weeks, was quite cured of all

swelling, the urine being raised from 53 ounces to 165 ounces daily (*sic*) by the simple and old fashioned treatment. An infusion of the dry powdered plant, obtained by infusing a tablespoonful of the powdered herb in a cupful of boiling water, and decanting after fifteen minutes, has been recommended as an internal remedy for various hæmorrhages, such as epistaxis, hæmoptysis, menorrhagia, metrorrhagia, and bleeding hæmorrhoids. The dose is a cupful, repeated, if necessary, twice or thrice daily.

**Mistura Ferri Acida.**—In the *Journal of the American Medical Association*, for March 28th, F. A. Faught comments on the various formulas that have been published for the combination bearing the name, *Mistura ferri acida*. He gives the formula employed at the Philadelphia Polyclinic during the time he served there as follows:

R Iron sulphate, ..... gr. xxxvi;  
Magnesium sulphate, ..... 5ii;  
Diluted sulphuric acid, ..... 5ii;  
Compound infusion of gentian, ..... 3vi.

M. Sig.: A tablespoonful in water before breakfast, or two tablespoonfuls in water after each meal.

**Spray in Asthmatic Attacks.**—The following spray is recommended in *Journal de médecine de Paris* for February 22, 1908, for the alleviation of the distress accompanying the paroxysm in asthma:

R Cocaine nitrite, ..... gr. xv;  
Atropine nitrite, ..... gr. viiss;  
Glycerin, ..... 3i;  
Water, ..... ad 5iii.

M.

The spray is applied on the approach of the attack and repeated one half hour or an hour after it. In severe cases the spray is applied night and morning.

**Treatment of Scabies or Pediculosis.**—Babies and adults affected with scabies or pediculosis should, says Cocks (*Medical Record*, March 28, 1908), be washed in warm water, to which borax and tincture of green soap have been added, and allowed to soak for half an hour. After drying a two per cent. ointment of ammoniated mercury applied night and morning for a week will effect a cure.

**Lactic Acid for Alopecia.**—Lactic acid is said by *The Prescriber* to have a specific action in alopecia areata. The following prescription has been given, according to the authority cited, in a number of cases with complete success:

R Lactic acid, ..... 5ii;  
Castor oil, ..... 3ii;  
Alcohol (60 per cent.), ..... ad 5iv.

M. Sig.: To be painted on the patches night and morning.

**Ointment for Tinea Tonsurans.**—In a note on the cure of tinea tonsurans by Cocks (*Medical Record*, March 28, 1908), it is remarked that long and persistent treatment is necessary. The patient should wear a muslin night cap and be isolated. The hair is to be clipped, thirty or more hairs to be epilated daily, and the following ointment rubbed in with a stencil brush twice a day:

R Ointment of red mercuric oxide, ..... 3iss;  
Sulphur ointment, ..... 3ii;  
Ointment of rose water, ..... 5i.

M.



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## PREVENTIVE MEDICINE AND THE GOVERNMENT.

Two bills affecting the Public Health and Marine Hospital Service have been introduced into Congress, and their enactment would inaugurate a very important movement in the interest of preventive medicine in this country. The functions of this service have been enlarged so often, in response to the growing demand for more active participation by the government in the prevention of disease, that it is necessary from time to time to provide by legislation the authority and facilities required by the service to meet its new responsibilities. The bill entitled "A bill to further protect the public health, and imposing additional duties upon the Public Health and Marine Hospital Service" (H. R. 18792, S. 6101) does this, but, in addition, it provides for the broadest investigation by the service into the prevalence, the conditions influencing the spread, and methods for the prevention and suppression of "tuberculosis, typhoid fever, rabies, and other diseases affecting man."

This bill, if it becomes a law, will mark the beginning of aggressive action by the government in the prevention of those diseases which cause the greatest waste of life, and in entrusting the first organized campaign to the Public Health and Marine Hospital Service, assurance is given that Congress has been aroused to the necessity of assuming, within its constitutional limits, its important share in the warfare against disease. Besides pro-

viding for the investigation of the preventable diseases, the bill authorizes the widespread dissemination, by means of bulletins, exhibits, and reports, of the results obtained as well as of practical information as to the control of infectious diseases. Provision is made for the establishment of a school of hygiene under the administration of the Public Health and Marine Hospital Service, in which instruction may be received by accredited health officers of States, counties, and municipalities, and for the detail of commissioned officers of the service, upon request of the proper health authorities, to cooperate in the sanitary work of States and territories. In accordance with recommendations made by Surgeon General Wyman in his last annual report, certain additional administrative officers are provided for in the bill. These include an assistant surgeon general, to have charge of a new division (that of water supplies and sewerage), a sanitary engineer of high attainments, and a solicitor conversant with general and local laws and regulations relating to the public health.

The growth of the Public Health and Marine Hospital Service illustrates the beneficial effect of rewarding the efficient performance of one task by the imposition of a more difficult one. From the professional and administrative success with which the marine hospitals were conducted, and the familiarity with quarantinable diseases which the care of sick seamen involved, came the administration by the Marine Hospital Service of the national maritime quarantine and the control of the early yellow fever epidemics of the south. The confidence inspired by the devotion and ability of the officers of the service in the performance of these duties resulted in the assignment of new tasks, one by one, until the activities of the service now include the control of epidemics too serious for the resources of local health authorities or which threaten interstate communication (examples fresh in the public memory being the epidemics of yellow fever in New Orleans and of bubonic plague in San Francisco), the administration of the Federal quarantine system, not only in the United States and its possessions, but in every infected port in the world, the investigation of diseases of peculiar local interest, like that of leprosy in Hawaii and of the hook worm disease in the south, the supervision of the production of vaccines and curative serums, the medical inspection of immigrants, and the operation of the marine hospitals.

In the performance of these diversified duties, the Public Health and Marine Hospital Service has been engaged in public health work of the widest scope, and with its well organized and disciplined corps of trained officers, is fully equipped to take

up the new obligations which the bill before Congress imposes upon it. The place in the public confidence which this service holds was well expressed recently by Dr. L. L. Seaman, who said: "I have seen these zealous guardians of the public health in almost every port with which we have commercial relations, always watchful lest contagious or infectious diseases might elude them and fasten upon our native land, and with a fairly liberal personal experience and knowledge of our government in its various departments at home and abroad, I assert that the United States Public Health and Marine Hospital Service is the one department of which Americans have most reason to feel justly proud."

The other bill affecting this service (H. R. 18794, S. 6102) makes belated provision for pay, allowances, and retirement in conformity to that enjoyed by the medical officers of the army. If the same pay, allowances, and opportunities for advancement which exist in the other medical services of the government are not provided, it will be difficult, if not impossible, to attract to the Public Health and Marine Hospital Service young physicians of the type needed as commissioned officers or to obtain men with the training and ability needed to carry on the highly specialized work of some of the divisions in the Hygienic Laboratory. An efficient and contented personnel, satisfied to devote their lives to the work of the service and trained to the highest degree of usefulness, is the factor absolutely essential for the successful performance of the future work of this service.

The course of these two bills through Congress will be followed with interest by all those who have at heart the development of preventive medicine in this country, and their enactment will go far toward removing the stigma that this government does more for the preservation of swine and cattle than for the protection of human life.

#### THE MOTHER OF MODERN NURSING.

If Hippocrates was the father of medicine—and it is customary so to designate him—surely Miss Florence Nightingale may justly be called the mother of such nursing as has now, over practically the whole civilized world, happily supplanted the old style of nursing, almost always worthless and often truly abominable. The nurses' training school of to-day is her creation. Probably it would have come eventually in any case, but it was her marvelous career in the Crimean war, backed by the conscience of the British people, that endowed her with the prestige required to carry out her lofty purposes in the face of foolish and fussy officialdom.

Miss Nightingale's extraordinary services to man-

kind have met with universal acknowledgment, but it is well that in her declining years she has received such a tangible and distinguished token of the fact as the freedom of the city of London, "one of whose most graceful functions it is," says the *Lancet*, "to act as a mouthpiece for the nation in honoring those who have deserved well of their fellow countrymen." The ceremony took place on Monday, March 16th. It is quite in keeping with Miss Nightingale's higher regard for the general welfare than for her own gratification that she should have declined the offer of "a golden casket to inclose the address presented to her, choosing rather," says our contemporary, "that the money thus saved should be spent on some work of charity."

The Crimean war occurred many years back, more than half a century, and Tennyson, who gave the world the other good thing that came out of it, *The Charge of the Light Brigade*, has been several years at rest. It was high time, therefore, that the crowning reward of Miss Nightingale's lifelong labors should come. The prolongation of her most useful life for many years yet is heartily desired for her by public spirited people all over the world, and we are all glad to believe that her memory will be imperishable.

#### OUR PRESENT KNOWLEDGE OF CANCER.

Dr. James Ewing, of New York, [delivered, on November 16, 1907, a very interesting lecture before the Harvey Society, at the New York Academy of Medicine, which lecture has now appeared in print in the *Archives of Internal Medicine*, i, No. 2. In this lecture the author gives a very good synopsis of the cancer question as it presents itself to-day. He states that our knowledge of cancer must be reviewed from three points: The parasitic theory, the theory of cell autonomy, and the modern biological and biochemical study of tumors.

"The search for the cancer parasite has been a chaotic chapter in medical research." It was only natural, remarks the author, that, after the discovery of specific agents in many infections, especially in infectious gummata, researches for a specific cancer parasite should be instituted. But at the present day it cannot be said that these researches have been successful. Although certain irritants and parasites may be effective in producing tumors, no specific parasite has so far been discovered.

In reviewing the theory of cell autonomy Dr. Ewing thinks that it seems to explain sufficiently the enormous and quick growth of tumors. Normally, the organization controls the growth of tissue

cells, the regenerative powers of which are greatly in excess of ordinary needs, so that if called upon the cells may meet extraordinary requirements; if, therefore, the proper external condition or stimulus should arise, the cells will exhibit a phenomenal grade of proliferation. But can such a stimulus be the result of a parasite, not necessarily a specific parasite? Dr. Ewing answers this question by saying that when the theory of a stimulus is accepted, the existence of such a parasite, and even of a specific parasite, must be admitted. But he shows that, to make this theory acceptable, the parasite must invade minute groups of cells in protected organs, even in the embryo of an immune parent, infecting an embryonal cell, but not attacking its immediate neighbor, lying dormant for years and awaking suddenly, doing its destructive work in a very short time.

The third theory is of very recent date. In a biochemical sense, efforts to demonstrate specific qualities in tumor cells have not been very successful. The experiments made show that tumors grow readily in young dogs, rats, and mice, although such tumors seldom or never develop spontaneously in these young animals. From these experiments the theory of cell autonomy becomes important.

Dr. Ewing thinks that in the clinical observation of the general and local conditions of the early stages of cancer, such as can be made only by the physician, lies the chief hope for the present generation of a reduction in the mortality from cancer.

#### DRIED SPUTUM AND THE SPREAD OF CONSUMPTION.

At a recent meeting of the National Society of Medicine, held in Lyons (*Presse médicale*, February 29th), M. Cadéac made some remarks in which he reminded his hearers that he had been one of the first to deny that tuberculous disease was contracted by inhalation, his experiments and communications concerning the matter dating back to 1887 and 1888. He had now made additional experiments tending to show that the disease was not usually spread by dried tuberculous sputum, even by absorption from the alimentary canal. He had mixed dried sputa, taken indiscriminately from all the special receptacles in a hospital service, with the food given to guinea pigs. It was only in very rare instances that the animals had become tuberculous, and then only after they had been made to ingest enormous quantities of the dried sputum. These experiments, he said, were all the more valuable when they were considered in connection with the fact that, to infect a guinea pig with tuberculous disease, it sufficed to

touch the tip of its tongue with a stirring rod dipped in a ten per cent. solution of fresh tuberculous sputum. If the author's experiments are confirmed, and if, at the same time, as is plainly the tendency, we come to regard infection by the digestive canal as more common than infection by inhalation, we shall have to lay much less stress than we do at present on the danger of inhaling tuberculous dust. However, it will be well to pause before acting on such a deduction.

#### A NEW STATE HOSPITAL.

The members of the medical profession in the city of New York have long been convinced that the only temporary solution of the problem of overcrowding in the hospitals for the insane in New York State could be reached by the erection of a new hospital in the southeastern part of the State. It is a matter for congratulation that a bill was introduced into both houses of the legislature last week to provide \$119,250 for the purchase of a site in Rockland County upon which a new hospital for the insane is speedily to be erected. The tract selected by the State Commission in Lunacy comprises 408 acres, and is situated at Congers, on the West Shore Railroad. Almost all desirable features are found in this site, and the price is low if one considers the certain appreciation of values for land within twenty-nine miles of New York, now that the tunnel under the Hudson River to Hoboken has been completed.

The overcrowding of the State hospitals is due almost entirely to the large increase of the insane population in New York city. From Manhattan, Kings Park, and Central Islip State hospitals transfers have been made to all the ten other hospitals in the State, except those of Buffalo and Long Island. In fact, none of the hospitals of the districts in the northern part of the State, with the exception of Buffalo and Utica, would be filled were it not for these transfers. The certified capacity of the thirteen institutions is much overstated at 23,525. The number of patients actually housed in these hospitals has reached nearly 26,000. The only solution of this problem lies in the speedy erection of a new hospital in this part of the State. The question of other hospitals at different points is entirely independent of this prime consideration and secondary to it. It is without doubt a fact that a much larger proportion of our insane population can be cured or can be rendered at least partially self supporting when the great overcrowding now existing is at an end and more individual care and attention is rendered possible. This can best be done by the erection of small hospital groups rather than by putting



up buildings so enormous that no one head can carry the necessary details of administration and medical care.

## AN ANNUAL OF PARASITOLOGY.

We learn that a new annual, to be called *Parasitology*, is soon to make its appearance as a supplement to the *Journal of Hygiene*. Dr. George H. F. Nuttall, F. R. S., is to be the chief editor. It is announced that each volume will contain 400 or 500 pages of text, together with the necessary plates for elucidating contemporary studies of the structure and life history of the pathogenic organism and of the intermediate host or hosts in the case of such diseases as are carried from one vertebrate animal to another by mosquitoes, biting flies, ticks, etc. The new periodical is to be issued by the Cambridge University Press, which has a representative, Mr. C. F. Clay, in Fetter Lane, London, E. C.

## News Items.

**The Second International Conference on the Sleeping Sickness** met at the Foreign Office, London, during the week of March 9th. Lord Fitzmaurice presided and delegates from seven countries were present at the conference.

**The Pathological Society of Philadelphia** will hold its annual conversational meeting on Thursday evening, April 22d. Dr. Richard M. Pearce will deliver an address on the Theory of Chemical Correlation as Applied to the Pathology of the Kidney.

**The Dorchester, Mass., Medical Society** was organized on March 25th, with the following officers for the first year: President, Dr. Madison T. Thurber; vice president, Dr. Robert M. Merrick; secretary and treasurer, Dr. H. F. R. Watts.

**Emergency Hospital, Washington, D. C.**—The resignation of Dr. Charles S. White as superintendent of the institution has been accepted by the board of directors, to take effect on April 15th. He will be succeeded by Dr. E. P. Magruder, of Washington.

**A Gift to the Maine General Hospital.**—It is reported that Mr. William Deering, of Evanston, Ill., has made an unconditional gift of \$25,000 to the Maine General Hospital, Portland. In doing so he anticipated a clause in his will bequeathing that amount to the institution.

**The Harvey Society Lectures.**—The next lecture in the course will be delivered on Saturday evening, April 18th, at the New York Academy of Medicine, by Professor A. E. Taylor, of the University of California, on The Role of Reversed Ferment Reactions in Metabolism.

**Medical and Surgical Society of the District of Columbia.**—At a meeting of this society, which was held in Washington, D. C., on Thursday, March 10th, Dr. F. A. King read a paper on The Pleasures and Advantages of Functional Reversion to Antecedent Conditions of Life, and Dr. Joseph Taber Johnson read a paper on Abdominal Surgery.

**Arkansas Medical Society.**—The annual meeting of this society will be held in Little Rock, Ark., on May 13th, 14th, and 15th. The chairman and the secretary of the Section in the Practice of Medicine are preparing a programme which promises to be one of especial interest, and every effort is being made to make the meeting a success in every way.

**The Army Medical Reorganization Bill.**—This bill, with its amendments, has been passed by the House of Representatives, but the Senate failed to agree with the

amendments of the House, consequently the bill is now in conference. A compromise will probably be arrived at between the Senate and the House, and the bill, as finally modified, will then become law.

**Baltimore Medical Society.**—The semiannual meeting of this society will be held on Tuesday, April 7th. The general subject for discussion will be Expert Testimony, which will be considered from both the medical and the legal points of view. Among those who will take part in the discussion are Dr. George J. Preston, Dr. N. G. Keirle, and Dr. Joseph C. Bloodgood.

**American Society of Sanitary and Moral Prophylaxis.**—A regular meeting of this society will be held at the New York Academy of Medicine on Thursday evening, April 9th, at 8:30 o'clock, under the auspices of the Committee on Education. The following papers will be read: The Ætiology, Prophylaxis, and Treatment of the Social Ill, by Dr. S. Adolphus Knopf; Prostitution in New York City, by Frank Moss, Esq.

**Elmira, N. Y., Academy of Medicine.**—The regular meeting of this academy was held on Wednesday evening, April 1st. Papers were read as follows: Dr. H. R. Ainsworth, of Addison, N. Y., Measles and Its Quarantine; Dr. Anna Stuart, of Elmira, N. Y., Carcinoma of the Breast; Dr. Abraham Lande, of Elmira, N. Y., Cardiac Insomnia. Dr. Ross G. Loop is the president of the academy, and Frank L. Christian is the secretary.

**The Rockaway Tuberculosis Hospital.**—Plans have been prepared for the seaside hospital and sanitarium for tuberculosis patients which is to be built in Rockaway, Long Island, by the New York Association for Improving the Condition of the Poor. The association has raised \$250,000 for the purpose, one half of this amount having been contributed by Mr. John D. Rockefeller. The city has furnished the site. According to the plans the hospital will accommodate two hundred patients.

**A Department of Public Health in Canada.**—Dr. Judson B. Black, member of Parliament for Hants, Nova Scotia, has proposed a resolution in the Canadian House of Commons asking the government to establish a Department of Public Health, whereby all matters relating to public health will be under one responsible head, instead of being scattered through several departments, as is the case at present. All the medical men in the house spoke strongly in favor of the resolution.

**Vital Statistics of Minneapolis.**—During the month of February, 1908, there were reported to the Department of Health of Minneapolis, Minn., 260 deaths from all causes, corresponding to an annual mortality rate of 9.80 in 1,000 of population. Of the total number of deaths, 55 were from pneumonia, 29 from pulmonary tuberculosis, 21 from Bright's disease, and 10 from cancer. There were 2 suicides, and 7 deaths from accidents. There were 194 marriages and 436 births registered during the month.

**The Anglo-American Society of Vienna** is the name of a society recently organized, with headquarters at the Imperial Hotel, Vienna. The object of the organization is to facilitate the visits of English and American students in Vienna, and to make known in England and the United States the artistic and scientific resources of the place. H. H. Princess M. A. Lubomirska is the president of the society, Dr. G. de Griez is the honorary secretary, and Mr. O. S. Phillips, the English vice consul, is the treasurer.

**The Health of Pittsburgh.**—The following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh for the week ending March 14, 1908: Chickenpox, 4 cases, 0 deaths; typhoid fever, 25 cases, 6 deaths; scarlet fever, 12 cases, 2 deaths; diphtheria, 9 cases, 2 deaths; measles, 229 cases, 11 deaths; whooping cough, 13 cases, 3 deaths; pulmonary tuberculosis, 32 cases, 16 deaths. The total deaths for the week numbered 181, in an estimated population of 403,300, corresponding to an annual death rate of 23.33 in 1,000 of population.

**The Health of Philadelphia.**—During the week ending March 14, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Typhoid fever, 97 cases, 17 deaths; scarlet fever, 86 cases, 6 deaths; chickenpox, 39 cases, 0 deaths; diphtheria, 72 cases, 7 deaths; cerebrospinal meningitis, 2 cases, 0 deaths; measles, 222 cases, 5 deaths; whooping cough, 17 cases, 2 deaths; pulmonary tuberculosis, 95 cases, 21 deaths; pneumonia, 73 cases, 60 deaths; erysipelas, 7 cases, 1 death; puerperal

fever, 2 cases, 5 deaths; cancer, 15 cases, 21 deaths; tetanus, 2 cases, 1 death; mumps, 29 cases, 0 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis other than tuberculosis of the lungs, 9; diarrhoea and enteritis, under two years of age, 11. The total deaths numbered 527, in an estimated population of 1,532,738, corresponding to an annual death rate of 17.81 in 1,000 of population. The total infant mortality was 118; under one year of age, 88; between one and two years of age, 30. There were 34 stillbirths, 16 males, 18 females.

**University of Pennsylvania Alumni Election.**—The Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania held its annual meeting on March 21st and elected the following officers: President, Dr. J. Allison Scott; honorary vice president, Provost C. C. Harrison; vice presidents Dr. Richard C. Norris, Dr. Howard Sipple, and Dr. De Forest Willard; treasurer, Dr. H. B. Carpenter; secretaries, Dr. B. F. Stall and Dr. William S. Ray; executive committee, Dr. Louis Adler, Dr. C. F. Franklin, Dr. David Parrish, Dr. George B. Wood, and Dr. Louis Saladi.

**Women Physicians in Japan.**—The Japanese medical law recognizes the existence of women physicians, but there is no medical school for women in Japan, and the schools which admit female students are not recognized by the medical law. The establishment of a medical technical school for women has been proposed, but the authorities are not in favor of the suggestion, and think it preferable to create departments for women in two or three of the leading medical schools. Regulations to that effect are being drawn up and will be submitted to the conference of medical technical schools.

**Scientific Society Meetings in Philadelphia for the Week Ending April 11, 1908.**—*Monday, April 6th.* Philadelphia Academy of Surgery; Biological and Microscopical Section, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society. *Tuesday, April 7th.* Academy of Natural Sciences; Philadelphia Medical Examiners' Association. *Wednesday, April 8th.* Philadelphia County Medical Society. *Thursday, April 9th.* Pathological Society; Section Meeting, Franklin Institute. *Friday, April 10th.* West Branch, Philadelphia County Medical Society; Northern Medical Association.

**The Mortality of Chicago.**—During the week ending March 21, 1908, there were reported to the Department of Health 623 deaths from all causes, 335 males and 288 females. The annual death rate in 1,000 of population was 15.00, in an estimated population of 2,107,620. The principal causes of death were: Apoplexy, 5; Bright's disease, 32; bronchitis, 31; consumption, 72; cancer, 26; convulsions, 5; diphtheria, 5; heart diseases, 50; influenza, 9; intestinal diseases, acute, 38; measles, 5; nervous diseases, 23; pneumonia, 111; scarlet fever, 5; suicide, 12; typhoid fever, 6; violence, other than suicide, 24; whooping cough, 2; all other causes, 162.

**College of Physicians of Philadelphia.**—At a meeting held Wednesday evening, April 1st, papers were read as follows: Dr. George W. Norris, Cardiac Arrhythmia from a Practical Standpoint in the Light of Recent Investigations; Dr. William R. Nicholson and Dr. Joseph S. Evans, The Bacteriology of the Puerperal Uterus; Dr. Jay F. Schamberg, The Applicability of the Lumière Process of Color Photography in Medicine; Dr. Milton B. Hartzell, Photomicrographs and Pathological Diagrams of the Skin Obtained by the Lumière Process of Color Photography. Dr. Schamberg also gave a demonstration of color photography with the Lumière process.

#### Infectious Diseases in New York:

It is authorized by the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending March 28, 1908.

	March 19-28	March 29-April 5
Scarlet fever	108	102
Diphtheria	10	10
Whooping cough	18	10
Measles	10	10
Smallpox	10	10
Typhoid fever	10	10
Cholera	10	10
Other infectious diseases	10	10
<b>Total</b>	<b>166</b>	<b>162</b>

**New York Academy of Medicine.**—At a stated meeting which will be held on Thursday, April 16th, at 8:30 p. m., the general subject for discussion will be exophthalmic goitre. Papers will be read as follows: The Pathological Changes in the Thyroid Gland as related to the Varying Symptoms in Graves's Diseases, Based upon the Pathological Findings in Two Hundred and Seventy-five Cases of Exophthalmic Goitre, by Dr. Louis B. Wilson, of Rochester, Minn.; The Surgical Aspects of Exophthalmic Goitre, by Dr. W. S. Halsted, of Baltimore; The Consideration of Exophthalmic Goitre from the Medical Standpoint, by Dr. Alfred Stengel, of Philadelphia.

**Rochester, N. Y., Academy of Medicine.**—The Section in General Medicine, which includes neurology, psychiatry, materia medica, and therapeutics, held a meeting on Wednesday evening, April 1st. The evening was devoted to a discussion of the subject of pneumonia, and papers were read as follows: The Bacterial Origin of Pneumonia and the Factors Entering into Its Causation, by Dr. John R. Williams; The Blood in Pneumonia, by Dr. Charles O. Boswell; The Treatment of Pneumonia, by Dr. J. R. Culkin; The Specific Treatment of Pneumonia, Nuclein and Serum Therapy, by Dr. C. E. Darrow. Dr. Edward G. Nugent is secretary of the section, and Dr. T. A. O'Hare is the chairman.

**The Medical Association of the Greater City of New York.**—A special meeting of this association will be held on Monday, April 6th, at 8:30 p. m., at the Democratic Club, Long Island City, under the direction of the chairman for the Borough of Queens. The programme which has been prepared for this meeting includes the following papers: Personal Observations in Scarlet Fever, by Dr. Charles G. Kerley; Must the General Practitioner Use the X Ray Method in the Treatment of Fractures? by Dr. Carl Beck; The Differential Diagnosis of Meningococcus Cerebrospinal Meningitis from Other Types of Cerebrospinal Meningitis, by Dr. Henry W. Berg. Dr. Beck's paper will be accompanied by lantern slide demonstrations.

**Vital Statistics of New York City.**—During the week ending March 21, 1908, there were reported to the Department of Health 1,480 deaths from all causes, 544 marriages, 2,509 births, and 170 stillbirths. The annual death rate in 1,000 of population was 17.46, in an estimated population of 4,442,685. In the Borough of Manhattan there were 767 deaths; in the Bronx, 126; in Brooklyn, 491; in Queens, 66; and in Richmond, 30. Of the total number of deaths reported 168 were from pulmonary tuberculosis, 127 from pneumonia, 127 from contagious diseases, 99 from bronchopneumonia, 97 from diarrhoeal diseases, 56 from cancer, 116 from Bright's disease and nephritis, and 138 from organic heart diseases. There were 16 deaths from suicide, 5 from homicide, and 56 from accidents.

**The Obstetrical Society of Philadelphia.**—At a meeting of this society, which was held on Wednesday evening, April 2d, the following programme was presented: Dr. Alice Weld Tallant reported a case of labor complicated by ventrofixation of the uterus, and the following papers on the subject of ectopic gestation were read: Dr. Stephen E. Tracey, Report of a Case Operated upon for Advanced Ectopic Gestation Associated with Fibromyomatous Uteri; Dr. Theodore A. Erck, Report of a Case of Ectopic Gestation Cordual in Type; Dr. Collin Foulkrod, Report in Outline of Two Cases of Ruptured Extrauterine Pregnancy Illustrating one of the Dangers of Expectant Treatment; Dr. John A. McGlinn, Treatment of Ectopic Pregnancy with report of Cases including one of Death from Hemorrhage.

**Personal.**—Dr. Carl E. Seashore, professor of psychology at the Graduate College of the State University of Iowa, has been elected dean of the faculty.

Professor S. E. Chaillé, professor of physiology and comparative anatomy and dean of the medical department of Johns University, New Orleans, has been awarded a retiring pension by the Carnegie foundation.

Dr. S. J. Meltzer, of New York, will deliver a lecture at the Tenth Annual of Medicine on Tuesday, April 7th, on the Nature of Shock.

Mr. Colton A. Battle, president of the firm of Battle & Co., of St. Louis, Mo., died on Monday, March 23d.

Dr. S. A. Knapp's lecture on Tuberculosis, a Disease of the Modern Age, How to Combat It, was in the series of lectures. It has already been translated into twenty-one languages.



**Samaritan Hospital, Philadelphia, Medical Society.**

An interesting programme was presented at a meeting of this society, held on Saturday evening, March 28th, which included the following reports of cases: A Case of Sarcoma of the Choroid, by Dr. Wendell Reber; Glaucoma following Thrombosis of the Central Retinal Vessels, by Dr. Joseph Clothier; Hydrophobia, by Dr. H. C. Groff; Pleurisy followed by Pneumonia and Pulmonary Abscess, by Dr. Paul F. Bremer; Acute Nephritis, by Dr. I. Newton Snively; Some Cases from the Neurological Dispensary, by Dr. S. F. Gilpin; Thirty Cases from the Oponic Clinic, by Dr. Harry A. Duncan and Dr. G. Morton Illman; Mitral Regurgitation, by Dr. Rae S. Dorsett; Preliminary Report on Normal Saline Enterocolitis in Febrile Cases, by Dr. W. H. Pope; Preliminary Report on Blood Pressure Observations During Major Operations, by Dr. Charles S. Barnes. Dr. H. F. Pfeuger read a paper entitled *The Treatment of Whooping Cough*, Dr. Edward B. Finck read a paper entitled *Some Practical Therapeutic Measures in Skin Diseases*, and Dr. D. J. Kennedy read a paper on the Therapeutics of Varicose Ulcers and Eczema Rubrum. The general discussion on the papers and the reports of cases was opened by Dr. Samuel Wolfe.

**Discussion on the Sanitary Aspect of Milk.**—The New York Milk Committee has made arrangements for a series of five meetings to be held in Assembly Hall, 105 East Twenty-second street, New York, for the purpose of discussing the various questions connected with the milk supply. Among those who have been invited to participate in the discussions are representatives of the Department of Health, milk dealers, representatives of railroads bringing milk to New York, the editors of the New York daily newspapers and of agricultural papers published in New York State, representatives of the State Department of Agriculture, physicians, bacteriologists, and other individuals interested in the sanitary aspect of milk. The meetings will be conducted as private conferences and no reporting will be permitted. The general subjects for discussion at these meetings are as follows: Saturday afternoon, April 4th, at 2:30 o'clock, *The Need for Improving New York's Milk Supply*; Saturday afternoon, April 11th, 2:30 o'clock, *Tuberculosis*; Saturday afternoon, April 18th, at 2:30 o'clock, *Methods for Improving the Milk Supply*; Saturday afternoon, April 25th, at 2:30 o'clock, *Pasteurized Milk*; and Saturday evening, April 25th, at 8 o'clock, *Certified Milk and Other Clean Raw Milks*.

**American Gastroenterological Association.**—The eleventh annual meeting of this association will be held in Chicago on June 1st and 2d. The preliminary programme, which has just been received, includes the following papers: President's Address, by Dr. J. P. Sawyer of Cleveland; A New Method of Ascertaining the Permeability of the Pylorus, by Dr. Max Einhorn, of New York; Isochymia, by Dr. F. H. Murdoch, of Pittsburgh; An Explanation of the Motor Activities of the Alimentary Canal in Terms of the Myenteric Reflex, by Dr. Walter B. Cannon, of Boston; The Chemical Coordination Existing Between the Salivary Glands and the Secretion of the Stomach, and the Effect of Splenectomy on the Gastric Secretion, by Dr. J. C. Hemmert, of Baltimore; Cholecystitis, by Dr. H. W. Bettmann, of Cincinnati; Progress in Gastroenterology, by Dr. A. L. Benedict, of Buffalo; The Nervous Influence on the Production of Sugar in the Body, by Dr. J. J. R. MacLeod, of Cleveland; The Behavior of Some Indigestible Carbohydrates in the Alimentary Tract, by Dr. Lafayette B. Mendel, of New Haven, Conn.; A Comparison of the Guaiac and Benzidin Tests for Invisible Hemorrhage in Diseases of the Digestive Organs, by Dr. Franklin W. White, of Boston; Intestinal Sand, by Dr. Jesse S. Myer and Dr. Jerome E. Cook, of St. Louis; Gastric Ulcer, by Dr. William Gerry Morgan, of Washington, D. C.; Pathology of Malignant Growths, by Dr. W. T. Howard, of Cleveland; Gastrimyorrhæa, by Dr. Julius Friedenwald, of Baltimore.

**The Health of the Canal Zone.**—During the month of January, 1908, the following deaths in the Canal Zone, including the cities of Colon and Panama, were recorded: Typhoid fever, 2; æstivoautumnal malaria, 13; clinical malaria, 24; malarial cachexia, 3; hæmoglobinuric fever, 3; amoebic dysentery, 4; clinical dysentery, 6; beriberi, 2; septicæmia, 3; pulmonary tuberculosis, 22; general tuberculosis, 11; cancer, 5; bronchopneumonia, 7; pneumonia, 28; unicarinalis, 1. The total number of deaths from all causes

on the isthmus was 249, in a total population of 112,062, corresponding to an annual death rate of 26.66 in 1,000 of population. The death rate among the employees of the Canal Commission, both black and white, was 12.72 in 1,000 of population; among the whites the death rate was 11.48 in 1,000; among the blacks 13.16 in 1,000. This death rate is much less than that for January, 1907, when it was 13.01 in 1,000 for the whites, and 30.06 in 1,000 for the blacks. The death rate in the cities of Colon and Panama has also been reduced. The best index of the value of the sanitary work of the Commission is in the malaria incidence. In January, 1907, 1,813 cases of malaria were admitted to the hospitals; in January, 1908, only 642 cases were admitted. During the year the number of employees had increased by 12,000, so that the incidence of that disease is really one fifth of what it was in January, 1908. Both yellow fever and bubonic plague are present both north and south of the isthmus; but no case of either has occurred in the Canal Zone during the year. The morbidity among the employees for the month was 332.69 in 1,000 of population.

**Meetings of Sections of the New York Academy of Medicine.**—A meeting of the Section in Dermatology will be held on Tuesday evening, April 7th. After the presentation of cases previously shown, the following new cases will be presented: Results of the Treatment of Pigmented Nævi by Liquid Air (two cases), and Prurigo of Hebra (two cases), by Dr. Trimble; Xanthoma Tuberousum (two cases), and Pityriasis Rubra of Hebra (two cases), by Dr. Howard Fox; Keloid Treated with the X Rays, and Lupus Vulgaris Treated with the X Rays, by Dr. Clark; and a number of miscellaneous cases.

The Section in Pædiatrics will meet on Thursday evening, April 9th, at 8:15 o'clock. After the presentation of patients, Dr. Eli Long will report a case of Status Lymphaticus. The paper of the evening will be read by Dr. A. F. Hess on *The Distribution of Bacteria in Bottled Milk: Its Application to Infant Feeding*.

The Section in Otolaryngology will meet on Friday evening, April 10th, at 8:15 o'clock. Dr. Edmund P. Fowler will exhibit a suction bell ear douche, and the following reports of cases will be presented: Unusually Atypical Case of Sinus Thrombosis, Importance of the Blood Culture in Diagnosis, by Dr. Seymour Oppenheimer; Cases of Mastoiditis in Elderly People with Unusual Conditions, by Dr. H. A. Alderton; Case of Mastoiditis Complicated by Purulent Meningitis, Encephalitis, Phlebitis of Sigmoid Sinus, Jugular Bulb, and Internal Jugular Vein, by Dr. J. F. McKernon; Case of Sinus Thrombosis Following Removal of Granulations from the Middle Ear, Excision of Internal Jugular Vein, by Dr. E. B. Dench.

**Society Meetings for the Coming Week:**

**MONDAY, April 6th.**—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

**TUESDAY, April 7th.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Medical Association of Troy, N. Y., and Vicinity; Hornellsville, N. Y., Medical and Surgical Association (annual); Long Island, N. Y., Medical Society; Bridgeport, Conn., Medical Association.

**WEDNESDAY, April 8th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond, N. Y.

**THURSDAY, April 8th.**—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.

**FRIDAY, April 10th.**—New York Academy of Medicine (Section in Otolaryngology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

**SATURDAY, April 11th.**—Therapeutic Club, New York.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

March 20, 1908.

1. Dental Cases as a Factor in the Ætiology of Other Diseases, By LAWRENCE W. BAKER.
2. The People's Disease: How to Prevent It, By WILLIAM R. WOODBURY.
3. Idiopathic Dilatation of the Colon, with Report of a Case in a Man of Fifty-six, By EMIL H. STONE.
4. Notes on X Light, By WILLIAM ROLLINS.

1, 2. **Dental Caries.**—Baker reminds us that diseased teeth are a cause of other diseases of the human body, and that the control of these dental diseases is a factor in preventive medicine, worthy of attention. Citing authorities on this question and illustrating it by cases, the author concludes that dental caries is the most prevalent disease that attacks man, and is a preeminent factor in the causation of other diseases in the human body. This initial disease is the cause of great physical suffering, to check which many millions of dollars are annually spent in this country. Thus, to prevent dental caries would be a great financial saving and a very great step in preventive medicine. Since this disease is a problem of the civilized world, it should be further investigated; and to aid investigation money should be provided to secure the most eminent men in research work. In the present state of scientific knowledge, the most adequate means of combating dental caries and oral sepsis is by the enforcement of hygienic measures. In order to make his hygienic fight successful, the physician and the surgeon should cooperate with the dental practitioner, for this branch of hygiene requires a thorough knowledge of the teeth and their adjacent tissues. Skilled dentists, therefore, should be placed upon the various hospital staffs to treat this infected area which so materially hinders both surgical and medical treatment. Dentists should give the nurses instruction in the hygienic care of the teeth. Dentists should also be placed upon the staff of medical inspection of the public schools, for the condition of the child's mouth is just as important to its health as the condition of its throat and nose.—Dr. Woodbury is in favor of a movement which would create in Boston an organization that would help encourage and promote better care of the teeth by: 1. Putting into wider circulation the leaflet on the Care and Use of the Teeth. 2. Furnishing literature on dental hygiene, and information and assistance in promoting the cause. 3. Providing popular exhibitions—charts, photographs, instructions, literature—for settlements, schools, and institutions. 4. Giving practical talks on the care of the teeth, and popular and timely articles to the newspapers, country and city. 5. Providing lists of registered skilled dentists who will work for nominal fees for deserving and worthy persons. 6. Discouraging the sale and use of dental preparations injurious to the teeth.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

March 8, 1908.

1. Importance of Ocular Lesions and Symptoms, By LEWIS J. JONES.
2. Infant Mortality in the Summer Months, Medical Adapted at Venetian for the Reduction and the Results, By S. E. GETTY.

3. Adiposis Dolorosa, By JAMES H. G. SULLIVAN.
4. Epididymitis and Orchitis Complicating Typhoid, By JOHN GILLESPIE BEARDSLEY.
5. Foreign Bodies in the Larynx, By F. E. FRANCHERE.
6. Using the X Ray Without Burning, By ALBERT C. GEYSER; Addendum by BENJAMIN P. RILEY.
7. Treatment of Diffuse Suppurative Peritonitis, By STUART MCGUIRE.
8. Mixed Narcosis, By JAMES T. GWATHMEY.
9. A Suggestive Plan for a Modern General Metropolitan Hospital of Five Hundred Beds, By BAYARD HOLMES.
10. Nerve Bridging. Report of One Successful Case, By ALFRED S. TAYLOR.

2. **Infant Mortality in the Summer Months.**—Getty states that the problem of reducing infant mortality from digestive diseases in cities can be summed up in a few words. Clean milk, properly proportioned, for those infants and young children who cannot be fed on the breast, and intelligent care and feeding by the physicians and parents. To produce these results he suggests the following as the necessary means: 1. Rigid State or municipal inspection of all milk from the producer to the consumer. 2. Milk dispensaries properly to modify clean milk in feeding bottles ready for use. The milk may be pasteurized if it is to be used in the tenements. 3. Campaign of education to instruct both physicians and parents in the art of infant feeding and urge on the officials the necessity and economic value of clean milk. 4. Employment of trained nurses in the summer months to follow up cases of digestive disturbances in infants and to aid physicians in their work. 5. The continued improvement of tenement houses so that the dwellers may have the benefits of proper sanitation and plenty of fresh air and sunlight.

4. **Epididymitis and Orchitis Complicating Typhoid.**—Beardsley observes that epididymitis or orchitis, occurring during typhoid fever or during the convalescence from this disease, are comparatively rare complications, and in the majority of cases are due to infection by Eberth's bacillus. These complications may be caused by other pus producing bacteria, but this is unusual. The conditions may also be caused by phlebitis and thrombosis of the testicular veins, the ætiological factor being the same (*Bacillus typhosus*). These complications may occur during the course of the disease, but they are far more likely to occur during convalescence. Although the lesion, as a rule, is unilateral, it may be bilateral, and it may involve either the epididymis or testicle, or both, and not infrequently the cord as well. Effusion into the tunica vaginalis testis is seen occasionally, and there may be a urethritis with urethral discharge. Localized necrosis and suppuration, with extrusion of the testicular substance, is an uncommon termination, the usual termination being resolution, in a week to ten days.

5. **Foreign Bodies in the Larynx.**—Franchere deducts from his observations that in every case of aphonia search for a foreign body should be instituted. There is great variation in the symptoms and pathological results of foreign bodies in the larynx. A careful report of every such case should be made for the next few years, in order that a more extensive literature on the subject may be built up. The great majority of laryngeal foreign bodies now in use are all adapted for the uses to which they are to be put. Laryngotomy is a safer and more conservative procedure in the hands of a competent

surgeon, in many cases, than bungling attempts on the part of an inexperienced laryngologist to remove a foreign body by way of the mouth with imperfect instruments and technique.

**7. Treatment of Diffuse Suppurative Peritonitis.**—McGuire says that the body of the patient should be elevated to an angle of 50 degrees to permit gravity drainage of the flanks. To accomplish this there are two principles in practice, angulation of the patient and angulation of the bed. The disadvantages of the semi-sitting position are: (1) It makes it difficult for the nurse to place the bedpan properly; (2) it is unnatural and subjects the patient to mental and muscular tension; (3) he will slip down when relaxed by weakness or sleep, so that his body will bend at the costal arch and his abdomen will be on a plane parallel with the surface of the bed. To prevent the tendency to assume this false position some surgeons use axillary straps attached to the shoulder rest; some a double inclined plane to support the legs; and others go so far as to elevate the foot of the bed. None of these methods, however, satisfactorily corrects the trouble. The advantages of elevating the head of the bed are: (1) The mattress may be put at any angle; (2) the patient lies on a flat surface, often unconscious of his position; and (3) he is completely relaxed and easily nursed. The difficulty experienced in managing this position has been to get a simple device for raising or lowering the head of the bed, and to devise a means to prevent the patient from sliding down the incline. The author describes his method. The bed elevator consists of a wooden base and upright piece. There are a number of notches on the side of the upright, into which fits an iron link which supports a block to receive the leg of the bed. The link, when horizontal, slips up or down, but when oblique fits into a notch, just as does the lock of an ordinary needle holder. The bed seat consists of a board which, either bare or padded with a pillow, makes a shelf on which the patient sits. A wooden shaft projects downward and passes through a second board which rests against the footpiece of the bed. In the shaft are a number of holes, and a peg placed in one of them will prevent the shaft from passing through the bottom board, and thus transfer the weight of the patient to the foot of the bed. The advantages of the bed seat over a hammock or swing are its rigidity and consequent sense of security given the patient; the ease with which it can be removed and replaced by the nurse when it is found necessary to do so; and also by the fact that there are no straps or ropes on either side of the patient's head or body to embarrass the nurse or alarm the relatives. Both of the devices described can be made by any carpenter at a cost of a few dollars, and will securely maintain the patient at any angle for any time without discomfort.

**10. Nerve Bridging.**—Taylor thinks that the literature of nerve surgery is not well indexed; case reports give results in very general terms, often because of the difficulty of tracing cases and making systematic examinations over the long periods of time necessary. Much experimental work is still necessary to determine the best technique for the solution of the various problems in nerve surgery. Nerve defects can be bridged. Judging from the

material at hand, *suture à distance* offers the simplest and most successful method. The younger the patient and the better the general condition, the more hopeful is the result. Results come only a long time after operation, and depend for completeness on massage, passive motion, electricity, etc. Probabilities are against the bridging of gaps greater than 4 cm., although a few cases are reported. For defects larger than 4 cm. resection of bone or lateral implantation of nerve ends may be used. Good muscle power with bone deformity in an extremity is much to be preferred to complete or serious paralysis.

#### MEDICAL RECORD.

March 28, 1908.

1. Grave Chorea and Its Relation to Septicæmia.  
By B. SACHS.
2. Theoretic Considerations Relative to Immunization by Means of the Tubercle Bacillus and Its Products.  
By WILLARD J. STONE and E. C. I. MILLER.
3. How Much Gynecology and Abdominal Surgery Should the General Practitioner of Medicine Know?  
By W. A. NEWMAN DORLAND.
4. The Diagnosis and Treatment of the More Common Diseases of the Skin.  
By EDMUND LINDLEY COCKS.
5. A Rational Method of Treatment in Chronic Endometritis.  
By JOSEPH M. RECTOR.
6. Examples of Chronic Productive Inflammations in Early Life.  
By ROLFE FLOYD.

**1. Grave Chorea and Its Relation to Septicæmia.**—Sachs is of the opinion that the search for a single specific organism as the cause of chorea is fruitless, and in view of what has already been discovered, entirely illogical. Some forms of chorea are evidently the expression of an acute general infection. There may be a number of different microbic agents giving rise to this condition, but it seems reasonable to suppose that certain bacteria have a special predilection for the motor neurones, while others exert their baneful influence over the sensory elements of the central and peripheral nervous system. The infection may be due directly to those microorganisms or to a toxine formed by them. The author thinks that the microbic origin of the septicæmic chorea has been established. The study of toxæmia and of general infection looms up big in the future study, not only of chorea, but of syphilis of the general nervous system, in the study of meningitis as well as in the researches now in progress on acute anterior poliomyelitis. The prognosis of septicæmic chorea would seem to be extremely grave, but he is not willing to believe that every such case must necessarily prove fatal. As far as the treatment is concerned, it has been unavailing to the present time. Salicylates, sedatives, hypnotics, and the usual forms of hydropathic treatment have been employed. The good results that have been obtained in other severely toxic and infectious disorders by the use of appropriate antitoxines, leaves us some hope for the future. Meanwhile we must endeavor to eliminate, if possible, toxic products circulating in the body.

**5. A Rational Method of Treatment in Chronic Endometritis.**—Rector places his patient in the dorsal position and the discharging (positive) electrode upon the abdomen, a speculum is inserted in the vagina, with its blades generously separated. This brings into view the cervix and the adjacent

parts. The active (negative) electrode is introduced into the uterus and a constant current of five to fifteen milliamperes turned on. Stronger currents are not to be used, for fear of the soft liquefaction and stricture which may follow its caustic action. The surrounding muscular tissue softens, by reason of abstraction of water from the tissues, bubbles of hydrogen gas will be seen issuing from the os uteri, and a copious watery or mucoid discharge flows readily from about the now loosened electrode. After an application of five to ten minutes the sounds are removed, and the irrigator, which is also an electrode, is inserted in their place. While the current is still passing the cleansing solution is allowed to flow. Upon withdrawal of the irrigator, the canal will be found softened, patulous, and free from discharge. The dilatation will remain a sufficient length of time to allow any additional application to be made to the cavity of either uterus or cervix and without any muscular interference. But the source of supply and class of current must be perfect and absolutely under control, positively free from any interruptions of current, sudden stoppage, or increased milliamperage. The milliamperé meter must register accurately the amount and constancy of the current passing. The wires, binding posts, and electrodes must be properly insulated. The current must not be turned on until the electrode is in position, and must then be raised slowly to the required strength. The current must be slowly reduced before the electrode is removed. These precautions are advised because of the adverse mental effect that any disturbance will have upon the apprehensive patient. If the woman suffers any considerable amount of pain, burning sensation, or sudden electric shock, she will become frightfully nervous and insist upon ending the treatment. In beginning the dilatation, the size of the uterine electrode is selected which will readily pass into the canal without giving any pain; in the same gentle manner and with the same aseptic precautions as one would pass a uterine sound for diagnostic purposes. The electrode, which is best made of copper, and properly insulated, is passed onward until the collar which marks the beginning of the insulation presses against the external os. The length of the exposed electrode is shorter than the canal, as he has found that when the tip of the electrode rests against the fundus of the uterus, the patient often experiences a disagreeable (temporary) attack of painful uterine contractions. As the canal gradually dilates and softens, electrodes of increasing size are used, until the entire canal is sufficiently dilated to admit freely the irrigating electrode. As soon as the irrigator is in proper position and the desired current is passing, the cleansing fluid is allowed to flow and freely wash the active mucous surface. One half to one per cent. solution of the tincture of iodine acts best as such cleansing agent.

## BRITISH MEDICAL JOURNAL

March 14, 1908.

1. The Treatment of Pneumonia. By S. WELLS.
2. The Diagnosis of Organic from Functional Affections of the Nervous System. (Pavia, Italy.) By F. S. R. RUSSELL.
3. Some of the Commoner Symptoms of Cerebellar Abscess. By W. TROTTER.

4. The Colony and Bromide Treatment of Epilepsy. By A. J. McCALLUM.
5. A Case of Hysterical Somnambulism Showing Abnormal Acuity of Vision in the Somnambulistic State. By J. W. RUSSELL.
6. A Case of Merycism. By H. F. L. TAYLOR.

3. **Cerebellar Abscess.**—Trotter's paper is based on the study of two cases of cerebellar abscess recently under his care. Cerebellar abscess may produce (1) general evidences of an infective process, (2) evidences of a lesion in the substance of the brain, spreading with variable rapidity, but as a rule subacutely, (3) evidences of a lesion in the lateral lobe of the cerebellum. 1. General evidences of infection. When the case is seen from the beginning there will practically always be a period of onset, during which the symptoms are those of an acute infective process—chill, high fever, headache, loss of appetite, and wasting. There may be no evidence calling attention to the brain, and occasionally the patient may succumb in this stage without any suspicion of the seat of the disease having been aroused. This septicæmic type is the rarest and most puzzling of the clinical forms under which cerebellar abscess presents itself, and almost always escapes diagnosis. Like other infective processes elsewhere, suppuration in the brain is apt to undergo a spontaneous arrest or quiescence after the acute onset. Thus arises a second important clinical type—the latent abscess. Usually, however, some evidence or other of impairment of function will be present. The clinical behavior of these cases is very similar to that of pneumonia followed by empyema. 2. General cerebral signs. The three familiar signs of increasing intracranial tension are optic neuritis, vomiting, and headache. Of these, optic neuritis is the most significant when it is present, but it is often absent in cases of abscess, so that its absence is of no diagnostic significance. Vomiting is a much more common symptom, so that its complete absence throughout would be distinct evidence against cerebellar abscess. The headache is by far most commonly occipital and practically never lateral, so that the substitution of occipital headache for the lateral headache so common in acute mastoid disease should lead to the suspicion of the development of intracranial suppuration. Giddiness is a sign both of intracranial pressure and of cerebellar disease, but in cerebellar disease objects during the attack seem to always move in a definite direction. Causeless wasting is also suggestive. The mental state is one of the most important of this group of symptoms. All stages of impairment of consciousness, from the slightest to profound coma, may be seen, the latter, however, usually only in very advanced cases or in the very acute fulminating varieties. The earliest change is a very slight dullness—a disappearance of spontaneity. But as long as the patient can respond, the intelligence is quite normal. It is unusual for any true delirium or confusion to develop. 3. Localizing cerebellar signs. This is the most important group of signs, as they may be present in latent cases when the first two groups may be absent. They may be divided into extrinsic signs, due to the involvement of the structures outside the cerebellum, and intrinsic, due to the involvement of the cerebellum itself. Among the signs



tures the involvement of which produce the extrinsic signs are the fifth and sixth cranial nerves, with corresponding changes in the area of the trigeminal and paresis of the external rectus on the same side as the abscess. The latter is the commonest isolated sign of cranial nerve involvement in cerebellar lesions, but its diagnostic value is small, as it is not uncommon in acute mastoiditis. Pressure on the pons and bulb may cause hemiplegic exaggeration of the reflexes, etc. The intrinsic signs or motor effects of a cerebellar abscess may be classified as follows: 1. Ocular signs. Nystagmus, weakness of conjugate movements, skew deviation. 2. Signs affecting the limbs. Incoordination, paresis, hypotonicity. In cerebellar abscess, as in any case of increasing intracranial tension in the posterior fossa, the need for operation is urgent, quite as much so as in perforated gastric ulcer or ruptured spleen.

4. **Epilepsy.**—McCallum holds that epilepsy must be regarded as the result of a disease or the perpetuated sequel of one, a vicious habit of brain having been established. For practical purposes the so called predisposing causes may be ignored. In the writer's experience the only constant factor in infantile convulsions has been the evidence of pain and unrest. Pain and nerve tension seem to so disturb cerebral harmony that there is a furious outburst of energy, giving rise to a display of sensory, vasomotor, and motor function constituting the fit. The fit is so obviously an outcome of cortex function that idiopathic epilepsy is usually regarded as a disease of that area. Add to this the fact that epilepsy lasts for years, is very prevalent, and has been widely studied by pathologists, yet no constant, unvarying condition has been found. The author holds that only two factors are necessary for epilepsy—healthy brain and sufficient stimulation. A healthy brain bursts out into fury owing to its overstimulation by sensory impressions poured into it from one or more varying sensory areas, the pain and tension of teething acting like the electric stimulation of experimental observation. The brain gets teased, less tolerant, almost vicious in its habits, so that it will reply, long after teething has passed away, to other sensory disturbances with an epileptic fit. Epilepsy thus becomes a reflex act in its origin and a cerebral vice in its fuller development and perpetuation. The treatment of epilepsy is to remove the cause where this can be done, and where it cannot, to render it inoperative. Some patients are hopeless—developmental cases, those arising in imbeciles, in the microcephalic, in inoperable tumor cases, and probably the confirmed epileptic. But peripheral, traumatic, emotional, and toxic causes give rise to about sixty to seventy per cent. of all cases in childhood and youth, and are curable if treated early and long enough. Bromide treatment is necessary and curative in these cases. Epilepsy being due to severe, prolonged, or repeated sensory stimulation of the brain, that amount of bromide must be used that is necessary to stop the sensory stimulation. The amount in boys varies from 60 to 130 grains a day. Larger doses interfere with the equilibrium, swallowing, and organic reflexes. The toxic action of potassium salts on the heart is probably a myth; it is the bromide that is harmful. When a cure can be ignored. In the few cases

due to absorption of toxic products from overeating, from unsuitable food, or from constipation, diet is of importance, but for the bulk of the cases diet may be summed up in: Three meals a day, everything fresh, everything limited, and meat not oftener than once a day, three times a week being ample.

## LANCET

March 14, 1908.

1. The Surgery of the Spinal Cord and Its Membranes (Hunterian Lecture, II), By D. S. ARMOUR.
2. The Clinical Symptoms of the Cases of Epidemic Cerebrospinal Meningitis Admitted to Belvidere Fever Hospital, Glasgow, During the Recent Epidemic, Together with a Short History of the Disease in Scotland, By W. DOW.
3. A Remarkable Case of Persistent Ingestion of Needles and Their Removal from Different Parts of the Body, Especially from the Organs of the Abdominal Cavity, by Laparotomy Several Times Repeated, By A. NICOLL.
4. A Study of Five Cases of Appendicostomy, By J. L. STRETTON.
5. Congenital Hypertrophic Stenosis of the Pylorus and Its Medical Treatment, By G. CARPENTER.
6. A Suggestion for Treatment in Delayed Chloroform Poisoning, By A. P. BEDDARD.
7. A Case of Cystic Disease of the Maxillary Antrum, By R. LAKE.
8. Lymphangeioplasty: A New Method for the Relief of the Brawny Arm of Breast Cancer, and for Similar Conditions of Lymphatic Œdema, By W. S. HANDLEY.
9. Portal Obstruction without External Evidences of Portal Caval Anastomosis: Its Prognostic Significance, By G. H. C. LUMSDEN.
10. Note on a Case of Compound Depressed Fracture of the Vault of the Skull: Operation and Recovery, By H. R. BEALE.

1. **Surgery of the Spinal Cord.**—Armour, in his second Hunterian lecture, divides cases of injury to the vertebral column into two main classes—those in which the functions of the spinal cord are not interfered with and those in which there is more or less interference with the functions of the spinal cord, with or without obvious injury to the vertebral column. The questions that arise in discussing the subject of operation in cases of fracture-dislocation of the spinal cord are, in order of importance: 1. Will any benefit to the patient result from the operation? 2. Will his life be endangered by the operation? 3. Will he be made worse as a result of the operation? It is essential, in order that an operation should be perfectly successful: (1) To remove enough laminae to be absolutely sure that there is no remaining pressure on the cord; (2) to remove any projecting bone, whether it be a portion of the vertebral bodies or one or more articular processes; (3) to remove all blood clots, even though laminae of unaffected vertebrae have to be removed to do so; (4) to open the dura mater to ascertain definitely the condition of the cord; and (5) to see that the cord dilates to its full extent again, and that pulsation returns (this is only possible where the cord has not been completely destroyed). The operation may be expected to relieve pressure, or, at any rate, remove any doubt as to whether continued pressure exists. Degeneration as a result of pressure appears within four days. If the spinal cord be not completely destroyed, continued pressure may succeed in completing its destruction. Therefore, operation is indicated (1) to relieve pressure

from depressed or displaced fragments of bone; (2) to relieve pressure from blood clot or from extensive hæmorrhage, either extradural or intradural; (3) to relieve pressure and to prevent further destruction from œdema by enlarging the constricted bony canal; and (4) to remove the future danger of pressure from exudate and inflammatory thickening. No operation will restore a cord in which complete transverse section has taken place. But there are no symptoms by which we can in a reasonable time determine *beyond a doubt* the presence of a complete transverse section of the spinal cord. So that we should feel compelled to give the patient the benefit of an operation which does not endanger his life, but which does lessen his pain.

**6. Delayed Chloroform Poisoning.**—Beddard is inclined to favor Rosenfeld's view as to the nature of delayed chloroform poisoning. He believes that when cells are poisoned by chloroform their metabolism is so altered that whilst they can utilize carbohydrates well they can oxidize proteids but imperfectly and fats even less well. Consequently as soon as the cells have used up their meagre store of carbohydrate, their hungry condition causes a breaking down of tissue proteid and a transfer of fat to them; but since neither of these foodstuffs, and especially the fat, is properly utilized, the cells remain in a condition of severe starvation which may rapidly lead to their death through lack of energy. But if an animal poisoned with chloroform is fed with dextrose, the transfer of fat is prevented because it is no longer necessary, and recovery is much more likely to take place than when the animal is starved. Feeding with carbohydrates does not prevent the poison from damaging the cells, but it does provide the cells with the source of energy which they can most easily utilize, and may prevent their dying from acute inanition and so give them time in which to recover. The writer therefore suggests that patients suffering with delayed chloroform poisoning be fed with dextrose—either by mouth, by continuous rectal infusion, or even by intravenous infusion of a six per cent. solution.

**8. Lymphangioplasty.**—Handley states that among the complications of breast cancer none is more terrible than the brawny swelling of the arm coming on in the later stages of the disease. The pain is so excruciating that amputation has been performed for its relief. It is in all probability due to a destruction of the lymphovascular system of the arm. Bearing this in mind the author, having such a case under his care, introduced into the subcutaneous tissue of the swollen arm a number of buried silk threads, running longitudinally upwards from the wrist to terminate in the loose and healthy areolar tissue in or beyond the axilla, and spaced out at convenient intervals around the limb. The operation was analogous to the drainage of a marshy field by means of buried pipes; for stout silk threads, if not under tension, remain unabsorbed for some years, and the absence of organization and coagulation in their interior insure the retention of their capillary power. The result was immediately beneficial, the swelling going down, the pain disappearing, and the power of motion returning. In another similar case the same results were obtained.

## LA PRESSE MEDICALE

March 7, 1908.

1. The Liver in Diseases of the Kidney. Study of Experimental Lesions.  
By LEON BERNHARD and L. LAEDERICH.
2. Pyocyanasis in Therapeutics.  
By R. ROMME.

**1. The Liver in Diseases of the Kidney.**—Bernhard and Laederich state as the result of a series of experiments that, 1, sudden and absolute suppression of the renal function, by bilateral nephrectomy, ligature of both ureters, or total necrosis of the kidneys, produces in the liver a congestion, usually intense, resulting in an extravasation of blood corpuscles or in the formation of little hæmorrhagic foci, habitually generalized about the vessels, but frequently presenting its maximum of intensity in the centre of the lobule. The intracapillary leucocytosis is very marked. The cellular modifications are various. Some cells have a grumous appearance due to the condensation of the protoplasm. The glycogen has disappeared, and consequently the protoplasmic granulations, larger than usual, are conglomerated and mask the cytoplasmic reticulum. Other cells show vacuolization. These cellular modifications change the appearance of the lobules. 2, Partial suppression of the renal functions by nephrectomy, ligature of one ureter, or by the direct production of a nephritis, produces an entirely different set of changes in the liver. Hypertrophy of the liver is frequent, at times considerable, due to the multiplication of cells. Under the microscope the hepatic cell presents an aspect which the authors have denominated *état clair*, a clear state, which they find to be constant, sometimes generalized in all the cells, sometimes localized in a portion of a lobule. The conclusion from these experiments is that renal insufficiency may induce certain lesions in the liver, and is to be looked upon as the true cause of complex lesions of that organ which are to be observed following renal disease in man.

March 11, 1908.

The Previous Condition in the Victims of Railroad Accidents,  
By V. BALTHAZARD.

## BERLINER KLINISCHE WOCHENSCHRIFT.

March 2, 1908.

1. A Skeleton of the Thorax for the Purpose of Demonstration of the Position of the Levels of the Valves of the Heart.  
By H. VIRCHOW.
2. Concerning an Aneurysm of the Ascending Aorta Fixed in Situ.  
By H. VIRCHOW.
3. Traumatic Appendicitis.  
By ADOLF EBNER.
4. Concerning Gummatous Disease of Both Nuclei Caudati.  
By CAMPBELL.
5. Use of von Pirquet's Method for Diagnosis of Glanders in Man.  
By H. MARTEL.
6. The Question of Myeloid Leuchæmia.  
By THEODORE LEHMANN and ERIC JAK.
7. Concerning the Development of Balneology During the Past Decade.  
By FRANKENHÄSER.
8. The Discussion Concerning the Cellular and Constitutional Typhus Reaction.  
By C. von FRANK.
9. Reply to von Pirquet's Article.  
By A. WERNER.

**1. Position of the Valves of the Heart.**—Virchow says that the pulmonary valve is at the level of the third cartilage, the aortic at the level of the upper border of the fourth cartilage, the mitral at the level of the lower border of the fourth cartilage, and the tricuspid at the level of the end of the fifth

intercostal space at the margin of the sternum. The tricuspid is in the mesial plane, the pulmonary 25 mm. to the left, the aortic almost exactly in the mesial plane, the mitral 37 mm. to the left. The pulmonary is situated 40 mm. from the anterior surface of the thorax (not the skin), the tricuspid 45 mm., the aortic 55 mm., and the mitral 85 mm. These measurements and levels apply to the middle points of each valve mentioned; the measurements and levels of other parts of the valves, as well as of other parts of the heart, such as the septa between the auricles and the ventricles, the Eustachian valve, the opening of the sinus venosus, etc., together with the positions of the various parts, are carefully worked out.

2. **Aneurysm of the Ascending Aorta.**—Virchow describes in minute detail a specimen of aneurysm of the aorta which began at the aortic valves, so as to involve the sinus of Valsalva, and was so extensive that the innominate and left carotid arose from it, while the left subclavian arose from the aorta beyond the aneurysm. At the left end of the aneurysm there was a sharp angle in its lower wall.

3. **Traumatic Appendicitis.**—Ebner reports a case in which symptoms of appendicitis followed a contusion of the abdomen. Operation two months later revealed an abscess cavity containing a fecal concretion which was removed. The author considers that in this case the contusion of the abdomen was the actuating cause of the inflammation of the appendix, to which the latter was predisposed by the presence of the fecal concretion.

4. **Gummatous Disease of Both Nuclei Caudati.**—Campbell describes the case of a man, twenty-two years of age, who came under his observation with a subnormal temperature, a small pulse, 50 to 90 per minute, scarcely to be felt. He lay still in bed, hardly spoke of his own accord, showed no interest in his surroundings, appeared stupid, and had no control over his urine and fecal movements. Finally he was attacked with bronchopneumonia and died. Autopsy showed that both nuclei caudati had been destroyed by gummata. This case shows that lesions of the nuclei caudati do not produce paralysis, affect the reflexes, or the sensation of pain. The other perceptive qualities of the skin could not be ascertained because of the mental condition of the patient, but the impression was given that no disturbance of this kind was present.

5. **Pirquet's Method for Diagnosis of Glanders.**—Martel reports first the case of himself, infected with glanders in 1894, and reaction obtained from mallein applied to cutaneous ulcers, though no reaction was obtained in ten control persons, the skin of whom was scarified and mallein applied. Then follow several other cases during the past year in which mallein has obtained a distinct reaction in cases of glanders, though not in the controls. In one case a positive reaction was obtained by means of mallein through the conjunctiva.

#### MUENCHENER MEDIZINISCHE WOCHENSCHRIFT

March 10, 1908.

1. Concerning the Behavior of the Heart After a Long Continued and Strenuous Wheeling.  
By Dietlen and Moritz

2. Studies Concerning the Resorption of Fat in Infants,  
By SCHELBLE
3. Studies of Opsonins,  
By MUCH
4. Concerning the Bactericide and Hæmolytic Efficiency of the Material of Leucocytes and Blood Plaques, and of (Edema Lymph and Vessel Lymph,  
By SCHNEIDER
5. The Method of Complement Union,  
By LODER and BALLNER
6. Skin Reaction After Inoculation with Diphtheria Toxine,  
By SCHICK
7. Concerning the Clinical Importance of the Difference between the Temperatures in the Rectum and the Axilla, Particularly in Peritonitis,  
By PROPPING
8. Lumière's Color Photography and Its Use for Clinical Demonstration,  
By WILMS and EGENBERGER
9. Concerning Cholesterine Exudates in the Pleural Cavities,  
By RUPERT
10. A Sarcoma in a Stump Twenty Years After Amputation,  
By CAPALDI
11. Extensive Avulsion of the Mesentery in Abdominal Contusions,  
By AUTENRIETH
12. A New Medicine Glass,  
By STRÜBE
13. Concerning the Fulguration of Cancer,  
By GÖRL
14. The History of the Discovery of Zymase,  
By HAHN
15. Comparative Studies Concerning the Diagnosis of Typhoid Fever by Means of Bacilli Emulsion and Ficker's Diagnosticum,  
By LANDMANN
16. Obituary of Alphons Laveran,  
By MARTIAL
17. The Swedish Physician,  
By KRAUSS

1. **Behavior of the Heart After Long Continued and Strenuous Wheeling.**—Dietlen and Moritz state as the result of their investigations that they did not find a single case of dilatation of the heart ascribable to this cause, but that the hearts of wheelmen showed a tendency to diminution after an excessive strain, or, in practiced riders, after an unusual and exhausting tour. This tendency differed in degree in different persons, but seemed to be present in all. In many cases this acute diminution did not appear at once, but gradually, after the elapse of hours or days.

4. **Bactericide and Hæmolytic Efficiency of the Material in Leucocytes and Blood Plaques and of Lymph.**—Schneider sums up his conclusions in the following manner: The leucocytes with polymorphic nuclei contain bactericide material, which they can excrete in vitro or during life under the influence of certain stimulations. These "leucins" are not identical with the alexins circulating in the blood. They belong rather as material *sui generis* to the natural antibacterial protection apparatus of the animal organism, together with the alexin of the blood and the phagocytes. The bactericide action of the lymph in inflammatory oedema rests in great part upon extracellular leucocyte material, while the vessel lymph contains alexin. The hæmolytic action of the extract of the lymphatic glands is to be ascribed to other material than that which produces the hæmolytic action of the blood. The blood plaques do not come into consideration as distributors of alexin.

6. **Skin Reaction After Inoculation with Diphtheria Toxine.**—Schick has shown that the human skin reacts to the inoculation of diphtheria toxine; he asserts to have shown that the reaction is specific; he hopes to obtain in this way an exact and rational dosage of the serum to be used, and thus to secure an advance in the treatment of that disease.

7. **Clinical Importance of the Difference Between the Temperatures in the Rectum and Axilla.**—Propping says that the abnormally great difference of temperature between the rectum and



axilla is due to reduced axillary temperature in both healthy and feverish organisms. The difference of temperature is inversely proportional to the heat production in the muscles. The great difference of temperature is present in all febrile diseases; in peritonitis in about one fourth of the cases at the height of the disease. The great difference of temperature is of serious prognostic importance in peritonitis.

**8. Lumière's Color Photography.**—Wilms and Eggenberger describe the method of color photography in detail, including the development and fixation of the negatives.

**9. Cholesterine Exudates in the Pleural Cavity.**—Ruppert reports a case in which cholesterine was present in such quantity in the pleural exudate as to be noteworthy, and attempts an explanation of its presence other than a transformation of the elements of the exudate.

**10. Sarcoma in a Stump.**—Capaldi reports the case of a man, fifty-five years of age, whose forearm was amputated in 1886. In February, 1907, he struck a piece of wood against the stump, and not long afterward a sarcoma appeared in the scar. Capaldi does not think the traumatism was responsible for the appearance of the tumor.

**11. Avulsion of the Mesentery in Abdominal Contusions.**—Autenrieth reports a case of severe contusion of the abdomen in a child, four and a half years old. Laparotomy was performed because of the symptoms of internal hemorrhage, and a very extensive laceration and avulsion of the mesentery was found which necessitated the excision of a considerable portion of the small intestine that had been deprived of its nutrition. The child recovered.

**12. A New Medicine Glass.**—Strübe has devised a rather complicated glass and tube for the administration of medicines without injury to the teeth. It consists of two globular vessels, one large and one small, each with a tube. The tube of the smaller enters that of the larger, so that fluids coming from the two vessels mingle. The medicine is supposed to be put in the smaller vessel, while the larger is filled with some indifferent fluid such as water or milk. The tube is introduced far into the mouth, when the fluid can be drank without appreciation of the bad taste or injury to the teeth.

#### THE GLASGOW MEDICAL JOURNAL. March, 1908.

1. Consumptive Sanatoria: Are They Worth While? By DAVID LAWSON.
2. Case of Injury to the Motor Area of the Brain. By G. BERENDE BOEHMAN.
3. Case of Multiple Exostoses in a Rabbit Subject. By A. VOUG.
4. Operative Procedure in Relation to Disease of the Frontal and Sphenoidal Sinuses. By W. S. SYME.
5. Preliminary Note on Quinine Sulphate as a Factor in the Causation of Blackwater Fever. By D. McCAY.

**1. Consumptive Sanatoria: Are They Worth While?**—Lawson shows, on the basis of statistical material that the fact that eight years after discharge from sanatoria so large a number as seventy-three per cent. of persons treated were still capable of work, and of those over sixty-one per cent. enjoyed full working capacity, must effectively refute

the contention of those who assert that the clinical results of sanatoria do not justify their existence. He then takes up the commercial objection, and cites the city of Glasgow. There is good reason, says our author, for stating that not less than 700 males died of pulmonary consumption in the city of Glasgow in the year 1906. The average age at which these deaths took place was roughly thirty-one years, and, taking the ascertained average wage earning capacity for England and Wales, 30s. per week is a fair average wage earned by those sufferers when in good health. Insurance companies inform us that, dying at thirty-one years, those who then succumb had their life and rate paying term curtailed by twenty years. It is thus merely a matter of arithmetic to ascertain what the mortality from consumption is yearly costing the city of Glasgow in ultimate wage earning capacity. Calculated on this basis, the annual loss amounts to over £1,000,000 sterling. If it pays insurance companies to preserve their clients' lives for the premiums they then continue to pay them when so restored, does it not seem probable that if—with a view to lessening the enormous annual drain upon her resources, in addition to the heavy claims made by that section of survivors who, deprived of their breadwinners, become chargeable to the poor law rates—the corporation of Glasgow were to provide one or more consumptive sanatoria, and maintain them as they do the other infectious fever hospitals out of the rates, their experience would prove here, as it has done elsewhere, that such expenditure is worth while?

#### THE JOURNAL OF NERVOUS AND MENTAL DISEASE March, 1908.

1. A Case of Recurrent Autohypnotic Sleep, Hysterical Mutism, and Simulated Deafness; Symptomatic Recovery with Development of Hypomania. By BERNARD OEFFINGER.
  2. A New Diagnostic Sign in Recurrent Laryngeal Paralysis. By ALFRED RICHARD ALLEN.
  3. A Case of Matricide and Attempted Suicide, with Brief Psychological Analysis. By W. K. WALKER.
  4. General Considerations as to the Nature and Relationships of Hysteria. By R. C. WOODMAN.
- 4. General Considerations as to the Nature and Relationships of Hysteria.**—Woodman remarks that the mechanism of the production of hysteria is better known than that of the other mental disorders. The origin of its salient features in divisions in consciousness has been repeatedly shown. The cause of its more characteristic symptoms is found in thought. Few workers seek its cause in this or that unknown toxine. We can see that it is functional in the same sense that normal thought is functional, and that we have no more reason to look for a poison in the system or a change in the structure of the cells upon some given day, when a patient has become hysterical, than we have to look for them after any other change in opinion or point of view. We believe that some change in the physiological chemistry of the brain occurs with every thought and emotion, just as some change accompanies every movement of a muscle, and the change in hysteria, at the moment of its inception seems purely a mental change. This does not alter the fact that mental stress, whether it be hysterical or not, sets up nutri-

tive disorders, and secondarily extensive changes in the tissues and fluids of the body. With the functional nature of hysteria in mind, it is possible to regard the mental disorders from a new point of view, and to inquire to what extent they may be thinking disorders as well, and functional in the same sense. Our knowledge does not suffice to answer the question raised, but such a query deserves consideration along with the hunt for bacterial poisons and cellular degenerations. Perhaps in this may be found the explanation of the surprising amount of old knowledge and opinion to be had from almost any long standing dementia, if we can by any means temporarily overcome his lethargy, and of the improvement which comes when the patient's interest can be aroused. It seems in part at least as if such patients had merely fallen into bad habits of thought. The recognition of hysteria as a psychosis the author thinks tends to bridge the gap which has been allowed to grow between diseases of the body and diseases of the mind, and to give a wider outlook and a new point of view from which to regard the other insanities. It makes it possible to correlate the insanities with what most physicians in their practice and thought regard as nervous diseases, and through them the physician and the patient's friends can come to some conception of what goes on in the insane person's mind, and of how such insane thoughts can arise and be entertained. It need not be supposed that the hysterical process is the only one through which mental aberrations occur. Rather in the past its rôle has been almost totally overlooked. The studies in hysteria should be applied to the problem of insanity, and the functional element sought in every mental disorder, and its mechanism be made clear if possible, whether it be hysterical or some other as yet unnamed type of reaction. Thus we may hope to attack psychically in a rational way the psychic element of psychic disease.

### Proceedings of Societies.

#### NEW YORK ACADEMY OF MEDICINE.

*Meeting of February 6, 1908.*

The President, Dr. JOHN A. WYETH, in the Chair.

This meeting was held under the auspices of the Section in Obstetrics and Gynecology and was devoted to a review of RECENT ADVANCES IN OBSTETRICS AND GYNÆCOLOGY.

#### The Present Significance of Chorioepithelioma.

—Dr. JAMES EWING said that he was firmly convinced that this group of tumors could be subdivided and different prognoses established on their histological structure. Briefly, the conclusion was reached that chorioepithelioma included three rather distinct tumors, which were distinguished by their gross appearance, histological structure, prognosis, and indications for treatment. Very uncertain and contradictory opinions were at present maintained regarding this. In 1895 Marchand pointed out that there were two types of chorioepithelioma, one typical, the other atypical. Yet, while Marchand had stated that the atypical variety, composed chiefly of giant cells, was comparatively benign, and he and another author had stated that it was a crime to

remove the uterus for this variety, because it was benign, all writers had not agreed as to the position of the atypical chorioepithelioma.

The typical choriomata of Marchand had shown extreme variations in structure and clinical course. While some had proved very malignant, Schlagenhauser in 1899 had pointed out that recovery might follow after (1) spontaneous extrusion of the tumor from the uterus, (2) removal by curetting, (3) partial removal with the knife. Six cases were on record in which recovery had followed where pulmonary metastases were believed to have occurred. On the other hand, some of these tumors were excessively malignant, and Schmauch had said that it was a crime to remove the uterus, because of the bad results following. Here, then, was a tumor with which hard words met the ill advised surgeon who ventured to operate, because it was so benign and because it was so malignant. There were no histological signs by which the different prognoses could be determined. Here was a unique situation in tumor diagnosis, in which there was no relation between histological structure and prognosis. The following classification and nomenclature were suggested:

1. Syncytioma, the atypical chorioma of Marchand. This tumor produced a more or less diffuse infiltration of the myometrium, or there was a large intrauterine tumor, leading to marked enlargement of the uterus, but not tending to perforate the organ and not giving rise to metastases. Histologically the tumor was composed of large syncytial wandering cells in the walls of sinuses and in the musculature. Hæmorrhage, cachexia, suppuration, and perforation by the curette might prove fatal. In the early stages the prognosis was good.

2. Chorioadenoma destruens, malignant placental polyp. This tumor tended to infiltrate the sinuses of the uterus, considerably enlarging the organ, but not splitting it by a compact growth. Metastases occurred in the lungs and vagina, but recovery might follow, certainly after vaginal metastases or after partial removal, possibly after pulmonary metastases. Histologically the growth showed villi.

3. Choriocarcinoma. This tumor was a relatively small, circumscribed growth in the musculature, tending rapidly to perforate the uterus without greatly enlarging it, and to cause local and pulmonary metastases. Histologically villi were absent. Langan's cells and syncytium were present in masses. Morphological signs of anaplasia and malignancy were always marked. The atypical and diffuse growth of cells yielded a structure to which the term carcinoma was commonly applied. Tumors of this structure were probably always fatal. An operation sometimes seemed to accelerate their course. The uterus should be removed as soon as possible. Infraction of the lines laid down in this classification might result in inability to determine the true position of the tumor, from insufficient curettings, the occurrence of intermediate types of tumors, or differences in structure in different portions of the same tumor. Dr. Ewing then illustrated the different types of these tumors by lantern slides.

**Recent Advances in Obstetrics.**—Dr. EDWIN B. CRAGIN said that marked advances had been made along three lines, a better knowledge of obstetric



pathology, a better knowledge of the mechanical problems of delivery, and better procedures. Distinct advances had been made in the toxæmia of pregnancy, as shown in pernicious vomiting on the one hand and eclampsia on the other. In the pernicious vomiting of pregnancy the chief pathological lesion was a fatty and dropsical degeneration of the liver, and, if the condition existed long enough, the lesions were practically identical with those of acute yellow atrophy. There was more or less degeneration of the renal epithelium of the convoluted tubules. The urine contained acetone, diacetic acid, beta oxybutyric acid, indican, and perhaps a trace of albumin and a few casts. These cases, as a rule, showed a high amount of ammonia nitrogen, high amido acid and undetermined nitrogen, and a low urea nitrogen. The hepatic and nephritic types were recognized clinically. In the hepatic type, aside from the convulsions, there was vomiting, with little œdema, little albumin and casts, often jaundice, tenderness over the liver, and ascites. In the nephritic type there were headaches, disturbances of vision, high tension pulse, nervous irritability, marked albuminuria, and casts. These two types were often combined. In the livers studied by Dr. Cragin there were three varieties of lesions. In the nephritic type the cells near the periphery of the liver showed a moderately fatty and dropsical degeneration, without necrosis. In the hepatic type the fatty and dropsical degeneration at the periphery of the lobules was very marked; the cells had lost their nuclei and were in fact necrosed cells. There were necrosis at the centre of the lobule, a zone of fatty and dropsical degeneration near the periphery, and a few normal cells at the periphery along the portal vessels. In the third variety there was an area of degeneration of the liver cells with hæmorrhage, the so called hæmorrhagic hepatitis. The lesion was situated at the periphery of the lobule. In eclampsia the myocardium often showed degeneration, and the brain œdema and hæmorrhage. In the nephritic type of eclampsia two classes of patients were recognized, those who had previously suffered with nephritis, and in whom the eclampsia had developed from an acute exacerbation of the old trouble, and those whose kidneys had been previously free from disease. Figures presented by him showed a marked resemblance between the hepatic type of eclampsia and the pernicious vomiting of pregnancy, i. e., ammonia nitrogen, amido acid, and undetermined nitrogen above normal, and urea nitrogen below normal.

We now had a better knowledge of the mechanical problems of delivery. We recognized earlier the posterior positions of the vertex and anterior rotation of the occiput was performed by the obstetrician relatively early when Nature failed to accomplish this. In pernicious vomiting cases one did not feel that he had done his duty by his patient unless the urine had been examined and the nitrogen partition determined, and the presence or absence of acetone, diacetic acid, beta oxybutyric acid, indican, etc., ascertained. The laboratory findings should be studied in connection with the clinical picture. In pernicious vomiting of pregnancy the best results were obtained by color irrigations, rectal feeding for a short time only, and early emptying of the uterus. Prolonged menorrhagia and metrorrhagia following

labor, abortion, or an operation for hydatidiform mole should be looked on with suspicion, and early diagnosis should be made and early hysterectomy performed in case it was chorioepithelioma, for that operation alone gave hope. The induction of labor two weeks before term would often secure a relatively easy and safe birth for a child which otherwise would be lost. The improved methods of inducing labor at the proper time for a child to pass the given pelvis, and the low mortality of Cæsarean section, had largely reduced the number of cases in which craniotomy was considered justifiable. The operation of pubiotomy was still *sub judice*. A well trained man might repair a lacerated cervix immediately after labor, but a note of warning should be sounded, that the morbidity if not the mortality of the patients was markedly increased, and the old rule for the general practitioner was a good one—immediate trachelorrhaphy for hæmorrhage only.

**Advances in Gynecology.**—Dr. HERMANN J. BOLDT presented a paper on this subject (see page 527).

**The Practical Application of Our Recent Knowledge in Obstetrics.**—Dr. EDWARD REYNOLDS, of Boston, read this paper. The methods of practice which he wished to present were based upon the belief that the mortality of the Cæsarean section varied greatly in accordance with the period of labor at which it was performed; that the mortality of the section late in labor was too great to permit of its performance in the interests of the child alone; that the maternal mortality of the section performed even so early as the end of the first stage of labor was greater than that of an ordinary high forceps operation or version; and that the mortality of the section done at the time of election, in advance of labor or at its very beginning, the primary section, was so low that it was a safer operation for both patients than a difficult high forceps operation or version when performed for mechanical obstacles. His own experience with section now comprised thirty cases without mortality. He divided the operations into three classes: Those done before labor, or the primary; those done early in labor, or the secondary; those done late in labor, or late sections. His completed tables contained 289 cases of operations by twenty different operators; of these, 82 were primary, 158 secondary, and 49 late. The late cases showed a mortality of over twelve per cent.; the secondary cases, four per cent.; the primary cases, slightly over one per cent. He offered the propositions that a section undertaken under every surgical advantage in advance of labor was less dangerous than one performed after even a few hours' endurance of the exhausting physiology of labor, and under the technical conditions incident to such work; that the section, performed after a full test in labor had demonstrated the approaching failure of the natural forces, was an operation favorable to the child, but more dangerous to the mother than the intrapelvic methods of extraction with forceps or by version. There could be no plainer or more obvious deduction than that, when the Cæsarean section was necessary, it was desirable that it should be determined upon in advance, and performed as a primary operation. He ruled out secondary section as an operation of choice. To attain accurate results,



we should estimate with equal care the pelvis, the passenger, and the probable maternal power as a propelling engine. To estimate these in difficult cases, it was usually necessary to see the patient repeatedly during, and when possible before, pregnancy. The whole matter of the size and shape of the pelvis was as yet in its infancy.

In conclusion, he believed that, to avail ourselves of all the resources of our art in the management of difficult labor, we should see the patient at intervals during pregnancy, and, where the circumstances permitted, before pregnancy; in cases where the unfortunate history of previous labors or the existence of evident deformity had brought the question of the safety of labor into consideration before another pregnancy had occurred. Such a detailed observation of pregnancy, and such painstaking investigation of the mechanical conditions, would be manifestly impracticable and unnecessary in the routine practice of midwifery in multiparæ. It was applicable only in cases in which difficulty could be reasonably expected. He believed the general practitioner should be taught how to select the cases in which danger threatened, but might be forestalled by an early and accurate comprehension of the circumstances. All primiparæ ought really to be examined for determination of the mechanical conditions during pregnancy, and this procedure was growing in repute. The following should have a determination of the mechanical conditions during pregnancy: 1, All primiparæ of very small stature. In this type of women the symmetrically small pelvis, the pelvis nana, was to be looked for. 2, All primiparæ who had done heavy muscular work during the period of development, and more especially those who presented a short, squat, short legged appearance. In this class of women the flat pelvis were particularly frequent. 3, All primiparæ with the narrow hip, long, straight legged, flat backed, boyish type of figure. In this type of women we found the true justo minor, or neutral, type of pelvis so frequent. 4, All primiparæ with bandy legs, protuberant buttocks, prominent abdomen, and an unusually hollow lumbar region. These women were often rather wide hip, markedly feminine in figure, and at first suggested favorable labor; but it was in such women that the pelvis with excessive inclination of the brim and exaggerated curvature of the pelvic axis were mostly found. 5, All primiparæ of delicate health. Many of these women had easy labors, but in them even moderate mechanical difficulties assumed importance. 6, Multiparæ who had had even one difficult or disastrous labor. Few men would doubt the wisdom of these propositions when placed before them on paper, but to effect their present adoption in practice was quite another thing.

DR. WILLIAM M. POLK said the ordinary practitioner was not in a position to enter into the niceties of laboratory work. The only way to anticipate a dire calamity was to keep a very close watch upon the women whose uteri had not undergone proper involution. He regretted that Dr. Cragin had failed to tell them of the advantages of a slow forceps delivery. There had never been anything so potent for good as the obstetric forceps, but all realized that, when used with a rush for the purpose of terminating labor quickly, it was capable of causing dan-

ger which was not limited to external passages; but, apart from the dangers of sepsis and lacerations, it was responsible for the great number of sad cases of procidentia. The fact that forceps delivery could be extended over an hour or longer, until such a time as the uterus was coaxed to do its duty, seemed to him to be worthy of earnest consideration. Disorders in young women were very frequently the groundwork of many of the after conditions, such as diseased ovaries, which ultimately led to those wretched cases of neuroses which revolved around ovarian pains. There was an immense number of young women beginning menstruation under conditions which were far from hygienic; this function, carried on under conditions of ignorance as to its true significance and true pathological conditions, laid the foundation in girlhood of subsequent ailments. Time and time again the treatment of simply removing adenoids that grew in the uterus had been sufficient, not only to relieve the condition of the sexual organs, but to improve the condition of the patient. He also wished to emphasize the vast advantage of early and prompt incision and drainage by the cul-de-sac in those cases of pelvic peritonitis associated with septic infection of the uterus.

Dr. J. CLIFTON EDGAR agreed with Dr. Cragin in the main as to the statements made about the toxæmias of pregnancy, and he was grateful to him for bringing out the value of the nitrogen ratios as diagnostic factors. He believed that to-day we could draw a line more sharply between the pure nephritic and hepatic cases of eclampsia than ever before. At the Manhattan Maternity Hospital the internes often made the diagnosis of the nephritic or the hepatic varieties before urinary analysis. There was a small class of cases in which the urinary findings often flew the red flag, giving out the danger signal before the clinical condition and picture were particularly well marked. Suture of the cervix should be confined to those cases in which there was a hæmorrhage following labor. The keynote of the obstetric papers was prophylactic obstetrics. It was Utopian to believe that we had arrived at a condition of affairs where dystocia would be prevented weeks before labor set in. In institution work the mortality from puerperal sepsis was one tenth of one per cent. or less. The morbidity was exceedingly low. This was not so in private practice.

The reason for this diminution in the mortality and morbidity rate in institutions was the introduction of asepsis and antiseptics in midwifery. The inference was plain. Ophthalmia neonatorum in institution work gave a mortality that was practically nil; but this was not so in private work. In England, in 1894, thirty-four per cent. of the cases of total blindness were due to ophthalmia neonatorum. Twelve years later, in New York State, in 1906, twenty-six per cent. of the cases of blindness were found to be due to this cause. Examinations in pregnancy, especially in the primigravida, were of value in determining contracted pelvis or large children; this was carried on only in institutions.

In speaking of the advances in midwifery he said he could merely refer to a box on the table before the academy, the property of Dr. Bedford, who died in his sixty-fourth year in 1870 or thereabouts. He would simply state that the top tray contained eleven

instruments; of these eleven, ten were designed to mutilate the child, or break it up, and only one was for the delivery of a living child.

Dr. CHARLES JEWETT said that in the toxæmia of pregnancy, whether of the vomiting or eclamptic type, the general condition of the patient must still remain the principal guide in the treatment. As Ewing and Wolf had stated, any material departure from the normal nitrogen ratios spoke for an unstable condition of the organism that might end in disaster. Eclampsia sometimes occurred explosively with scant clinical premonition. The end might come unexpectedly in pernicious vomiting. An elaborate analysis of the urine at short intervals during pregnancy, in the latter months, and in all cases of pregnancy vomiting, might save many lives, but this required the services of a practical chemist, so that this was expensive and not generally available. He would like to have heard more said regarding the nitrogen coefficient as a clinical guide; the objection had been made against it that an increase in the proportion of ammonia nitrogen might be due to starvation rather than pregnancy toxæmia. Experimental liver necrosis in animals, so long as the animals could be fed, was attended with very little increase in the ammonia excretion, while in the hyperemesis of pregnancy in the human subject, even with comparatively little pathological change in the liver, the percentage of ammonia nitrogen often was in great excess. Pubic section, whether median or extramedian, had a limited field, and it had grown more so with the improvement in the status of the Cæsarean section. It was difficult to select cases before labor which we could be sure would properly fall within the scope of symphysiotomy or hebotomy. The principal objection to immediate suturing of the cervix was the danger of sepsis. The cervix was perhaps the seat of less resistance than other parts of the birth canal, because of the traumatism it suffered even in spontaneous delivery. The cervix should not be sutured at the end of labor except when it was necessary for hæmostasis.

Dr. GEORGE L. BRODHEAD said that cases would be met with from time to time in which the clinical picture suggested that the uterus be not emptied, in spite of the fact that the urinary findings indicated the termination of pregnancy. We were becoming more and more accustomed to doing craniotomy in cases where the child was dead, rather than to subject the woman to a difficult forceps operation or version. Lacerated cervixes should be repaired immediately after delivery only in cases of hæmorrhage. Cæsarean section might be done too often. Many patients might be delivered at the eighth month safely and well. After Cæsarean section the danger of rupture occurring at the site of the scar in subsequent labors should be borne in mind. Therefore the induction of premature labor offered an advantage over Cæsarean section. Too much attention could not be given to the details of obstetric work.

Dr. F. A. DORMAN emphasized the clinical evidences of toxæmia, so often overlooked by the general practitioner. The excretory and digestive functions, the circulatory system, and the nervous manifestations, neuralgic or mental, should be carefully investigated. The operation of instrumental rotation of the head was a valuable method and tech-

nique in occipitoposterior positions, and was increasing in usefulness. Rubber gloves should be used as a prophylactic measure. The induction of premature labor had a large field, and very successful results might be obtained by starting labor while the child was smaller.

Dr. W. GILL WYLIE said that it had been his practice for over twenty-five years to make a close study of all these cases from the beginning, and it was amazing how often cases of toxæmia and septic troubles could be averted. The prevention of disease offered great future advances.

Dr. JAMES EWING said that the estimation of the nitrogen partition was not presented to supersede other and older methods, nor was it intended to tell when to empty the uterus; it only told when metabolism was not right. The estimation of the nitrogen partition should be made the basis of treatment to prevent the necessity of emptying the uterus.

Dr. EDWIN B. CRAGIN believed that the elective vaginal Cæsarean section had but a small field.

Dr. HERMANN J. BOLDT said that the adenomatous type of chorioepithelioma might sometimes be as dangerous to life as the carcinomatous type. In his opinion it was in the interests of the patient to do radical work on the basis that we were dealing with a malignant form of disease.

Dr. EDWARD REYNOLDS, speaking of the mortality of Cæsarean section being raised in proportion to the length of labor, made the simile as follows: If one hundred strong men started to do a twenty-five mile Marathon run, and a certain proportion pulled out at the end of one mile and subjected themselves to an operation, say an appendectomy, would they not expect that mortality to be less than if done on those who struggled in at the finish?

## Letters to the Editors.

### MANUAL THERAPEUTICS.

1504 PINE STREET, PHILADELPHIA, March 21, 1908.

To the Editors:

Will you permit me to reply to the large number of inquiries concerning my article in the February 8th issue, on *The Hand as a Therapeutic Agent*? I am asked: "How can a physician learn what is necessary to make use of the hand in securing the results alluded to?"

First of all, it is essential to have a working knowledge of the physiology of circulation, especially the vasomotor mechanisms.

It would undoubtedly be best for any one desiring to attempt this form of auxiliary treatment to know the art of manipulation practically. It would be well to secure as teacher a graduate of the Royal Institute of Stockholm if possible; if not, then the best masseur obtainable.\*

There are many excellent books dealing with the subject of massage, and from which much can be learned, as Douglas Graham, J. H. Kellogg, Thomas Stretch Dowse, Hartvig Nissen, Professor Landreer, Kleen, etc. John P. Arnold, who died recent-

\*I have not a personal knowledge of any one who is qualified to teach this subject in this country. There are some who are qualified in Europe, and who are well known.

ly, had nearly completed a book on *Clinical Physiology*, which contains data to elucidate the vaso-motor reactions necessary to a comprehension of the principles involved. There are a number of books by reputable authors, dating back as far as 1834, notably the one by the two brothers Griffin, published in that year, in which are analyzed 148 cases. My friend Dr. Seymour D. Ludlum (of 1728 Chestnut street, Philadelphia) read an admirable paper before the American Medical Association last June (just now passing through the press), which gives further information on history and physiology.

We must be prepared to learn from irregular, as well as regular sources of knowledge. Some of these practitioners attain excellent skill, and they oftentimes get admirable results. I do not find that they differ materially in their physical methods from those of the high class Swedish masseurs. All this utility, however, is entirely within the province and capacities of a properly educated physician, provided he possesses dexterity.

It is by no means necessary to assume, as many do, that much time or strength is demanded in accomplishing desired effects. I am able to materially relieve and oftentimes to cure ailments, not otherwise relievable, by a two or three, or possibly five or ten minutes' procedure, requiring exceedingly little effort, yet valuably supplementing whatever knowledge I possess of the use of hygiene, drugs, electricity, moral suasion, and other commonly employed therapeutic measures.

The important point is that physicians should learn, by practice, enough of these procedures for their own use. They cannot fail to prove of inestimable value, fitting them to form standards whereby they can select and direct those who shall apply the treatment. Furthermore, it is well to remember that one cannot learn to play the violin without employing thought, study, and considerable experience.

Finally, unless physicians recognize the truth, as I hope I have set it forth in my paper, they will constantly be annoyed by losing the confidence of their patients, and, worst of all, omit to supply that measure of resourcefulness, leading up to satisfactory results, which is entirely within their powers if they will give the subject a moderate degree of personal attention.

J. MADISON TAYLOR.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Lectures on Medical Jurisprudence and Toxicology*, as Delivered at the London Hospital. By FRED. J. SMITH, A. M., M. D. Oxon.; F. R. C. P. Lond.; F. R. C. S. Eng.; Physician to and Lecturer on Forensic Medicine at the London Hospital, etc. Second Edition. London: J. & A. Churchill, 1908. Pp. xiv-463. (Price, \$3.40.)

Though this comparatively small book does not purport to be anything like a complete treatise, it expounds the gist of the subject very satisfactorily, and we do not wonder that a second edition has been called for. The principal additional matter is in the form of three new lectures—The Examina-

tion of the Person Alive and Dead, Death Certification, and Anaesthetics. The entire volume teems with common sense and with the desire to smooth out difficulties for the practitioner of medicine in situations where he may come in contact with the law. It contains much spicy material, especially in the running commentary on the *Coroner's Catechism*, a set of questions drawn up by coroners for routine use in cases of death imputed to the administration of an anæsthetic. We can heartily commend the book.

*A Textbook on Prescription Writing and Pharmacy. With Practice in Prescription Writing, Laboratory Exercises in Pharmacy, and a Reference List of the Official Drugs, Especially Designed for Medical Students.* By BERNARD FANTUS, M. D., Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons of Chicago, etc. Second Edition, Thoroughly Revised and Adapted to the Eighth (1905) Edition of the United States Pharmacopœia. Chicago: Chicago Medical Book Company, 1906. Pp. 404.

Numerous are the books which have been compiled with the object of supplying medical students with the knowledge they are supposed to acquire of the art of prescription writing and the compounding of drugs during their college course, but few are found to fulfil their purpose. The failure does not always spring from a lack of acquaintance with correct methods on the part of the authors, but is the result in most instances of a faulty arrangement of the subject matter which is confusing to the student. Of the lack of what the Germans call *Gefühl* for the study of pharmaceutical principles in teachers of materia medica and therapeutics, a feeling which cannot be developed in students except by teachers who possess it themselves in a sensitive and trustworthy form, it is mentioned here only to emphasize the fact that textbooks which do not give evidence of the possession of this feeling by their authors are usually unsatisfactory guides. In the work by Dr. Fantus indications are plentiful of the author's intimacy with the technique of the dispensing pharmacist, and he makes use of and exhibits his intimate acquaintance with the drugs and medicines of the pharmacopœia in a manner that is admirably adapted, we think, for the training of medical students along well ordered lines. The design and scope of his work are such as to make for orderly and systematic study, and a multiplicity of details, which is apt to be so confusing to the student, is avoided, without, however, any sacrifice of essentials. The form, language, and composition of prescriptions are dealt with in the beginning, prescription ethics being also considered in chapters on the repeating, ownership, and cost of prescriptions, in which useful hints are given regarding the customs of both prescribers and dispensers. The chapters in which the products of pharmacy are described impress the reviewer as being eminently practical, and the student who masters them should never be at a loss to know what is required in the origination of a prescription for any single drug or combination of drugs. Laboratory exercises are outlined, the numerous problems in prescription writing and compounding being calculated to form excellent drilling in these subjects.

As a textbook of materia medica the book is thorough, yet concise. Nearly one half of it is taken up



with descriptions of drugs, arranged in a form to facilitate memorizing by the student. First is given the official Latin name of the drug, printed in Gothic capitals, and followed by (1) the pronunciation, (2) the genitive case, (3) the official English name, (4) synonyms, (5) the origin of vegetable drugs, (6) a description, (7) solubility, (8) active constituents, (9) incompatibles, (10) uses, (11) doses, (12) official preparations, and (13) forms of administration. It only remains to add that the volume is in accord with the latest revision of the United States Pharmacopeia, and is a manual of prescription writing and pharmacy that can be unqualifiedly commended for use as a textbook of these subjects in medical colleges. Although it is dated 1906, it is only within a few weeks that we have received it.

*Schema des Rumpfes.* Von Privatdozent Dr. W. HILDEBRANDT, Freiburg i. B. Taschenausgabe. München: J. F. Lehmann, 1908. (Price, 1.20 mark.)

This booklet, in the form of a pad, consists of about twenty-five pages, each of which can easily be detached and used as a memorandum, taking the place of a written case history. Each of the pages contains a diagram of the skeleton of the trunk, with landmarks, drawn similar to the Mercator projection map of the earth. The physician is to mark in this schedule certain lines and arrows indicating the situation of the viscera as found in the patient under examination, together with the results of auscultation and percussion depicted in graded shading, and using certain forms of lines and cross hatchings which are explained on the fly leaf of the pad.

*The Practice of Gynecology*, in Original Contributions. By American Authors. Edited by J. WESLEY BOVÉE, M. D., Professor of Gynecology, George Washington University, Washington, D. C. Illustrated with 382 Engravings and 60 Full Page Plates. New York: Lea Brothers & Co. Pp. xii-836.

This volume, one of three to cover the subjects of pædiatrics, obstetrics, and gynecology, is an eminently characteristic contribution to American gynecological literature. An incomplete list of the authors and their contributions will substantiate this view. Thus, Dr. Bovée has written of developmental anomalies and the diseases and affections of the urinary system; Dr. X. O. Werder has contributed articles on the examination of patients and on extrauterine pregnancy; Dr. J. Riddle Goffe has written on menstruation, uterine displacements, and the vaginal method of operating; Dr. G. H. Noble has written of fecal and urinary fistulæ and lacerations; and Dr. Benjamin R. Schenck and Dr. Thomas J. Watkins have divided the diseases of the Fallopian tubes between them. Dr. G. B. Miller has taken the tumors and inflammations of the uterus for his subjects.

The book is remarkably free from the repetition and overlapping that one usually finds in composite works. While it is not possible in a short space to review each series of contributions, the general conservative attitude of the authors is to be commended. Thus, the avoidance of unnecessary instrumental manipulation of the uterus is advised, as well as the nonoperative treatment of acute infections involving the uterus and appendages. The

chapter on postoperative treatment and the complications of abdominal operations is unusually good. The vaginal operations are, too, very well described, as are the various methods of repair of vaginal and perineal tears. Among other features, the details of plastic operations on the tubes may be mentioned with commendation.

Altogether, much care and toil have gone into the preparation of this book. Not only textually, but as far as the illustrations are concerned as well, can the volume be heartily commended as a practical work on gynecology from the standpoint of the American gynecologist of to-day.

*Skin Affections in Childhood.* By H. G. ADAMSON, M. D. (Lond.), M. R. C. P., Physician for Diseases of the Skin, Paddington Green Children's Hospital, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. xvi-287.

Although the skin affections in children are essentially the same as those in adults and should be taught as an intimate part of the whole subject of dermatology, there are many advantages in considering them apart. Many affections of the skin are far more prevalent in childhood than in adult life, while others are peculiar to the child, or, when occurring in childhood, are so modified that they present entirely special appearances. This book is therefore a useful addition to our compendia in dermatology.

The author treats his subject from the clinical, diagnostic, and therapeutical points of view, and divides it thus: Affections of congenital origin; eruptions due to local physical causes, animal and vegetable parasites, local microbic infection, or toxic origin; tuberculous disease of the skin; affections of nervous origin; and, finally, unclassified affections. On pages 280 to 284 will be found a very handy list of the principal remedies for external applications. The illustrations are good selections and are well executed.

*Die chirurgischen Untersuchungsarten.* Einführende Vorlesungen über allgemeine chirurgische Diagnostik von Dr. OTTO MANZ. Mit 38 Abbildungen im Texte. II. Teil. Jena: Gustav Fischer. Pp. vii-257.

The object of these lectures is the instruction of the student in the methods of examining surgical patients. They are simple and very complete, omitting unnecessary and unimportant facts in order to emphasize the essential features of surgical diagnosis. In other words, it is a work on *surgical* physical diagnosis. The author has sensibly avoided long descriptions of technical processes, such as cystoscopy and œsophagoscopy, but has contented himself with the laying down of broad general principles.

The book is worthy of study, and will prove valuable to moderately advanced students as well as to teachers in the preparation of their lectures. The illustrations are particularly well chosen.

*Physiology and Pathology of the Urinary and Biliary Systems.* By Dr. L. A. FINE, Professor of Medicine, University of California, Los Angeles, and at University of California, Berkeley, J. F. Rogers, Ph.D., etc.

There is no doubt that, within the past five years, Fine's method of staining the organs with carmalum has been a recognized innovation.

been widely accepted by the profession as a valuable therapeutic measure. Especially in the treatment of uterine hæmorrhages has this procedure seemed to be of benefit. Thus, in hæmorrhages preceding the menopause, in hæmorrhagic endometritis, in bleeding due to hæmophilia, and in cases of uterine fibroids (except of the submucous variety), the use of atmocausis is almost invariably attended with success. Pincus, in this edition, advises that the procedure be preceded by curetting, sufficient time being allowed for regeneration of the endometrium to take place. In ordinary endometritis atmocausis seems to be of no benefit, and in septic cases, too, it has shown little favorable result; but in the conditions mentioned and in menorrhagia or metrorrhagia depending upon postabortive subinvolution, chronic uterine atony, as well as for the production of sterility, and for the cure of chronic gonorrhœal endometritis, it is of the greatest value.

Pincus is careful to urge a selection of the cases in which atmocausis should be used. The book represents a thorough and careful clinical and pathological study.

#### BOOKS, PAMPHLETS, ETC., RECEIVED.

**Life Insurance and General Practice.** By E. M. Brockbank, M. D. (Vict.), F. R. C. P., Honorary Assistant Physician, Royal Infirmary, Manchester, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1908. Pp. xiv-288.

**Darwinism To-day.** A Discussion of Present Day Scientific Criticism of the Darwinian Selection Theories, Together with a Brief Account of the Principal Other Proposed Auxiliary and Alternative Theories of Species Forming. By Vernon L. Kellogg, Professor in Leland Stanford, Jr., University. New York: Henry Holt & Co., 1907. Pp. xii-403.

**Diseases of the Lungs.** Designed to be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By Robert H. Babcock, A. M., M. D., Author of *Diseases of the Heart and Arterial System*, Consulting Physician to Cook County Hospital, etc. With Twelve Colored Plates and One Hundred and Four Text Illustrations. First Edition. New York and London: D. Appleton & Co., 1907. Pp. xix-89.

**Gonorrhœa. Its Diagnosis and Treatment.** By Frederick Baumann, Ph. D., M. D., Professor of Genitourinary Diseases in the Reliance Medical College, and Instructor in Dermatology and Venereal Diseases in the College of Physicians and Surgeons, Chicago. Fifty-two Illustrations in the Text. New York and London: D. Appleton & Co., 1908. Pp. xii-206.

**An Introduction to Vegetable Physiology.** By J. Reynolds Green, Sc. D., F. L. S., F. R. S., Fellow of Downing College, Cambridge, Late Professor of Botany to the Pharmaceutical Society of Great Britain, etc. Second Edition. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. xx-459.

**Die Funktionen der Nervencentra.** Von Prof. Dr. W. v. Bechterew, o. Akademiker, Direktor der psychiatrischen und Nervenkl. der medizinischen Akademie, Präsident des psychoneurologischen Institutes in St. Petersburg. Deutsche Ausgabe, in Verbindung mit dem Verfasser redigiert durch Dr. Richard Weinberg, Professor der Anatomie in St. Petersburg. Erstes Heft: Einleitung, Untersuchungsmethoden, Rückenmark und Verlängertes Mark. Mit 66 Abbildungen im Text. Jena: Gustav Fischer, 1908. Pp. 691.

**The Bacteriology of Diphtheria.** Including Sections on the History, Epidemiology, and Pathology of the Disease, the Mortality Caused by it, the Toxines and Antitoxines, and the Serum Disease. By F. Loeffler, M. D., LL. D.; Arthur Newsholme, M. D., F. R. C. P.; F. B. Mallory, M. A., M. D.; G. S. Graham-Smith, M. A., M. D., D. P. H.; George Dean, M. D.; William H. Park, M. D., and Charles F. Bolduan, M. D. Edited by G. H. F. Nuttall, M. D., Ph. D., Sc. D., F. R. S., Quick Professor of Biology in the University of Cambridge, Fellow of Christ's College, and G. S. Graham-Smith, M. A., M. D., University Lecturer in

Hygiene, Cambridge. Cambridge: University Press, 1908. London: H. K. Lewis. Leipzig: F. A. Brockhaus. New York: G. P. Putnam's Sons. Bombay and Calcutta: Macmillan & Co., Ltd. Pp. xx-718. (Price, \$7.50.)

**Bier's Hyperæmic Treatment in Surgery, Medicine, and the Specialties. A Manual of Its Practical Application.** By Willy Meyer, M. D., Professor of Surgery at the New York Postgraduate Medical School and Hospital, etc., and Professor Dr. Victor Schmieden, Assistant to Professor Bier, University of Berlin, Germany. Illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 209. (Price, \$3.)

### Miscellany.

**Proposed State Custodial Institution at Haverstraw, N. Y.**—The following resolution was unanimously passed at a regular meeting of the Medical Society of the County of New York, held on March 23, 1908; submitted to the members by Dr. E. Eliot Harris, chairman of the Committee on Legislation:

*To the president and members of the Medical Society of the County of New York:*

The Committee on Legislation voted unanimously to actively support Senate Bill No. 636 and Assembly Bill No. 1215, and requested its chairman to prepare suitable resolutions to be submitted to the society for its action.

Whereas, the commission appointed by his Excellency Governor Hughes, pursuant to an act of the last Legislature, has investigated and reported on a suitable site for the Eastern New York State Custodial Asylum, and has officially published that there are at least 20,000 feeble minded and epileptic persons in this State; that the existing State custodial institutions located at Rome, Syracuse, Newark, and Sonyea are now overcrowded; that they house 3,250 persons while their capacity is authoritatively reported for only 3,183 inmates, making an excess of 67 persons, which, added to 1,000 applicants who are now on the waiting list of these institutions, and 1,808 patients improperly confined in almshouses of the State, make a total of 2,875 patients needing immediate State custodial care—to say nothing of the much larger number of 20,000 persons in private homes who require State custodial care for the protection of themselves and for the protection of the best interests of the Commonwealth.

Whereas, the site selected is admirably suited for the purposes of the colony, as shown in the report of Mr. Kuichling, the consulting engineer; the options on the property were secured at a time which gives the State a remarkable opportunity to be possessed of a tract of land at the lowest possible cost; its value will rapidly enhance with the improvement in the financial conditions of the county; that the proposed colony will be located near Haverstraw, Rockland County, 22 miles north of New York City, is a great blessing to these unfortunate poor as well as being of great economic value to the State, as it may be readily and cheaply reached by train or boat; the round trip being one dollar by train and much less by boat; that more than fifty per cent. of the inmates and over sixty-one per cent. of those on the waiting lists of the distant State institutions are from the vicinity of Greater New York accounts for the many instances where it seems cruel to send these poor patients so far from their family relations and friends, who plead pitifully for their retention in the city institutions which are accessible to them, for they know full well that the time and the expense of the journey will in most cases prohibit them from ever seeing their dear ones again, which becomes evident when we consider that the round trip railroad fare alone is fourteen dollars to the Craig Colony for Epileptics at Sonyea—the present cost to the Department of Public Charities of this city to send a patient with an attendant to the colony is over twenty-five dollars. If a colony was established at Haverstraw then the regular boat of the Department could make the trip easily and without cost to the visitors entitled to permits.

Therefore, be it resolved, that this society earnestly requests the finance committee of the senate to report favor-

ably Senator Armstrong's bill No. 636, which provides for an appropriation of one hundred and eighty-eight thousand five hundred and seventy-five dollars for the site near Haverstraw, Rockland County. The members of the Senate are also urgently requested to vote for the final passage of the bill which has already passed the assembly unanimously as Assembly Bill No. 1215.

Resolved, that the Committee on Legislation be empowered to use these resolutions in cooperating with other committees working for the enactment of the bill to purchase the site of the Eastern New York State Custodial Asylum.

## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending March 27, 1908:

Places.	Date.	Cases. Deaths.
Alabama—Mobile	March 7-8	1
California—Los Angeles	Feb. 29-March 7	10
California—San Francisco	Feb. 29-March 7	12
District of Columbia—Washington	March 7-14	13
Florida—De Funiak Springs	March 7-14	4
Florida—Jacksonville	March 7-14	1
Illinois—Chicago	March 7-14	6
Illinois—Rockford	March 7-14	1
Illinois—Springfield	March 7-14	1
Indiana—Fort Wayne	Feb. 29-March 7	5
Indiana—Indianapolis	March 7-14	10
Indiana—Muncie	March 7-14	4
Nebraska—Nebraska City	March 7-14	2
New Jersey—Newark	March 7-14	1
New York—New York	March 7-14	1
North Carolina—Charlotte	March 7-14	1
Ohio—Cincinnati	March 7-14	14
Ohio—Dayton	March 7-14	1
Ohio—Sandusky	Feb. 29-March 7	1
Ohio—Toledo	March 7-14	2
Oregon—Portland	Feb. 22-March 7	6
Texas—Ottawa	March 7-14	1
Kansas—Kansas City	March 7-14	12
Kansas—Topeka	Feb. 29-March 7	2
Kansas—Wichita	March 7-14	10
Kentucky—Lexington	March 7-14	1
Louisiana—New Orleans	March 7-14	17
		8 imported.
Michigan—Saginaw	Feb. 29-March 7	2
Minnesota—Winnipeg	Feb. 20-March 7	1
Missouri—Kansas City	March 7-14	8
Missouri—St. Louis	Feb. 29-March 7	8
MISSOURI—St. Louis	March 7-14	5
Mississippi—Memphis	March 7-14	1
Pennsylvania—Philadelphia	March 7-14	6
Texas—Galveston	March 7-14	1
Texas—San Antonio	March 7-14	1
Washington—Spokane	Feb. 29-March 7	13
Washington—La Crosse	March 7-14	2

Polynésie Française		Tahiti		1960	
Pangasinan, Sarawak		Tahiti		1960	
Mexico, East (London)	Jan. 24-26	1			
Arabia, Yemen	Jan. 24-26	1			
Brazil, Rio de Janeiro	Feb. 27	105			Imported
Canada, Halifax	March 2-4	1			
France, Cannes	Feb. 10-11	3			
Germany	Jan. 26-28	1			
Japan, Matsuyama	Feb. 19-20	1			
France, Paris	Feb. 19	1			
Great Britain, Glastonbury	Feb. 19	1			
Holland, Amsterdam	March 1	2			
India, Bombay	Feb. 19-20	1			
India, Madras	Feb. 20-21	1			
India, Rangoon	Feb. 20-21	1			
Italy, Genoa	Feb. 19-20	151			
Japan, Kobe	Feb. 19-20	1			
Japan, Osaka	March 2	100			Present
Japan, Sapporo	March 2	1			Present
Japan, Tokyo	Feb. 19	1			Present
Japan, Yokohama	Feb. 19-20	63			Present
Japan, Yokohama	26-Feb. 8				
Mexico, Mexico	Feb. 27	1			
Mexico, Mexico	Feb. 28	1			
Peru, Lima	Jan. 19-20	11			
Russia, Moscow	Feb. 19-20	18			
Russia, Odessa	Feb. 19-22	1			

Spain—Barcelona.....	March 7-10.....	2
Spain—Denia.....	Feb. 22-24.....	5
Spain—Malaga.....	Jan. 31.....	2
Spain—Valencia.....	Jan. 25-March 1.....	17
Turkey—Constantinople.....	Feb. 9-March 1.....	9
Venezuela—Maracaybo.....	Feb. 18.....	Present

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Brazil—Manaos.....	Feb. 18-20.....	6
Brazil—Para.....	Feb. 22-29.....	8
Ecuador—Guayaquil.....	Feb. 8-15.....	10
Philippine Islands—Manila.....	Feb. 1-8.....	5

*Plague—Foreign.*

Australia—Brisbane.....	Jan.	18-26	3	1
Australia—Sydney.....	Jan.	23-31	1	1
Australia—Sydney.....	Jan.	11-18	1	1
Brazil—Para.....	Feb.	2-29	1	1
Brazil—Rio de Janeiro.....	Feb.	2-23	3	1
Egypt—Alexandria.....	Feb.	2-3	1	1
Egypt—Provinces.....				
Assiout.....	Feb.	22-26	8	8
Beni Souef.....	Feb.	24.....	3	3
Garbeh.....	Feb.	29-27	1	1
Keneh.....	Feb.	22-27	23	14
Mena.....	Feb.	27	1	1
Mimeh.....	Feb.	22-24	1	1
India—General.....	Jan.	23-Feb. 8	2,252	7,268
India—Bombay.....	Feb.	1-8	8	8
India—Kanton.....	Feb.	1-8	8	8
India—Osaka.....	Feb.	8-15	1	1

### Army Intelligence:

Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending March 28, 1908:

BANISTER, W. B., Major and Surgeon. Appointed a member of a board of officers, to meet at the call of the president thereof at Manila, P. I., for the examination of such officers of the Medical Department, ordered before it to determine their fitness for promotion.

BORDEN, W. C., Major and Surgeon. Appointed a member of a board of officers, to meet at the call of the president thereof at Manila, P. I., for the examination of such officers of the Medical Department, ordered before it to determine their fitness for promotion.

BROWNLEE, C. Y., First Lieutenant and Assistant Surgeon. Relieved from duty at the Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., and ordered to Manila, P. I., for duty on transport to sail from San Francisco, Cal., about May 5, 1908.

DELOFFRE, S. M., First Lieutenant and Assistant Surgeon.  
Leave of absence extended seven days.

DEWITT, W., First Lieutenant and Assistant Surgeon. Ordered to Fort Yellowstone, Wyo., for duty upon expiration of present leave of absence.

GIBNER, H. C., First Lieutenant and Assistant Surgeon. Ordered to report at the Army General Hospital, Presidio, San Francisco, Cal., for temporary duty.

GLENNAN, J. D., Major and Surgeon. Appointed a member of a board of officers, to meet at the call of the president thereof at Manila, P. I., for the examination of such officers of the Medical Department ordered before it to determine their fitness for promotion.

GREENLEAF, H. S., Captain and Assistant Surgeon. Granted four months' leave of absence with permission to go beyond the sea.

GRISSINGER, J. W., Captain and Assistant Surgeon. Granted two months leave of absence.

KENDALL, WILLIAM P., Major and Surgeon. Relieved from duty at Fort Sam Houston, Tex., and will proceed to Fort Riley, Allen, Mo., at that point.

leave of absence for fifteen days, to take effect upon his arrival at Madison Barracks, N. Y., with troops from San Francisco, Cal.

STAFF: A. N. Major and Surgeon. In addition to his other duties at Vancouver Barracks, Wicks will assume temporary charge of the staff of the Chief Surgeon, Department of the Columbia.

Wounded by J. T. Carson and Assistant Surgeon. Relieved on duty in the Philippine Division, and will proceed on his tour of duty in all three. Major F. J. Chase, Surgeon, 1st San Francisco, will report in person, will report to the Adjutant General of the Army the next morning.



**Navy Intelligence:**

*Official list of changes in the medical corps of the United States Navy for the week ending March 28, 1908:*

- ALDERMAN, C. G., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *South Dakota*.
- BAKER, M. W., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to the *Colorado*.
- BARBER, G. H., Surgeon. Detached from the Naval Hospital, Boston, Mass., April 10th, and ordered to instruction at the Naval Medical School, Washington, D. C.
- BLACKWELL, E. M., Passed Assistant Surgeon. Detached from the Naval Academy and ordered to instruction at the Naval Medical School, Washington, D. C.
- BOGERT, E. S., Jr., Surgeon. Orders of March 10th modified; ordered to course of instruction at the Naval Medical School, Washington, D. C.
- BOLAND, M., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the naval recruiting station, Detroit, Mich.
- BUNKER, C. W. O., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Academy, Annapolis, Md.
- CLAYTON, J. C., Acting Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to report before the naval medical examining board, that city, April 1st, for examination for appointment as assistant surgeon, and then to await orders.
- COLE, H. W., Jr., Assistant Surgeon. Detached from the Navy Yard, Charleston, S. C., and ordered to instruction at the Naval Medical School, Washington, D. C.
- DUBIGG, J. T., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the naval recruiting station, Des Moines, Ia.
- FAUNTILEROV, A. M., Passed Assistant Surgeon. Detached from the Naval Medical School Hospital, Washington, D. C., and ordered to instruction at the Naval Medical School, that city.
- FISKE, C. N., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to course of instruction at the Naval Medical School, Washington, D. C.
- FREEMAN, G. F., Passed Assistant Surgeon. Detached from the Naval Hospital, Portsmouth, N. H., and ordered to instruction at the Naval Medical School, Washington, D. C.
- HALE, G. D., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Idaho*.
- HAYDEN, R., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to duty with the marine detachment at Camp Columbia, Cuba, sailing from New York, N. Y., about April 4th.
- HERMESCH, H. R., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the naval recruiting station, Cincinnati, Ohio.
- HUFF, E. P., Assistant Surgeon. Detached from the naval proving ground, Indian Head, Md., and ordered to the naval station, Olongapo, P. I., sailing from San Francisco, Cal., about May 5th.
- HUFFMAN, O. V., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *New Hampshire*.
- LANDO, M. E., Assistant Surgeon. Detached from the naval station, Tutuila, Samoa, and ordered home to await orders.
- MCDONALD, P. E., Passed Assistant Surgeon. Detached from the *Connecticut* and directed to await orders.
- MCLEAN, A. D., Passed Assistant Surgeon. Detached from the naval recruiting station, Detroit, Mich., and ordered to the Navy Yard, Portsmouth, N. H.
- PECK, A. E., Passed Assistant Surgeon. Detached from the naval station, Olongapo, P. I., and ordered home to await orders.
- RANDALL, J. A., Passed Assistant Surgeon. Detached from the naval recruiting station, Denver, Col., and ordered to the *Denver*.
- SMITH, F. W., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Hesperus*.
- SMITH, G. T., Surgeon. Detached from the *Maryland*, April 1st, and ordered to instruction at the Naval Medical School, Washington, D. C.

- SPEAR, D. A., Assistant Surgeon. Detached from duty at the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, New Fort Lyon, Col.
- STAPP, J., Passed Assistant Surgeon. Detached from the *Denver* and ordered home to await orders.
- STIBBENS, Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Mare Island, Cal.
- STUART, M. A., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to duty at Camp Elliott, Isthmian Canal Zone, sailing from New York, N. Y., about April 7th.
- TAYLOR, J. L., Assistant Surgeon. Detached from duty with the marine detachment at Camp Columbia, Cuba, and ordered to instruction at the Naval Medical School, Washington, D. C.
- TRIBLE, C. B., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Mare Island, Cal.
- VALZ, E. V., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Mississippi*.
- WICKES, G. L., Assistant Surgeon. Detached from the naval recruiting station, Omaha, Neb., and ordered to the naval recruiting station, Denver, Col.
- WILSON, G. B., Surgeon. Detached from the *Wabash* and ordered to instruction at the Naval Medical School, Washington, D. C.
- WOODWARD, J. S., Passed Assistant Surgeon. Detached from the naval recruiting station, Cincinnati, Ohio, and ordered to the Naval Hospital, New York, N. Y.

The following medical officers were detached from the Naval Medical School, Washington, D. C., and ordered to duty as specified below:

- HIGGINS, S. L., Assistant Surgeon. To the Naval Hospital, Canacao, P. I., sailing from San Francisco, Cal., about May 5th.
- KELLEY, H. L., Assistant Surgeon. To the Naval Hospital, Canacao, P. I., sailing from San Francisco, Cal., about May 5th.
- LAWRENCE, H. F., Assistant Surgeon. To the naval station, Tutuila, Samoa, and to additional duty on board the *Annapolis*, sailing from Vancouver, B. C., about April 24th.
- ROSE, M. E., Assistant Surgeon. To the naval recruiting station, Omaha, Neb.
- SHORT, W. H., Assistant Surgeon. To the naval recruiting station, Oklahoma City, Okla.
- STRAETON, R. J., Assistant Surgeon. To the naval station, Guam, L. I., sailing from San Francisco, Cal., about May 5th.

## Births, Marriages, and Deaths.

### Died.

- BAKER.—In Philadelphia, on Friday, March 20th, Dr. George Linville Baker.
- BARRETT.—In Louisa, Virginia, on Tuesday, March 17th, Dr. R. L. Barrett, aged seventy-five years.
- BURLEIGH.—In Braintree, Massachusetts, on Saturday, March 21st, Dr. Robert F. Burleigh, aged forty-six years.
- BUTMAN.—In Somerville, Massachusetts, on Sunday, March 22d, Dr. George F. Butman, aged seventy years.
- COOK.—In Chicago, on Saturday, March 21st, Dr. John C. Cook, aged fifty-eight years.
- DEWEY.—In Chicago, on Monday, March 23d, Dr. Frank Jones Dewey, aged fifty-seven years.
- FORD.—In Washington, Connecticut, on Friday, March 27th, Dr. William J. Ford, aged fifty-eight years.
- LITTELL.—In Rye, Colorado, on Monday, March 16th, Dr. R. S. Littell.
- MCCONNELL.—In Ludington, Michigan, on Tuesday, March 24th, Dr. A. P. McConnell, aged eighty-two years.
- MORSE.—In Boston, on Tuesday, March 24th, Dr. Edward G. Morse.
- PEASE.—In Springfield, Massachusetts, on Monday, March 23d, Dr. Herbert Owen Pease, aged fifty-nine years.
- TETZEL.—In Cleveland, Ohio, on Wednesday, March 18th, Dr. William McQueen Tetzell.
- VENN.—In Chicago, on Monday, March 23d, Dr. Clement Venn, aged forty years.

# New York Medical Journal

INCORPORATING THE

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VOL. LXXXVII, No. 15.

NEW YORK, APRIL 11, 1908.

WHOLE No. 1532.

### Original Communications.

#### A CASE OF PERNICIOUS MALARIA WITH AUTOPSY.\*

By G. R. SATTERLEE, M. D.,  
New York.

This case is interesting because of the infrequency of tropical malarial fever in the northern part of this country and the still more infrequent reports of autopsies on these cases.

The patient, a Finn, twenty-six years old, was admitted to the wards of Gouverneur Hospital, New York, on October 15, 1907, at 9 p. m., in the service of Dr. Francis Huber. His condition was so grave and his knowledge of the English language so poor that a very imperfect history only was obtained. He was a sailor and had spent the last six months traveling around South America (in places the names of which were unobtainable) and had been in this city for nine days following his return from the last trip south. He had been a heavy drinker, but denied any severe illnesses. He gave no distinct malarial history with the exception that he stated that he had, a week before admission, loss of appetite, headache, chilly sensations, general malaise, fever, some localized pain in the epigastrium and diarrhoea. He was brought to the hospital during a chill in a state resembling alcoholic delirium. On admission his temperature was 105.4° F., pulse 120, and respiration 42. His temperature dropped rapidly to 99° F., his condition improved, and although he was semidelirious, seemed to understand questions (see temperature chart).

He was a well developed and well nourished man, with a slight icteroid hue to the skin. Slight epigastric tenderness was present, the liver could not be felt, and the spleen was just palpable.

The blood examination on the second day after admission showed 24,000 leucocytes per c.mm. with 56 per cent. polynuclear, 11 per cent. large mononuclear leucocytes, and 32 per cent. lymphocytes. No red blood cell count nor estimation of haemoglobin was made.

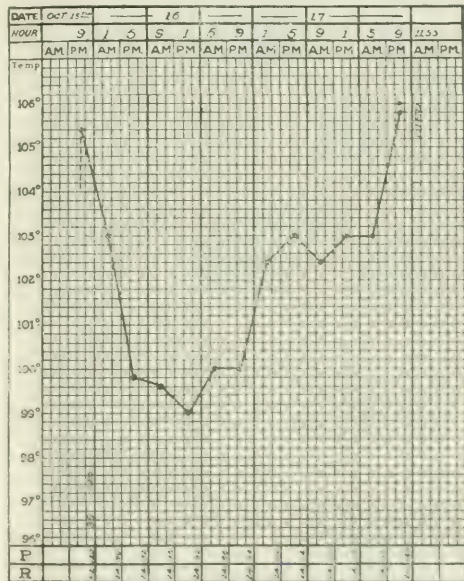
The blood examination for malaria, sixteen hours after entrance, showed an excessive number of signet ring forms of plasmodia. The urine contained no albumin, blood, nor casts. The diagnosis of malarial fever and alcoholism was made, and quinine sulphate was administered in large doses by mouth.

On the morning of the second day the temperature rose rapidly to 103° F. and remained there all day. His mental condition during the afternoon was that of apathy and gradually merged into coma. Shortly before midnight of the third day under observation he had a chill lasting twenty minutes, followed by a rise of temperature to 105.8° F., pulse of 140, and succumbed.

Blood smears were examined sixteen hours, twenty-four hours, and forty hours after entrance chill and just after death.

The blood taken twenty-four hours after the entrance chill showed in the red blood corpuscles an excessive number of signet ring forms of the asexual malarial parasite (see Fig. 1).

The rings were small, occupying about one sixth of the area of the erythrocyte; in the early stages with thin bodies and a small amount of fine pigment and one nucleus; in the later stage with thicker bodies, more pigment, and occasionally two or more nuclei. Many of the parasites were near the edge of the cell with the nucleus protruding



Temperature chart. Asexual malarial fever, pernicious type.

into the cell wall. Nearly 75 per cent. of the erythrocytes contained parasites, very many with two, many with three, and some with four organisms. The infected cells were small and shrunken, their cytoplasm dark and many crenated, and there was a marked absence of granular degeneration.

Fig. 2 shows the organism of simple tertian malarial fever in a pale enlarged erythrocyte which can be contrasted with that of the pernicious type.

The blood examined eight hours before death or forty hours after entrance showed but few plasmodia in the form of well developed signet rings, and a few occurring from one to four in a cell. There were numerous macrophages containing large amounts of black pigment, and some polymorphonuclear leucocytes with pigment along their rim (see Fig. 3). Macrophages, microcytes, and a few nucleated erythrocytes were present in this specimen. A few erythrocytes with partial extrusion were seen, suggesting beyond a doubt the asexual malarial form of the fever (see Fig. 4).

The blood examined at the time of death following the

\*Presented before the New York Pathological Society, November 11, 1907, and before the section in Medicine of the New York Academy of Medicine, February 8, 1908.

second chill or about forty-eight hours after the entrance chill) showed an excessive number of ring forms, often three or four in one corpuscle, crescents, ovoids, and nucleated red cells, signs evident of dissolution.

An autopsy was performed fifteen hours after death. The body was slightly jaundiced but showed no pigmentation of the skin or mucous membranes. The lungs showed a moderate congestion with edema at the bases. The

flattened rugæ and congested mucosa. There was marked congestion of the large intestine.

The spleen was enlarged, weighed one pound, and had a

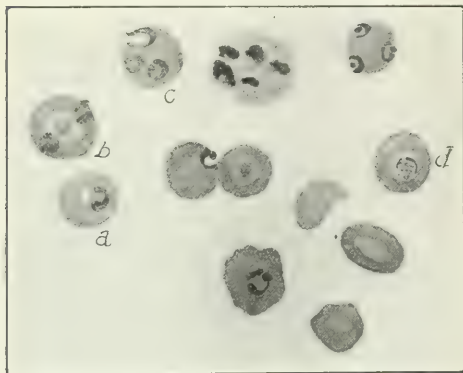


FIG. 1.—Blood smear from a case of pernicious malaria, fourteen hours before death. Stained with Wright's stain. Oil immersion lens  $1/12$ , ocular 4. Camera lucida. *a*, Erythrocyte containing one well developed ring form; *b*, one with two; and *c*, one with three ring forms; *d*, ring form containing three nuclei. There is no granular degeneration of the corpuscles nor increase in their size.

pleural cavity was free from fluid. Microscopical examination demonstrated an intense congestion of the pulmonary capillaries, which contained numerous organisms in all stages, numerous macrophages, and free pigment. There was no general consolidation; some of the alveoli were free



FIG. 2.—Blood smear from a case of pernicious malaria, fourteen hours before death. Stained with Wright's stain. Oil immersion lens  $1/12$ , ocular 4. Camera lucida. *a*, Erythrocyte containing one well developed ring form; *b*, one with two; and *c*, one with three ring forms; *d*, ring form containing three nuclei. There is no granular degeneration of the corpuscles nor increase in their size.

from exudate, others contained quite a few leucocytes, pigmented epithelium, macrophages, and a small amount of fibrin.

The heart muscle was pale and flabby, the valves normal. The coronary arteries were normal. The aorta had a slight fatty infiltration of the intima. The arteries in general throughout the body showed very slight indications

The stomach showed a chronic atrophic gastritis with

FIG. 3.—Blood from a case of pernicious malaria, taken eight hours before death. Jenner's stain. Oil immersion  $1/12$ , ocular 4. Camera lucida. *a*, Erythrocyte containing one well developed ring form; *b*, erythrocyte with one full grown schizont; *c*, one with two full grown schizonts; *d*, macrophage. Note the small size of the infected corpuscles and the lack of granular degeneration.

moderate old interstitial splenitis with a few old cicatrices on the surface. The section revealed a small amount of interstitial connective tissue, and a pulp of moderately soft

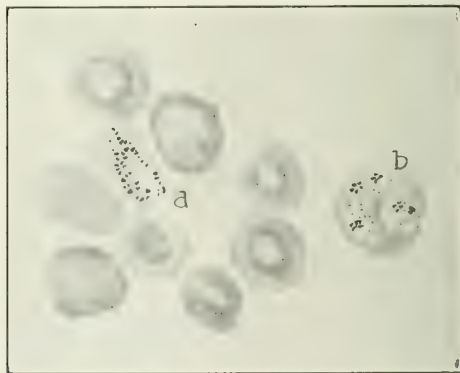


FIG. 4.—Blood from a case of pernicious malaria, eight hours before death. Jenner's stain. *a*, Crescent; *b*, erythrocyte containing four schizonts.

consistency and of a deep red color. The organ did not indicate any severe long standing chronic malarial infection. Smears from the spleen will be described later.

The liver was much enlarged and weighed six and three quarter pounds. The surface and section showed marked congestion of the veins and the lobules were well mapped out. Microscopical examination showed cloudy swelling of the liver cells with brown pigmentation. The capillaries were markedly congested and contained numerous malarial organisms and masses of black pigment. Haemosiderin reaction was absent.



Smears from the fresh liver showed marked pigmentation of the liver cells, and in the erythrocytes numerous ring forms, fully developed schizonts, and segmentation bodies. Numerous micro- and macrogametocytes are present. The liver was evidently an organ in which an active development of the malarial organism took place.

The kidneys presented the appearance of acute congestion with a pale parenchyma and no gross interstitial changes. Microscopical examination revealed a quite marked cloudy swelling of the epithelium of the convoluted tubules, with some granular degeneration and breaking down of the cells. The capillaries of the glomeruli as well as the larger bloodvessels, especially the veins, were acutely congested and contained numerous intracellular parasites.

The pancreas on gross appearance was normal, but on microscopical examination showed deficiency of zymogen granules in the epithelium. The congested bloodvessels contained numerous organisms, macrophages, and black pigment granules.

The brain was apparently normal except for a moderate

cious type of organism that the ring forms are very small, and often occur as two or more in one corpuscle. When full grown they occupy up to two thirds the volume of the cell, which shows a ten-



FIG. 5.—Smear from the bone marrow in a case of pernicious malaria. Wright's stain. Oil immersion  $1/12$ ; ocular 4. Camera lucida. *a*, Microgametocyte; *b*, erythrocyte containing moderately developed schizont; *c*, intracellular segmenting bodies with twenty merozoites; *d*, free pigment.

congestion of the bloodvessels. Microscopically there was a moderate congestion of the capillaries and small arteries, which contained a proportionate number of organisms and pigment.

Smears from the bone marrow of the ribs showed a large number of microgametocytes, numerous ring forms and segmenting bodies and a large amount of free pigment in masses (see Fig. 5).

Smears from the spleen were stained with Wright's and Jenner's stain (see Figs. 6, 7, and 8).

Every stage in the asexual development of the parasite can be demonstrated (see Fig. 6). Here can be seen the early and late signet rings, schizonts, rosettes, and segmenting forms. The latter contain from fifteen to twenty-five merozoites. Many erythrocytes contain two, three, and four parasites.

Microgametes and microgametocytes were very numerous (see Fig. 7) and less numerous macrogametocytes. These are evidenced by their larger size, finer pigment, and more distinct vacuolation near the rim of the cell (see Fig. 8). Macrophages are especially numerous. Some hyaline bodies are also present.

Max Braun (1) says of the malignant or pernicious

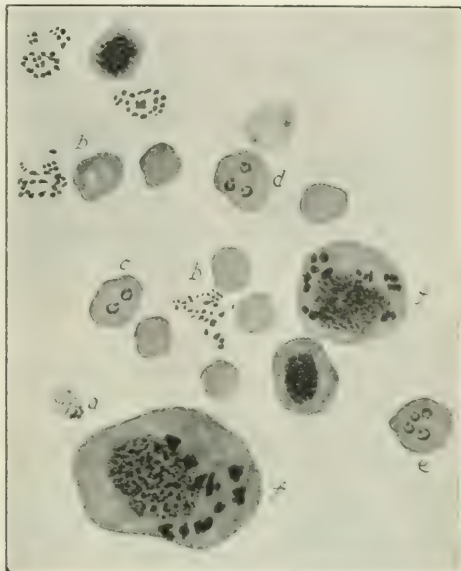


FIG. 6.—Smear from the spleen in a case of pernicious malaria. Jenner's stain. Oil immersion  $1/12$ ; ocular 4. Camera lucida. *a*, Microgametocyte; *b*, segmenting bodies with from twenty to twenty-five merozoites; *c*, erythrocyte containing two signet ring forms; *d*, same with three; and *e*, one with four ring forms; *f*, macrophages.

dency to shrinking and is darker than normal. The number of merozoites varies from eight to twenty-four, the average between twelve and sixteen. In

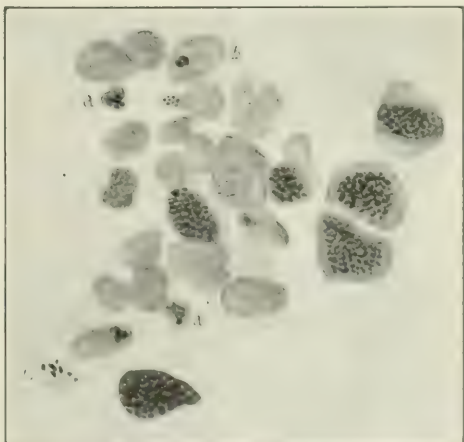


FIG. 7.—Smear from the spleen in a case of pernicious malaria. Wright's stain. Oil immersion  $1/12$ ; ocular 4. Camera lucida. *a*, Microgametocytes; *b*, macrogametocytes.

south European and in tropical malaria, the organisms are very numerous in the circulating blood, but seldom so in a west African pernicious fever.

C. W. Daniels (2) says that sporulation in malignant malaria occurs almost exclusively in the internal organs. That in fatal cases, with cerebral symptoms, the sporulating and full grown forms can be observed in enormous numbers in the brain and in other organs, lungs, suprarenals, liver, etc., but rarely in the kidneys. He says that the pigment in cases of short duration is in fine granules only; cloudy swelling and fatty degeneration are the principal changes that occur in the viscera; and that the blood stasis in the capillaries in the brain causes the large part of the headache, drowsiness, and coma of the disease.

#### Conclusions.

(1) This was a case of acute malignant or pernicious malarial fever of the aestivoautumnal type (tertian form, according to Dr. Charles F. Craig, U. S. A.) (3).

(2) Death was caused by the overwhelming invasion of the blood by the parasite, and due possibly to the toxins evolved and not to acute cerebral congestion and thrombosis.

(3) The sporulation of the organism took place principally in the inner organs, especially in the spleen, liver, lungs, pancreas, bone marrow, and to a less extent in the kidneys.

(4) Alcoholism played a small part as a factor in the man's death.

(5) The gametes may not be seen in the peripheral circulating blood until just before death.

(6) The diagnosis of pernicious malaria can be made on the small size, dark cytoplasm, and shrinking of the cytoplasm of the infected corpuscles.

#### REFERENCES:

1. Max Braun. *Die tierischen Parasiten*.
2. C. W. Daniels. *Studies in Tropical Medicine*.
3. C. F. Craig. In *Osler's Modern Medicine*.

60 EAST SEVENTY-EIGHTH STREET.

#### REPORT OF A CASE OF SARCOMA OF THE CHORIOID.

BY ARTHUR J. HERZIG, M. D.,  
New York.

I deem it of sufficient interest to the profession to report this case of sarcoma of the chorioid, not that the malignancy of the case is important or rare, but that the case is unusual in that it has run an unusual course. The case is as follows:

Mr. H. struck his head against an iron pipe about March 24, 1907. About a week afterward he complained of a sudden diminution of vision, and consulted his family physician, Dr. H. Goldman, who referred the patient to me for examination. I first saw the patient on April 12, 1907.

Family and Personal History.—There is no history of rheumatism, tuberculosis, gout, diabetes, or syphilis. Patient has always been a healthy man, active in work, leading

an out of door life. His business is real estate, age fifty-six years.

Examination of the right eye revealed the following: Media clear. Pupillary reaction normal to light and convergence. Pupils of normal size and equal. The lens

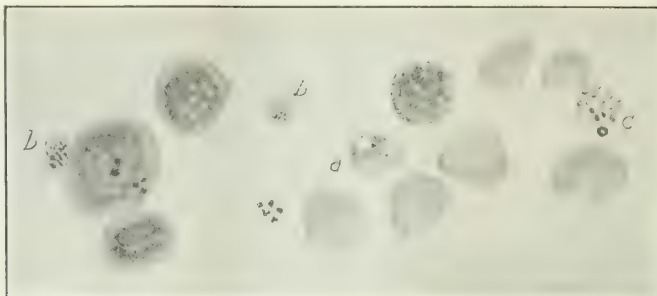


FIG. 8.—Smear from the spleen in a case of pernicious malaria. Stained with Wright's stain. Oil immersion  $1/12$ , ocular 4. Camera lucida. a, Macrogametocyte; b, microgametocyte; c, segmenting form with sixteen merozoites.

showed several opacities in the periphery, but was clear in the center. Indirect examination showed a slight edema, just below the region of the disk. In the lower and nasal portion a marked detachment presented itself which was ill defined and whose outlines were irregular. The veins larger and fuller than normal and arteries of normal size. There was no arterial sclerosis. The detachment could not be seen by the objective examination. Tension of the eye was normal. Range of vision was lost in the upper and outer portions. Chorioidal vessels could not be seen over the detachment. Muscle balance normal. Sclera white and tense. Vision 20/200. Not improved. Near vision negative.

Examination of the left eye revealed the following: A normal fundus with normal vessels and normal disk. Pupillary reaction normal to light and convergence. Some slight opacities were present in the lower lens. Cornea was clear. Pupil of the same size as that of right eye. Tension normal. Muscle balance normal. Sclera white and tense. Range of vision normal. 20/50-0.75 sphere equals 20/20. Near vision add plus 2.00 to the above for Jaeger No. 1.

Diagnosis.—Detachment of the retina due to subretinal hemorrhage or tumor.

Course.—The patient was ordered to bed in a dark room on plentiful nourishing diet. His eyes were bandaged, as a precautionary measure to exclude all light, with a black bandage over a white bandage. I put the patient on increasing doses of the saturated solution of potassium iodide, starting to give him to drop three times a day in water. I increased this to 60 drops within a week. Two drops of atropine sulphate 1 per cent. were dropped into the right eye three times daily. This was later increased to every two hours. I enforced absolute quiet. The vision at the beginning of the treatment was 20/200. His range of vision was almost entirely lost. The patient complained of severe pain over the right eye during the entire week. These pains seemed especially severe at night. Examination of the eye on April 19th showed a distinct mass in the lower and inner portion of the globe. This was seen by direct objective examination. Examination with the ophthalmoscope revealed a dark mass. Range of vision was entirely lost and vision reduced to fingers at 2 feet. Tension was minus 1. From April 19th to April 27th the patient's vision gradually increased until it reached 20/100 and he could tell the time of a watch easily. Tension during this time was normal. I made daily examinations of the patient and noticed a gradual disappearance of the tumor during this time until my original detachment could be seen. The mass gradually disappeared so that it was impossible to see it by the objective method. The pain in the head during this time became gradually less, and the patient rested fairly comfortably and only complained of a bad taste in his mouth and a spoiled stomach, which was probably due to the lying on his back and the potassium iodide. During this time the patient complained of severe itching, which annoyed him considerably. I forgot to mention that

the patient was freely purged by Epsom salts during this entire treatment.

There was no circumcorneal injection during any part of the time, the sclera remaining perfectly white; the patient having only a slight catarrhal conjunctivitis. This was relieved by daily applications of 1 per cent solution of silver nitrate. From April 19th to April 27th the patient was taking 80 drops of potassium iodide three times a day. On the 27th of April the patient suffered considerable pain in the right eye and also itching. I was sent for, and upon examination I found a large mass in the lower nasal portion of the globe. This mass had made its appearance over night, as it was not present on the 26th of April, when the patient's vision was 20/100. On the 27th of April his vision had suddenly decreased to fingers at 1 foot. At no time during the entire illness were choroidal vessels seen passing over the tumor.

At the time of my examination on the 27th of April, I pronounced the case one of sarcoma of the chorioid and advised immediate enucleation. This the people objected to without a consultation. Dr. Born was called in consultation, and after a thorough examination fully agreed with my diagnosis, and also advised immediate enucleation. The people not being satisfied still, asked for a third consultation, and Dr. Gruening was sent for, who, after an examination, also agreed with our diagnoses. The patient was immediately sent to the hospital, and on the 28th of April I removed the right eye. The patient after remaining at the hospital for six days went home. During the patient's stay at the hospital his temperature rose suddenly to 102° F. the day following the operation, but upon the administra-

tion of the retina. Socket of the right eye during January, 1908, showed no recurrence of any tumor, the patient being contented and wearing his glass eye. He still has a chronic conjunctivitis, which is being treated by the usual methods.

2047 SEVENTH AVENUE.

## VIVISECTION FROM A STUDENT'S STAND-POINT.\*

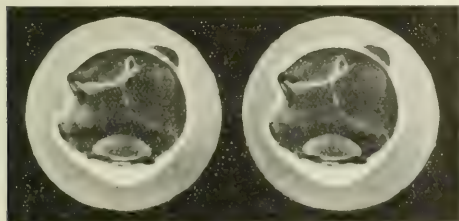
BY VICTOR C. PEDERSEN, A. M., M. D.,  
New York.

It is certainly a privilege and an honor to come before you on this occasion, and I sincerely thank you in the name of the Medical Society of the State of New York, which I represent through the Committee on Legislation. I do not utter the slightest reflection upon the purity of motive, the loftiness of aim, or the inspiration of kindness which are behind the antivivisection movement. There are, however, many misrepresentations which physicians hear by word or read in pamphlets which are misleading and unfair, the correction of which is only the just due of those who practise the noble science of vivisection, a term which I use to embrace all forms of experimentation upon animal life. As a matter of fact, the reverse would be a better terminology, as vivisection is only one form of experimentation. As, however, this movement is called an antivivisection movement, one is temporarily compelled to make the term vivisection the more generic of the two terms. The word suffering is used in its broadest sense to mean exactly what its derivation means from *sub*, under, and *fero*, I carry, that is to say, "to undergo," and it therefore applies to any form of animal experimentation with or without the perception of pain. The phrase "perception of pain" means conscious or partially conscious pain in the animal. If we stand in common upon the ground of these definitions, misunderstanding will be impossible.

As a premise for beginning, I may repeat the words of the lady who honored me with the invitation to appear before you, namely: "It is unthinkable that physicians who spend their lives in the service of human suffering and disease should be really guilty of wanton cruelty to animals." Another premise is the fact that pain is perceived less and less as the scale descends from higher to lower warm blooded animals and from warm blooded to cold blooded animals.

The text for my remarks will be furnished by a letter which I have written to the members of the Committees on the Judiciary of the Legislature, in answer to which several have written that it has furnished them with exactly the kind of information which they need in brief form. That part of the letter which concerns my object to-day is as follows:

Physicians are not, as the antivivisectionists believe, indifferent to animal suffering and pain, but they recognize that the amelioration of human suffering and the cure of human diseases are ends which transcend all other considerations. If forty



Sarcoma of the Chorioid

tion of Epsom salts promptly dropped to normal. Aside from a catarrhal conjunctivitis, which usually follows an enucleation, the patient felt perfectly well.

Microscopical examination showed a round cell melanoma-sarcoma. Macroscopical section showed a tumor about the size of a large pea lying in the lower portion of the eyeball between the retina and choroid, and raising the retina considerably. The tumor was round and sharply outlined. It was completely surrounded by a fibrous pigment layer. Above the tumor was a large detachment, beneath which there was considerable exudate. Below the tumor was an exudate also, causing a detachment which was probably a hemorrhage. The tumor was not attached to the optic nerve. The detachment in the lower portion reached nearly to the insertion of the ciliary body. The insertion of the ciliary bodies were exceptionally well preserved in this specimen, the lens showing several opacities and the iris showing its two layers clearly.

In conclusion, I wish to thank Dr. Braun and Dr. Dusen for the painstaking efforts they have taken in the preparation of the many macroscopical sections. The peculiar retrogressive course of the sarcoma at first seemed unusual, as it misled me in feeling that I had a case of hemorrhage which was being absorbed; then suddenly assuming its original size, it plainly showed its malignant character. The gradual improvement of vision from the 17th to the 27th of April also led me to believe I had a case of hemorrhage in the eye with. The absence of choroidal vessels passing over the tumor was another factor, and, lastly, the malignant character, showing itself by its sudden enlargement, accompanied with marked detachment

\* An address before the Medical Society of the State of New York, at the University of the City of New York, on the occasion of the opening of the Medical Society of the State of New York.



years ago, in 1867, when the present law regarding vivisection was passed, vivisection had been forbidden or greatly restricted, the following well known elements of medical knowledge might not to-day be established. I am neither gray haired, bald headed, nor the holder of a professorial appointment. However, having been graduated only ten years ago, I come before you with the standpoint of a student who may perhaps make clear the value of well known vivisection demonstrations. This I trust to do in the simplest and most comprehensible terms. I cannot burden my discourse with scientific detail lest it confuse and weary you. The following, however, are ten points of importance gained for mankind through vivisection:

1. The knowledge of the parts of the brain and spinal cord which govern various parts and functions of the body.

2. The fact that one kidney, the whole spleen, about one third of the intestines, the whole stomach, the womb and the ovaries, as examples, may be removed without death of the individual necessarily ensuing. Nearly every one has had friends or relatives upon whom such operations have been performed successfully.

3. The life sustaining value of normal salt infusions in cases of hæmorrhage, shock, and poisoning.

4. The possibilities of resuscitating the victim of electrical shock by hanging his head downward and performing artificial respiration.

5. The modern treatment of diphtheria with antitoxine serum. Similar sera are now available in other diseases of which typhoid fever and meningitis are types.

6. The amelioration and cure of certain forms of goitre, founded upon observations by Victor Horsley on monkeys many years ago.

7. The comparative safety and dangers of various anæsthetics singly, in sequences, and in combinations.

8. The possibilities of skin grafting in burns and other accidents.

9. The absolute understanding of the mechanics of the circulation, both as to the heart itself as a muscular pump, and as to the bloodvessels as vastly important, elastic and muscular auxiliaries of the heart.

10. Sera as antidotes for snake bites. The British government estimates that 20,000 human beings each year die in India of the cobra bite alone. When the present successful serum shall have been efficiently distributed so that some of these people may be saved, of what possible value will be the guinea pigs and other numerous animals used in developing the serum? This work was begun twelve years ago by Professor Stewart, of Edinburgh.

Modern teaching is founded on the principle that the pupil shall perceive an entity as such, remember and reason from that and not trust to mere memory of printed statements for his supply of knowledge. In illustration, the child of to-day is taught his spelling not from a long list of words selected from a dictionary, but as an act of perception of words as wholes as he reads. Likewise he is taught his natural history not by picture and printed page, but by excursions into the fields and woods with his teacher, where he watches the spider weave its web, the bird

make its nest and rear its young, and the caterpillar eat its special food and pass into the cocoon and then the butterfly stage. Later on, the boy and girl are taught their physics and chemistry in high school and college not as bare printed statements, but as the results of actual experiments in the laboratories. All these things are as they should be, and will in the future produce and train minds probably superior to our own in acumen of perception and validity of reasoning.

Why then should the medical student be denied by law the value of the same kind of instruction in the laboratory through vivisection of animals? The medical man deals with vital forces which cannot be weighed or measured, but whose action can be estimated only by the study of the processes of life. Thus it is that the medical student must make observations upon animals in order to grasp the meaning of scientific facts which cannot possibly be learned from the printed page with equal certainty. In illustration of what I mean and as a matter of personal experience as a student fourteen years ago, let me go back to the headings already enumerated and briefly give you illustrations under each.

1. I learned beyond all possibility of mistaking or doubting the general plan of the principal warm blooded animals as to the control of the brain over the muscles and other organs of the body from the following demonstration: A dog was put under an anæsthetic, and the top of its head removed, thus exposing the brain. While still under the anæsthetic various points of the brain were gently touched with an electric pole carrying a weak current of just strength enough to provoke slight reaction in various parts of the dog's body in turn. After the demonstration the dog, while still under an anæsthetic, was killed. No death could have been more merciful and no means of teaching as adequate, fitting, or lasting. Could this dog possibly have fulfilled the purpose of its being better than by teaching several hundred medical students these all important facts? Does any pet dog, no matter what may be his money value as such, ever contribute to the cause of human knowledge and benefit what this cur did under the anæsthetic followed by death?

2. From animal vivisection it is now known that nearly one third of the intestinal tract may be removed without death. This shows the injustice and unwisdom of requiring the death of all animals vivisected, because after many of these operations effort must be made to keep the animal alive in order to study the effect of the operation upon the economy.

The application of this fact was illustrated in the case of a Dublin boy who was run over by a truck, but who, instead of being allowed to die as he would have been fifteen years ago, underwent an operation for the removal of several feet of his intestines. The child recovered and showed exactly the same differences which are found in animals after such vivisections, namely, that he had to make up for the shortening of his intestines by a vast increase in the amount of his food. This boy may some day be prime minister of England; even if he is not, of what possible importance compared with his life are the distress and the deaths of animals used in developing this point of knowledge?

Primarily through observations upon animals it is now known that one kidney may be removed; and more than that, parts of both kidneys may be sacrificed without death of the subject provided the remaining portions are healthy.

Diseases of the spleen are in some patients now cured by removal of the spleen. Years ago these victims would have been allowed to die unaided. Through animal vivisection it has been learned that the bone marrow becomes the substitute of the spleen in producing the corpuscles of the blood.

The fact that the womb, and the ovaries, may be sacrificed without material harm is a matter of the commonest knowledge to-day, and yet much of the detail of that knowledge was gained at first through operations upon animals.

It may be almost needless to add that all these operations are done under an anæsthetic and the animals treated thereafter exactly as though they were human beings in the effort to make them recover. Most of them are as happy in the laboratories during their recovery as are human beings in the hospitals, and recognize the doctors who work upon them with wags of the tail and laps of the tongue.

3. The fact that the infusion into the veins of 0.6 of a 1 per cent. solution of common salt will sustain life in cases of shock, hæmorrhage, and poisoning, was very largely developed through vivisection. We now know within very reasonable limits of accuracy how much blood by weight an animal may lose and not die, provided the salt solution is quickly substituted for the blood. Through animal observations it has also been proved, and later applied to the human being, that a failing heart in shock may be brought back to life sustaining condition by such infusions. From the same source, namely, vivisection, it has been abundantly established, and later employed for man, that, in some cases of poisoning, blood letting followed by a salt infusion will save life. Remembering the human beings saved by scores each year in the civilized world by these means, of what significance are the animals which underwent vivisection, either with or without unavoidable perception of pain, to prove these things?

In illustration I remember a man who died after an amputation of both legs due to a railway accident eleven years ago when I was an interne in one of our large hospitals. Two years ago I saw a woman survive the same operation because with better knowledge she was first gently infused until her heart improved and then after just enough anæsthetic had been given to stop pain, and no more, the amputation was quickly done. Part of this skill was gained from vivisection.

4. From time to time one hears of cases of electrical shock in the human being followed by recovery due to inverting the patient and giving artificial respiration and stimulation. The fact that within certain limits electrical shock need not necessarily be followed by death was first demonstrated upon animals. Are the lives of the animals which suffered, or the animal persons thus underwent, anything in comparison with the human being of to-day who may be saved?

5. In the days before the diphtheritic antitoxine

had been developed nearly eighty per cent. of all children, victims of the disease, died. Mortality has been reduced now to less than ten per cent., if the children be seen early, the disease correctly diagnosed, and the antitoxine quickly administered. Yet this serum was produced at the cost of some animal suffering in various creatures until finally the horse was found to be the best source of the serum. Can we stop to consider this loss of animals when we remember the safety of our own children thus cured? Compare, for example, two cases within my own experience. In 1873 I had a cousin die of diphtheria of the larynx in forty-eight hours, just as she was reaching young womanhood. Two years ago I saved the infant son of a comrade, the victim of diphtheria of the larynx, by a timely injection of antitoxine. In less than four hours after receiving it the child's condition began to improve; he passed a quiet night for the first time in several days, and, in two days, instead of being dead, was practically symptom free. It is needless, of course, to say that in this baby no membrane had as yet formed, but it was sick enough to get up on all fours at night to breathe, at times also ran a high temperature, and had a poisoned look.

The Board of Health in 1907 reports 15,276 cases of diphtheria. If eighty per cent. of these had been lost, the deaths would have been 12,221 as against the actual number of 1,740. This fact is without reference to the violent epidemic which would have ensued but for the preventive value of serum treatment. No distinction is made in the number actually lost due to cases complicated with scarlet fever. Bright's disease of the kidneys, pneumonia, and the like, and last and most important, due to ignorance and neglect on the part of parents, whereby serum was omitted or given too late.

6. Goitre or enlargement of the thyroid gland was first explained by Victor Horsley, about twenty years ago, through vivisection of monkeys in England. His results have made it possible to rescue from a life of idiocy and uselessness children who are born without a thyroid, known technically as cretins. They are dull of eye, with at best slow minds, or practically deprived of intellect, thick tongued, sallow, heavy skinned, and on the whole, revolting and disgusting in appearance. Thyroid extract given to these individuals will commonly work miracles. I remember as a student seeing a baby changed in eight months from a useless and disgusting specimen to a playful and interesting child by just this form of treatment.

Another form of goitre is characterized by rapidity of the heart, causing breathlessness, extreme nervousness, and a terrifying prominence of the eyes. Horsley's observations have also served to demonstrate the best way of returning these unfortunates to perfect or reasonable health.

In speaking of goitre before our class Professor Starr said that vivisection needed no apology; if it did, the experiments of Victor Horsley as to goitre would for all time be the only apology necessary. Applause, in which our ladies would have joined if you had been present, followed these remarks upon our seeing the human beings who proved the truth of this assertion by their cures and improvements.

7. In general terms it is known that ether and chloroform are the best anesthetics we have, yet animal experimentation involving the death and suffering of some animals has shown that chloroform depreciates the value of the circulation from ten to thirty per cent., a fact which must be reckoned with in choosing between the two at all times. Yet, on the other hand, it has reasonably been proved, similarly with sacrifice of animals, that if the fumes of these anesthetics are given warm the dangers are almost divided by two. When after years of observation in the human being these facts become thoroughly recognized, where will the animal loss stand in summing up the usefulness of the results obtained?

8. Skin grafting is now a matter of common knowledge, yet some of its principles are born of the suffering imposed on animals, proving the fact that in certain instances living parts of the body may be rapidly transmuted to other parts and survive.

9. The actual mechanics of the circulation, as to the heart itself as a muscular pump were shown by the following experiment before about five hundred medical students in college when I was there.

A calf was thoroughly anesthetized and its heart widely exposed through the chest wall. While the animal was kept alive and breathing by artificial means, it was possible to watch the course of the blood with great accuracy as it flowed into the heart and out again.

Through this animal demonstration under an anæsthetic, the medical student of to-day is shown how the blood, returning to the heart from the system at large and from the lungs, rushes into the upper part of the heart, technically called the auricles, passes, by a contraction of both auricles together, into the lower or heavier part of the heart called the ventricles, and by contraction of these in unison into the lungs from the right ventricle for purification and from the left ventricle into the main blood channels for nourishment of the body. This demonstration is so graphic that no human being of ordinary perception and understanding can ever after it have any confusion in his mind as to what the heart is doing when he listens to it in the chest of the patient. The characteristics of change of blood pressure by contraction and dilation of the bloodvessels and many other wonderful features of the circulation of the blood are also shown in a similar way. Since all these matters of knowledge are for later practical application in the treatment of disease among human beings, of what possible matter is it whether a certain number of animals perceived some pain perhaps, or even in many instances lost their lives? All the animals used for such purposes are under anesthetics, and after the lesson is over are destroyed before they come out of the anæsthetic. To deny the right of the medical student as he comes and goes generation after generation to see these same demonstrations repeated would be like a professor stating to new classes of mechanical engineers something like the following: "This is a complicated and high speed engine; ten years ago my class took it apart and put it together again in working order. These men have since then become the leading engineers of the coun-

try; you cannot, however, take the engine apart, but will have to accept on faith what we learned about it at that time."

There is certainly no cruelty whatever, directly or indirectly, in employing animals for such purposes. Each medical student is entitled to know from his own personal observation and perceptions exactly what these processes of life mean, exactly as each student is entitled by actual experiment to know the facts of other sciences, such as chemistry, physics, electricity, and the like. To deny to medical students this right would be stepping backward in their instruction thirty or forty years.

Which of the following two calves fulfils in the higher degree the purpose of its being for man's benefit—one which is slaughtered, its body consumed as food, its skin as shoes, its skeleton ground up for chicken food, and its entrails employed as fertilizer, or a calf used for such as the foregoing demonstration before five hundred medical students who may in their lives through the knowledge thus given easily benefit one hundred thousand human beings? The skin, flesh, skeleton, and entrails of the second calf could well be employed exactly as those of the first, or its skeleton might be set up in a museum of comparative anatomy to show the beauty and the order of the animal kingdom, to laymen, medical, and veterinary students alike.

We have already spoken of antidiphtheritic serum. Other important sera have been developed and applied as follows. They are all developed from painstaking animal experimentation, sometimes with suffering, usually without perception of pain to the animals. I am indebted to Dr. Simon Flexner, chief of the Rockefeller Institute of Medical Research, for the following authentic list of sera:

(a) Sera of wide application and great success in diphtheria, dysentery, tetanus (as a preventative measure), and antivenin (employed with great results against the cobra bite).

(b) Sera partially successful are employed in meningitis, scarlet fever, typhoid fever, and against the rattlesnake bite in animals. Cases of rattlesnake bite in human beings are rather rare, and no observations are at present recorded.

(c) Sera that are successful in treating animal diseases are now available in anthrax, rinderpest (a tropical disease common in cattle), and hog cholera.

(d) Protective inoculation of animals is now successfully carried on in tuberculosis by serum obtained from the human tubercle bacillus. Also in anthrax, blackleg (quarter evil), and chicken cholera. Thus is man handing back to his bovine friends (cattle) protection from tuberculosis by inoculation. This is the same order of wonderful phenomena as is vaccination itself in smallpox from cow to man. Permit me to digress one moment to say that, if vaccination needed any argument to support and warrant it, that argument is found in the medical books written at the time Jenner made his wonderful discovery, that is, about 1790. Statements are met with like the following: Three quarters of the entire population of London have had the smallpox. If London at this time was a city of four hundred thousand, three hundred thousand of these gave obvious proof of having had the disease, a statement which does not include any reference to the deaths



from smallpox at that time. Last year in New York City the Board of Health reported fifty-eight cases in a population of fully three million five hundred thousand or four million during 1907. In Germany, where vaccination is absolutely compulsory, the disease is almost extinct, excepting in the seaports, where occasional cases arrive. Again in the Franco-Prussian War, the French army, which had no compulsory vaccination, lost by death from smallpox vastly more soldiers than were even stricken in the German army, the ratio being given by some authorities as more than 10 to 1. In the German army all were vaccinated.

(e) Sera for establishing diagnosis in animals are now available in tuberculosis and glanders respectively called tuberculin and mallein.

(f) Among drugs of remarkable value proved by animal experimentation is atoxyl, which is a wonderful means of curing African sleeping sickness, of which doubtless some of you have read. The value of this, too, was developed by animal experimentation.

(g) Rather satisfactory results have also been obtained up to the present in the matter of cancer experiments in rats and mice. When the day comes for fully developed means of combatting this dreadful scourge in the human being, which one of you will stand up and object to the possible suffering of the animals in developing that truly miraculous product—because it will be truly miraculous?

To the foregoing ten illustrations of actual and lasting benefits conferred on man by vivisection, I could add many others, but time forbids, moreover these ten elements of human knowledge thus gained and proved from vivisection, are fully ample for our purposes.

These remarkable and more or less familiar illustrations of some of the results of well balanced vivisection will prove my contention at the outset, that this science is not a disgusting but an ennobling sphere of human study.

A few words should be added as to the apparatuses pictured in the lay press which are used in vivisection. Kindly bear distinctly in mind the fact that animals' backs are round and will not rest motionless upon a flat table while they are under anesthetics. It is therefore necessary to fix two boards at right angles to each other to make a gutter like pocket in which the rounded back of the animal will not shift. Motion may mean failure of the whole operation, and sacrifice of another animal.

Straps and other devices are required to keep the paws of the animals away from the sterilized hands and instruments. Similar methods are necessary even in human beings under anesthetics, because as unconsciousness ensues frequently the arms and the legs get into the surgeon's way and greatly impede rapidly, precision, and surgical cleanliness of the work. In man and in animals this apparatus is beneficial, merciful, and well intentioned, and not harmful, cruel, and malicious, as the pictures are meant to imply.

For example, I saw one picture of a dog with its mouth gagged wide open by an apparatus. No screw or bar bore anywhere upon the dog except that across its mouth and teeth. Had dogs the same tooth plan as horses, namely, had they a space be-

tween the grinding teeth behind and the biting teeth in front, this bar would have been resting in that space and the dog could have closed its mouth. This apparatus is no more an instrument of torture than are the mouth gags employed in man, pictures of which almost made me faint when a young man contemplating the study of medicine and caused me to doubt my fitness, until I realized that real sympathy lies not in the fainting but in helping and in doing.

Let us turn now to the proposed Acts before our Legislature limiting vivisection, with a brief criticism of their shortcomings.

First the Cobb-Johnston Bill. It may very well work a hardship to require that vivisection shall be done only in certain institutions. For example, a friend of mine practising in a mining town in Pennsylvania saw that miners who were the victims of crushing, scalds, and other accidents, very frequently died if put under a general anæsthetic for treatment. The thought occurred to this medical genius that perhaps a local anæsthetic, of which cocaine is the type, injected into the spinal canal might permit life to continue during the early treatment of the case. He therefore took thirteen dogs and subjected them to various injuries similar to those suffered by the miners. The question may arise, why did he not anæsthetize them? This was because he had to repeat in the dogs the same conditions found in the miners. The miners were not under an anæsthetic when injured, therefore the dogs should not be. The miners died under anesthetics while being treated; it was therefore necessary to see how dogs would act under the two methods of anesthesia. He proved that the dogs, too, died under a general anæsthetic, but afterward found that, if a local anæsthetic was employed, many that previously would have died, lived. In the same article in which he published these observations he also published the reports of several cases of miners who, under the influence of cocaine thus used, did not die, but lived. Of what value were these thirteen dogs in the face of these facts? If this doctor had been compelled to go to New York or Philadelphia to carry out his experiments they might never have been performed, for perhaps he could not have afforded to leave his practice for the purpose.

It is unfair to withdraw from the physician a decision as to whether or not an anæsthetic is desirable. The whole point of the observation may rest upon not giving an anæsthetic, as for example in the foregoing instance. If we are to unravel the mysteries of the nervous system we must be allowed free hands in deciding the best methods for reaching the truth.

It would prove a hardship to require that animals after the operation or experiment shall be killed, because the result of the study may rest absolutely upon whether or not the animal may be kept alive. For example, consider the operations on various organs, such as removal of the kidneys and the like, followed by survival of the animal in good health.

It will deprive the modern medical student of his best source of knowledge to require that facts already known shall not be demonstrated again to each class by animal experiment. It would be equally unwise to say that all chemical laboratory in-

vestigations shall cease so far as the proof of facts already established is concerned. Knowledge cannot possibly be gained so wisely and well as by seeing real, natural processes in the course of their action. This necessarily includes the vital forces of animal life with which the doctor has to deal throughout his practice. As you have perhaps noted already, one or a very few animals a year are usually enough for a given demonstration in each medical school.

Physicians are entitled to demand that their scientific researches shall not be inspected by laymen and shall not be inspected under the direction of lay societies, perhaps largely composed of misinformed and hostile persons. In other lines of human activity the similar demand is made and appropriately conceded, namely: The boilers of our engines and factories are inspected not by layman but by competent engineers. Our electrical installations are inspected not by laymen but by suitably trained electrical engineers. To impose upon medical men any new principle is unwise, unfair, and contrary to human experience through ages of civilization.

I doubt very much whether any of you present would honestly and honorably consider herself competent to pass upon the validity of any animal experiment, either from the standpoint of its pain giving or its results, even though she might stand before the law as the accredited representative of some humane society. Such a requirement in this law is against human experience in other lines of human knowledge, and no new principle may fairly be applied to the form of human knowledge which we are discussing.

Next, the compulsion of annual reports is another objectionable requirement whereby scientific research may very well be greatly hampered, interrupted, and interfered with.

Certainly nothing but good to humanity has in the past come from vivisection as conducted under the present laws, and in virtue of these facts there is truthfully no need of any new law. The Davis-Lee Bill also imposes a number of injurious, vexatious, and needless limitations upon the work of men whose only idea is the amelioration of mankind.

The allegation is made that a similar law is of advantage in England. Permit me to state the following facts: This law has in the past driven Sir T. Lauder Brunton from London to Paris to perform experiments. Upon Brunton's work depends much of our knowledge of the action of modern drugs obtained by the improved methods of modern chemistry. He is one of the greatest observers of drug action in the world. Is it not hardship and injustice that a man of his nobility of purpose should ever have been driven out of his country in order to perform experiments to the results of which humanity is honestly entitled?

In closing let me allude to an incident which has created a good deal of comment, namely, a memorial erected in Battersea Park, London, by Stephen Coleridge. The monument caused bitter hostility among vivisectors, resulting in a riot, according to *Life*, which also states that the inscription reads: "In memory of the brown terrier dog done to

death in the laboratory of University College in February, 1903, after having endured vivisection extending over two months and having been handed over from one vivisector to another until death came to his release. Also in memory of the 232 dogs vivisected in the same place during the year 1902. Men and women of England, how long shall these things be?"

Part of the fallacy of this monument lies in the fact that many of these experiments upon this dog must have been of a very simple nature and without pain. Time does not permit me to illustrate some of the valuable observations for teaching students which may well have been carried out upon this dog. Instead, however, of a riot ensuing, how much better it would have been if another monument had been erected, a duplicate of the first, but surmounted by the statue of an infant, and bearing the following inscription:

"Sacred to the memory of the countless children of tender years who in the past died of diphtheria before the noble science of vivisection had given to men the knowledge of immunity, and of the serum treatment of diphtheria, through observations on animals. Sacred also to the memory of other human beings who have died of diseases whose cure will one day be discovered through vivisection. Sacred also to the memory of the animals who in fulfilling their purpose of existence in the service of man have given up their lives for the establishment of important facts in medical knowledge. And finally, sacred to the honor of the noble men who with singular honesty of purpose in the past and present have, and in the future will, through well purposed animal vivisection, bring to human knowledge the present undiscovered mysteries of life."

In the past much that is incalculably useful has been accomplished, in the present much that is of inestimable blessing is being attained, and in the future more still will be given to man in knowledge gained through purposeful vivisection. It behooves the misinformed layman to be thankful and appreciative, and not ungrateful and obstructive.

45 WEST NINTH STREET.

#### MALARIA IN GREECE.

By A. ROSE, M. D.,  
New York.

At the annual international competition at the Academy of Medicine of Paris the prize, a silver medal, was awarded this year to Dr. John P. Cardamatis, of Athens, Greece, for his work *On Elenosia (Malaria) in Athens*. In this monograph is given the history of the disease in Athens from the prehistoric times to the present day.

Dr. Cardamatis is the founder of a *sylogos* which has for its object to combat malaria in Greece, and stands under the protection of the king of the Hellenes. Our distinguished Greek colleague honored me by sending me the report of his *sylogos*, a large octavo volume of 653 pages for the years 1905 and 1906, written in Greek by him and Pro-

ΥΠΕΡ ΤΗΣ ΕΛΕΝΟΣΙΑΣ (MALARIA) ΕΝ ΑΘΗΝΑΙΣ ΚΑΙ ΤΗΣ ΠΡΟΦΥΛΑΞΕΩΣ ΑΥΤΗΣ ΣΥΛΛΟΓΟΣ. ΕΚΔΟΣΕΙΣ ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΚΑΡΔΑΜΑΤΙΣ, Γ. ΣΑΒΒΗΝΑ ΚΑΙ ΛΕΩΝΙΔΗ. Π. ΚΑΡΔΑΜΑΤΙΣ ΕΤΕΡΟ ΚΑΙΝΟΤΟΜΟΝ ΚΑΙ ΔΕΥΤΕΡΟΝ, ΕΤ' ΑΘΗΝΑΙΣ, 1907.



fessor C. G. Sabba, of the University of Athens. Presuming that much of the contents will be of interest and value to American physicians, I will give an extract of the same.

According to the statistics in this report Greece is perhaps of all countries in the world the most afflicted with malaria. This is also the opinion of Ross, who has studied the disease in East India and Africa, but it is contrary to Celli's view who gives to Italy this unfortunate first place.

Malaria has been prevailing in Greece from the remotest period all through its entire history. In the Orpheus poems, assumed to have been written about the year 1000 B. C., the different types of malaria are most exactly described. The description of the disease by Hippocrates is well known to all who are familiar with history of medicine. The writers of the classical period in general describe its existence during this time, only from the epoch of the downfall of ancient Greece exact informations are lacking. Under Turkish rule cultivation of the soil was neglected in Greece, and mostly so during the War of Independence, which lasted seven years. The little Greek nation had fought until her land had been devastated and her race decimated. The sword, famine, and disease had reduced the population to about one third of its original number, and this third to a state of most complete destitution. Vegetation was destroyed, especially the forests, by fire. On account of the bareness of the mountains after the destruction of their forests, torrents of water would overflow the fields and become converted into marshes, the favored places for the development of mosquitoes. After the war was over, order began to be restored, the population increased again, and the cultivation of the soil was taken up anew, especially drainage of marshes. But how much is left to be done yet will be seen from the description of conditions existing at the present time.

Official statistics about the spread of malaria in Greece exist only since the year 1899, and even these are as yet confined to the statistics of the board of health of the twelve larger cities of Greece, of those which have a population of ten thousand and more. From these statistics we learn that during the period from 1899 to 1906, that is in eight years, there were 2,174 deaths in the large cities from different forms of malaria, a yearly rate of 272. From ten thousand city inhabitants in Greece 9.7 die from malaria; in 100 deaths 4.36 are due to malaria. The details of these statistics regarding the months of the year, the ages of the deceased, the distribution over valleys, the immunity of the altitudes over 800 metres, and all the details which we expect to find in official statistics are given.

While in Greece, according to the investigation of the syllogos, among 100,000 inhabitants 12848 are afflicted with malaria, the number in Italy is only 4088 among 100,000. While the Italian population of thirty-four millions consumes yearly twenty thousand kilogrammes of quinine, the Greek population of two and one half millions (eleven times less than the Italian) consumes five to eleven thousand kilogrammes.

There are one million acres of marshes in Greece. A great deal of drainage has been done by two companies, an English and a Greek company.

The syllogos, similar to the one established in Italy, was formed by Dr. Cardamatis in the year 1905, who commenced his work on May 4, 1905. It has the hearty support of distinguished physicians, clergymen, politicians, in fact of the whole population; has been recognized by royal decree and stands, as mentioned, under the special protection of the king, who takes personally the warmest interest in the vital question here involved, and, as we shall see, promotes in many ways the work of this patriotic society.

One of its first objects is to make popular the information about malaria among all classes in all cities and villages of Greece. To this end committees have been formed which are headed by the highest in rank, the archbishops, mayors, physicians of distinction, in fact all influential men. The next object of these committees is to study all concerning malaria in their respective districts, the existence of marshes, the means and ways for the drainage of such marshes, to destroy mosquitoes, to provide quinine either free or at the smallest price for the poor, as therapeutical as well as prophylactical measure, to elicit the interest of the priests, the municipal authorities, the physicians, the teachers, to collect money destined to promote the purpose of the syllogos. In order to facilitate this work, the syllogos has issued brief instructions, printed in form of hand bills similar to those published in Italy, and distributed them everywhere. They were sent out by the Department of Public Instruction to the teachers of the public schools with the request to propagate the contents through the pupils to the families. In order that the knowledge about malaria becomes more clear among the population, pictures of plasmodia, of the development of the mosquito, and other illustrations about the genesis of the fever have been added. These illustrations are distributed now to be hung on the walls not only in all public schools, but also in the shops, the railway stations, the coffee houses, etc. It is contemplated also to put postal cards with illustrations concerning malaria into circulation, and finally a kind of decalogue corresponding with the Italian malarian decalogue, commandments of precaution against malaria. It is intended to give discussions with demonstrations by means of the stereopticon not only in medical societies, but also for teachers and the general public in the cities. This has been considered as promising to be an effective mission for physicians who will go from place to place, welcomed by the country practitioners, who will learn the most advanced modern views.

The syllogos has addressed himself privately to every one of the wealthy landlords, sending them instructions about the measures of drainage of the little marshes in their states.

The daily press and the literary magazines have greatly contributed in disseminating the ideas of the syllogos by publishing articles and pictures relating to precautions against malaria.

Simultaneously with popularizing all these measures the syllogos collected information about location of marshes everywhere and to make maps on which they were marked.

For the destruction of the larvae of the miasma olive oil, petroleum, and lime are recommended. Olive oil is abundant and even cheaper than petre-



leum; it can be used either alone or mixed with the very popular oil of turpentine. A greater amount of olive oil is required to cover a certain surface of water, but on the other hand it is conserved for a longer time than petroleum, which latter is quickly evaporated. A special advantage in Greece is that olive oil is always on hand, every peasant has it in the home, and a further advantage is that it has no odor and does not make the water unfit for various purposes in the house, for the animals to drink from, and for watering the garden. Besides it has to be taken into consideration in Greece that extensive distribution of petroleum is dangerous where forests are near, and this danger must not be overlooked on account of the great dryness which exists in Greece in summertime, the many dry bushes and that kind of tree, the pine tree, which is especially combustible.

As the syllogos has under consideration the drainage of the great marshes, the surface of which amounts to about a million acres, as told, and which is most difficult and requires long time and excessive costs which the budget of the government can bear only gradually, the members directed their attention to the drainage of the little marshes in the neighborhood of cities and villages, the drainage of which is easy by means of the well known methods. To this end the syllogos recommended the drainage of the little marshes, asking the government to pass laws forcing the proprietors of every estate to make the necessary drainage, public lands to be drained by funds provided in the state budget or the communities, or to oblige inhabitants to work personally. The government is also asked to form brigades for special duty, corresponding to the Ross mosquito brigade.

126 EAST THIRTY-FOURTH STREET.

#### CAMMIDGE REACTION IN PANCREATIC DISEASE, WITH NOTES OF A CASE.

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While our knowledge of the physiology and pathology of the pancreas has greatly increased during the past twenty-five years, no corresponding advance has been made in the symptomatology or the diagnosis of the lesions to which the gland is subjected. Nearly thirty-three years ago Friedreich wrote: "No single symptom which may occur in pancreatic disease is pathognomonic, and even the combination of several symptoms does not always lead to a positive diagnosis." Little can be found to aid one in diagnosis in either textbooks or monographs written since then. Even in diseases of the head of the pancreas, where the signs are more marked, it is often hard to exclude affections of other organs with similar signs, as, for instance, gallstones, cancer of the papilla of Vater. In most of the cases where a correct diagnosis has been made, this was done by the process of exclusion. The character of icterus described by many authors

as being very deep in pancreatic lesions will hardly help any one to make his diagnosis certain, as the so called deep icterus may be present in affections of the biliary tract just as well.

Should a mass be palpated in the supposed pancreatic region, which occurrence is very rare, its proper connection with the gland is not always discernible. Pain in pancreatic affections is one of the most unreliable symptoms on which to base our conclusions. Visible fat in the stools, marked amount of neutral fat crystals under the microscope (steatorrhea), the presence of striated muscle fibres in the stool (azotorrhea), these are the findings which may suggest a pancreatic lesion. This becomes obvious by taking into consideration the fact that the pancreas produces ferments for the purpose of regulating normal digestion. In a diffuse affection of the gland the power of secretion is either reduced to a minimum or abolished altogether, the latter happening very seldom. In obstruction of the duct of Wirsung from certain causes, the flow of pancreatic juice is dammed off.

In such instances the reaction of Sahli may yield negative results. This test is based upon the observation of Sahli that salol, a compound ether of salicylic acid, is decomposed through the action of pancreatic juice in the small intestines into phenol and salicylic acid. A violet color is produced by adding a small amount of ferric chlorid solution to the urine, due to the presence of salicylic acid eliminated through the kidneys.

In assuming a normal motility of the stomach, or nearly so, the pancreatic juice had not entered the bowel if, after taking 2 grammes of salol, the urine of the patient does not show the above mentioned reaction after a lapse of twenty-four to forty-eight hours.

Of greater importance is the quantitative estimation of nonutilized fat and nitrogen in the stool. For this purpose it will sometimes suffice to place the patient on a mixed diet. But to obtain correct results a standard diet, as the one proposed by Schmidt, must be resorted to for at least three days, viz.: In the morning—One glass cocoa (prepared from  $\frac{1}{2}$  of an ounce cacao powder,  $\frac{1}{4}$  of an ounce sugar, 2 ounces milk, 6 ounces water), and 2 ounces zwieback. In the forenoon—Two glasses of oatmeal gruel (from  $1\frac{1}{2}$  ounce of oatmeal,  $\frac{1}{3}$  ounce butter,  $\frac{2}{3}$  ounce milk, 10 ounces water, and one egg strained). At noon—4 ounces chopped beef (raw weight), broiled rare with  $\frac{2}{3}$  ounce butter. In addition, 8 ounces potato broth (made of 6 ounces mashed potatoes,  $3\frac{1}{2}$  ounces milk, and  $\frac{1}{2}$  ounce butter). In the afternoon—As in the morning. In the evening—As in the forenoon.

With the first breakfast a five grain carmin capsule should be given to the patient, for the purpose of demarcating the stool resulting exclusively from this test diet. The first red colored stool is used for the quantitative analysis. This method, though correct, is inconvenient for the physician, as definite results cannot be obtained before three days.

Normally, according to Schmidt, the percentage of fat in the dried faeces ranges between 21.5 and 26.61. If we find a percentage of 40 or over, a pancreatic lesion may be suspected. A high per-

\*Presented at the East Side Physicians' Association, with demonstration of a case. *Proceedings*, 1913, p. 38.

centage of nonutilized nitrogen may also be found in affections of the pancreas.

The presence of sugar in pancreatic disease is very rare. This is a fact acknowledged by most of the authors. According to the studies of Weichselbaum, Stangel, and Opie, mellituria is apt to be found only when a considerable number of the islands of Langerhans are affected. Hence it is obvious that pancreatic lesion may be present without glycosuria.

As the object of this paper is not to give all signs which may help to form a positive diagnosis in pancreatic disease, we shall make a short critical review of only those more prominent ones as already pointed out.

Let us assume a given case, in which steatorrhœa has been noted. The history and present findings exclude tuberculosis of the intestines, tuberculosis of mesenteric glands, and a retroperitoneal tumor (which may press upon a portion of the small intestine and interfere with the absorption of fat). In this case, a pancreatic lesion could be diagnosed if icterus is absent.

The presence of fatty stool, if noted, can also be due to obstructive jaundice, without pancreatic affection, since we know from Schmidt that 50 per cent. of nonutilized fat may be found in the feces of patients with affection of the biliary tract. Furthermore, Müller stated that when bile was excluded from the intestine, 52.2 to 75 per cent. of the fat contained in food was passed unabsorbed, as against 7 to 11 per cent. (the latter being the normal amount, according to his investigations).

Further studies showed that in the stools of pancreatic patients there is a predominance of neutral fat over fatty acids. The reverse condition holds true for biliary obstruction without changes in the gland. Mayo Robson, in his work, came to the same conclusions. But there are instances of pancreatic lesion where the ratio between neutral fat and fatty acids is not so conclusive.

The next prominent sign in pancreatic lesions is azotorrhœa. If we find undigested striated muscle fibres in a large number of microscopical preparations, we must first be certain that the motility of the stomach and intestines is normal. Since, in the derangement of the stomach, atonic or hyperstalsis of the bowels is present, the azotorrhœa may point to these conditions.

On the other hand, a number of cases are on record where neither steatorrhœa nor azotorrhœa were present, and nevertheless pancreatic lesions were found at autopsy or operation.

These possibilities are explicable by recalling a few facts concerning the physiology and pathology of the gland. We know that the pancreatic juice may enter into the duodenum by way of the duct of Santorini when the duct of Wirsung had been occluded by calculi or inflammatory swelling; hence pancreatic lesion may be present without disturbance in the flow of pancreatic juice. Even if the duct of Santorini be deficient or occluded from the same causes, an accessory pancreas may furnish its ferments to the bowels.

Assuming by a concurrence of favorable conditions that a positive diagnosis of pancreatic lesion

had been arrived at, still we are sometimes at a loss to determine the nature of the same. It is of little importance for the patient whether we are unable to diagnose his condition in acute pancreatitis. The onset in this affection is acute, even fulminant. In spite of the fact that the symptom, pain, can be referred to different abdominal organs, yet the physician ought to recognize the condition as not a medical one, and the patient ought to be turned over to the surgeon with a diagnosis of gallstones, abscess of the liver, acute intestinal obstruction, appendicitis, etc. An exploratory laparotomy will be performed, and the patient will often be saved. A cyst of the pancreas may be diagnosed previously to an operation. Should this not be the case, however, exploration of the patient on account of an indefinite abdominal tumor will often clear up the situation. In the same manner a patient with pancreatic calculi may be helped by an operation, following exploratory incision.

Entirely different is the question with two affections of the pancreas—chronic or subacute pancreatitis and carcinoma of the gland. We are not only unable to distinguish these two conditions during life, but we are often unable to do so even after a laparotomy. Should a microscopical examination of an extirpated piece of the pancreas show evidence of chronic pancreatitis, still we are not absolutely certain, since an examination of the whole gland had not been made. How desirable it would be to have means of making a positive diagnosis of one or the other condition!

If we could exclude carcinoma, and if medicinal treatment for chronic pancreatitis should have failed, we then all the more have to refer our patient to the surgeon, as the results of the operation in this condition are very encouraging indeed (about 4 per cent. mortality, according to statistics of Robson). Sometimes a simple exploratory incision may suffice for recovery, as in a case quoted by Chambers and Friedenwald.

If a malignant growth of the pancreas is present, the condition should mean a *noli me tangere* to the surgeon.

In this way we arrive at the reaction of Cambridge, or pancreatic reaction in the urine. Thanks to this author (Cambridge), we are not only able to confirm our diagnosis in suspected pancreatic lesion, but also are able to distinguish carcinoma from inflammatory processes.

As the basis for his reaction was the condition of fat necrosis, a brief description of this pathological phenomenon should be given. Ponfik first described the process of fat necrosis in the bone marrow. After him, Balser observed about the pancreas of a number of bodies small, opaque, white areas, often surrounded by a hemorrhagic zone. These areas were shown to be composed in great part of necrotic fat cells.

Fitz offered the suggestion that fat necrosis is consequent upon a lesion of the pancreas, and supported this conclusion by numerous instances in which the two conditions had been associated. Though the condition is met with in the majority of cases in acute hemorrhagic and gangrenous pancreatitis, the process of fat necrosis has also been



detected in other lesions of the pancreas microscopically, when no evidence of the same had been noted by gross appearance of the gland.

Cammidge looks upon punctate hemorrhages, which frequently occur in lesions of the gland in the absence of necrosis, as an early stage of this condition. According to him, similar but less marked changes may be present in all instances of pancreatic lesion. Sometimes the process of fat necrosis may be overlooked by the operating surgeon or at the autopsy table.

It has been shown by Langerhaus, Flexner, and others that the changes taking place within the fat cells of the gland or the abdominal viscera are associated with the splitting up of the fat molecule into fatty acids and glycerin, through the fermentative action of pancreatic juice. Fatty acids are deposited as needle like crystals within the cell, which has lost its nucleus and is necrotic, while the soluble glycerin is absorbed by the blood. The fatty acids soon combine with the calcium of the blood plasma to form salts, which remain in the necrotic foci.

At first Cammidge experimented with the blood of patients affected with various diseases of the pancreas. As this method did not seem to him to be practicable, on account of the small amount of blood available at bedside, he turned his attention to the urine.

Notwithstanding the fact that glycerin brought into circulation is oxydized by the elimination of carbon dioxide, yet Cattilón showed that 50 per cent. or 60 per cent. of the same can be detected in the urine of dogs who had been given this per mouth.

Cammidge is certain that even higher percentages may be obtained in urines of pancreatic patients, since, in the latter, the process of oxidation is diminished.

It is a well known fact that glycerin, on being boiled with nitric acid, gives rise to glycerol, which can be recognized by the osazone which forms with phenylhydrazin. Experience showed him very soon that clearer preparations could be obtained with hydrochloric acid. Finally, two reactions were worked out by Cammidge, called "A" reaction, and a distinctive reaction, called "B."

*The "A" Reaction.*—The specimen of urine to be examined is filtered. 10 c.c. of the filtrate are poured into a small flask. 1 c.c. of hydrochloric acid (sp. gr. 1.16) is added and a funnel placed in the neck to act as a condenser. The flask is set up on a sand bath and gently boiled for five to ten minutes after the first sign of ebullition is detected. The flask is afterward cooled in running water. After cooling, the mixture is filtered. To 5 c.c. of the filtrate is added 5 c.c. of distilled water. The excess of acid is now neutralized by slowly adding 4 grammes of lead carbonate, and, after standing for a few minutes to allow the completion of the reaction, the urine is filtered through a well moistened filter paper and the flask is washed out with 5 c.c. of distilled water on to the filter. To the clear filtrate are now added 2 grammes of powdered sodium acetate and 0.75 grammes of phenylhydrazin hydrochloride, and the mixture is boiled from three to four minutes on the sand bath. The hot fluid is then poured into a test tube and allowed to cool undisturbed. After the lapse of a period varying

with the severity of the case from one to twenty-four hours, a more or less flocculent yellow deposit is found at the bottom of the tube. The precipitate, when examined under the microscope, is found to consist of sheaves and rosettes of golden yellow crystals.

Sugar when present must be freed by fermentation and subsequent heating for removal of the formed alcohol. Albumin is removed by acetic acid and boiling.

When the "A" reaction is positive the "B" reaction has to be made.

*The "B" Reaction.*—20 c.c. of filtered urine is mixed with 10 c.c. of saturated solution of perchloride of mercury. Carefully filtered and after standing a few minutes, to 10 c.c. of the filtrate is added 1 c.c. of strong hydrochloric acid. The mixture is then boiled for ten minutes on a sand bath, and subsequently to 5 c.c. of the urine is added 10 c.c. distilled water. After cooling, it is neutralized with 4 grammes of lead carbonate. The remaining stages of the reaction are like those of the "A" reaction.

The "B" reaction is a differential one, based upon the observation of Cammidge that in inflammatory conditions of the pancreas the crystals obtained are destroyed by the action of perchloride of mercury. A large number of examinations showed Cammidge that the crystals in malignant disease are broader and coarser, while in inflammatory processes they are smooth and slender. The solubility of the crystals in a 33 per cent. solution of sulphuric acid is different according to the nature of the affection. The crystals obtained from a specimen of acute pancreatitis are soluble in from one-half to one-fourth of a minute; in chronic pancreatitis, in from one-half to two minutes; in carcinoma, in from three to five minutes and longer. In pneumonia and in adenitis crystals have been noted which were soluble in one minute.

Negative results with these reactions have been obtained by Cammidge and also Robson in normal urines in icterus catarrhalis, in gallstones without pancreatitis, in ulceration of the stomach, and in various other conditions.

In support of the pancreatic reaction of Cammidge may be added that Felix Eichler has lately experimentally produced acute pancreatitis in three dogs, and in the urine of all he found the characteristic crystals of this condition, while in the urinary specimens of dogs in good health the results were negative.

The following cases well illustrate the diagnostic value of the pancreatic reaction in the urine:

CASE I.—Reported by Mayo Robson. Woman, sixty-one years old, gave a history of biliary colic for three to four years. No jaundice had been noted in the first year of her illness. In the last two and one half years the attacks of pain were always accompanied by icterus, by rigor, and by deepening of the jaundice. During the short time that the patient was under his observation, Robson noted that she lost considerably in weight, and her symptoms became aggravated. Therefore the question of cancer arose. But the pancreatic reaction in the urine pointed to inflammation and not to carcinoma. At the operation Robson found the pancreatic portion of the common duct packed with large gallstones, and the head of the pancreas markedly swollen. On passing the scoop through the opening in the common duct down to the pancreatic portion, a stone the size of a cherry was extracted covered with offensive pus. This stone, according to Robson, was lodged in a cavity of the head of



the pancreas. A diffuse discharge of bile and offensive pancreatic fluid with pus continued for a week, after which the discharge became gradually less. The patient made a good recovery, and a year later was still well.

**CASE II.**—Reported by Mayo Robson. No less than six eminent physicians had advised operation in a woman of forty-eight, who had jaundice for five months, although her condition was much better than could be expected if the cause was a malignant growth. As the pancreatic reaction pointed to cancer, Robson did not have the slightest hesitation in advising nonoperative treatment.

**CASE III.**—Reported by Moynahan. Patient fifty-seven years old, female. In operating Moynahan found a calculus in the duodenum about the size of a French bean. This turned out to be of pancreatic origin. His diagnosis of pancreatitis had been confirmed previous to the operation, as the pancreatic reaction in the urine was positive for this condition.

**CASE IV.**—Reported by Agabekoff. Patient, sixteen years old, male, entered the hospital complaining of pain in the abdomen. Loss of flesh had been well marked. A physical examination revealed diffuse nodules in the abdominal cavity, slight ascites, and enlarged glands in the neck. He presented the clinical picture of tuberculous peritonitis, the more so as the age was in favor of this condition. Diarrhea had been present and vomiting absent. Pancreatic reaction was positive for cancer. The autopsy showed that almost the whole gland had been affected by cancer originating from the greater curvature of the stomach.

We add to this series our case, in which we were able to arrive at a positive diagnosis of the head of the pancreas by the aid of Cammidge's reaction:

**CASE V.**—R. L., female, sixty years old. Was seen by us with Dr. Sturmdorf on October 12, 1907. Patient belonged to a neuropathic family. She had always been melancholic. Had never had any attacks of gallstone colic, nor had she ever been troubled by indigestion. Six months before our examination she began to complain of a loathing for meat, and four months later jaundice had come on at once. In addition to jaundice, indefinite pains in the abdomen were complained of. The stool was said to be clay colored, and the urine dark in color.

Physical examination showed the visible mucous membranes and the whole skin icteric. The icterus could not have been considered as a deep one. Liver was palpable, gall-bladder not palpable. Spleen not enlarged. By deep pressure high up in the right hypochondrium, patient felt tenderness more pronounced than in the right parasternal line, two fingers above the navel, where some tenderness could also be detected. A tumor mass could not be felt by either of us.

As there was no history of gallstone colic, and the physical examination did not reveal an enlarged gallbladder (as is usually found in malignant disease of the biliary tract or carcinoma of the head of the pancreas), and also as cachexia at that time had not been noticed at all, the possibility of a diagnosis of a chronic pancreatitis arose in our minds. The examination of the feces, which were bile free and offensive in odor, showed a strong acid reaction. Under the microscope fatty needles and fat droplets were observed, but no crystals of neutral fat. Urine of dark brown color showed traces of albumin, hyaline, and granular casts, but no sugar; indican was not in excess.

The urine was tested from albumin by acetic acid and subsequent heating. The "A" reaction showed, in about five hours, a bulky yellow deposit. Reaction "B" gave the same deposit. From both reactions, broad crystals in the shape of rectangles were seen under the microscope. Treated with a 10 per cent solution of sulphuric acid, they disappeared in about six minutes. The examination with methylene was repeated on two subsequent days with the same results.

The diagnosis of carcinoma of the head of the pancreas was made, though we had no other positive symptoms pointing to this condition. The idea of operation was then given up.

The patient died in about six weeks after our examination. The autopsy was performed by Dr. Satterlee whose findings follow:

Body was that of a woman of medium height, considerably emaciated, especially about the face, thin and anorectic. The skin was of a yellow green color, and the mucous membranes were only moderately vascularized. The post-

mortem examination was confined to the abdominal contents. The abdomen was moderately distended, but the abdominal walls showed a panniculus, thicker than normal but pale. The striae on the skin made it apparent that a considerable amount of flesh had been lost.

On opening the abdomen, an enormously distended stomach filled the entire anterior portion of the peritoneal cavity, extending from the ensiform almost to the pubes. On opening the stomach it was found to contain a very large amount (about one and one half quarts) of dark, ochre colored fluid of the consistency of ordinary mockturtle soup. The walls of the stomach were thin, the pylorus practically obliterated because the distention extended through the duodenum to the tumor in the head of the pancreas. The rugae were obliterated, the mucosa congested.

The colon was very small, narrow, and empty. The small intestine was almost empty and contained but little gas.

The head of the pancreas contained an extremely hard nodular growth about one and one half inches in diameter, extending for about the same distance into the pancreas and into the duodenum, which it constricted, surrounding the splenic artery. On section of the growth, it was found to be ulcerated on the surface in the duodenum; deeper in, it was white, extremely firm, and fibrotic. The portion to the left was hemorrhagic. A very small calculus in one of the larger pancreatic ducts was found. The remainder of the pancreas was extremely thin and atrophic. The splenic artery had a slight degree of atheroma.

The common bile duct was patent. No enlarged lymph nodes in this vicinity could be seen or felt. The bile duct was enormously distended with dark greenish viscid bile, but contained no calculi. Apparently the obstruction to the flow of bile had been purely mechanical.

The liver was small, flabby, and elongated from above down; the left lobe was very long and pushed over to the right of the median line. The liver tissue was normal in consistency but very deeply stained with dark green bile, and the bile capillaries were very well marked out. The gallbladder was remarkably distended and tense, showed no evidences of inflammation, and contained about 150 c.c. of dark green bile, but no calculi. The spleen was normal.

The kidneys showed chronic parenchymatous nephritis, were bile stained, contained a few areas of fibrosis; capsules were nonadherent.

The bladder and internal genitalia were apparently normal.

**Anatomical Diagnosis.**—Tumor head of pancreas; intestinal obstruction with dilatation of the stomach; obstructive jaundice, chronic nephritis.

**Cause of Death.**—Intestinal obstruction with dilatation of stomach due to malignant disease of the pancreas (carcinoma), which caused also obstructive jaundice; chronic nephritis.

**Histological examination of tissues from autopsy.**—Tumor of pancreas (a) from the head. Carcinoma with marked myxomatous degeneration, fibrosis and infiltration with polynuclear leucocytes; (b) from the tail. Marked fibrosis and atrophy of glandular tissue. Kidney tissue. Marked chronic parenchymatous degeneration of epithelial cells of convoluted tubules, the tubules distended and contained hyalin casts. Obliterating endarteritis, no increase of connective tissue. Liver tissue. Chronic parenchymatous hepatitis, fatty degeneration and interstitial hepatitis with marked bile pigmentation of liver cells. Obliterating endarteritis.

In conclusion it may be said that the Cammidge reaction has been obtained by us in a few more instances which are also likely to be affections of the pancreas. As in all these cases no confirmatory proof could be given either by an autopsy or an operation, we shall withhold all the material, therefore, for a future paper, when more cases of positive reaction in suspected pancreatic disease may be at our disposal.

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- 123 EAST NINETY-FIFTH STREET.

## A CASE OF POISONING WITH TANSY (TAN- ACETUM).

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The author deemed the following case worthy of record, as it adds another forcible illustration to the long list of the pernicious habit of counter prescribing, improper, unskilled dispensing, and consequently dangerous use of drugs, and affords an example of the toxic properties of tansy.

Talleyrand, I believe, is credited with the saying: "Language was invented to conceal thoughts," and it would appear that laws regulating the sale of drugs have been made to be circumvented. It is not the writer's intention to accuse the druggists indiscriminately—for happily we have thoroughly reliable and honest men in that profession—but to call attention to the evil referred to above, which has become so common and has been discussed by the medical journals and even by the magazines ad nauseam. It is difficult to understand how any conscientious pharmacist can place a dangerous remedy in an individual's hand without a proper prescription and assume the responsibility and run the risk of a possible death, as a result of his cupidity. Virgil's lines, *Quid non mortalia pectora cogis auri sacra fames*, are as applicable at the present day as thousands of years ago. We have daily examples of this tendency in the human breast when reading the high sounding and misleading advertisements of nostrums in medical journals, unfortunately allowed to appear in the advertising columns, a subject that has been frequently alluded to in print and in the meetings of medical societies. Well might we ask in righteous indignation, *Quo usque abutere patientia nostra?* Mere moralizing, however, will not change the present condition of things one iota; drastic measures are required. If Hercules had stopped to moralize when he undertook to clean the Augean stables, his task would have remained unaccomplished. Could we apply Zeus's heroic treatment, meted out to his son Vulcan (*Iliad A*, line 590):

ὅση γὰρ με καὶ ἄλλοι ἀλεξέμεναι μεμαῶτα  
μυθε, ποδὸς ἑσταγών, ἀπὸ βηλοῦ δισπείβοιο.  
πᾶν δὴ μαρφερόμεν, ἅμα δὴ ἑλίῳ χαταδύντι  
κάπτεσον ἐν Λήμνῳ, ὀλίγος δέ τι θυμὸς ἐν ἧεν,

to this genus homo, what a great benefit it would be to the human race!

Trusting this somewhat flowery preamble may not prove too tedious, the author would refer to the drug as it appears in the *materia medica*. "Tanacetum, or tansy, is described as the leaves and tops of *tanacetum vulgare*, a perennial, herbaceous plant of the natural order compositæ. The flowers and seeds are also endowed with medicinal properties. Tansy is indigenous to Europe, but is cultivated in our gardens, and grows wild in the neighborhood of old settlements. It bears yellow flowers, arranged in a dense terminal corymb. It exhales a strong, penetrating, but not unpleasant, odor when fresh, and its taste is bitter and aromatic. These qualities depend mainly on an essential oil which is most abundant in the flowers and seeds, etc. (Stillé.)" The same author describes the action of the drug as follows: "Tansy, in moderate doses, acts as a gentle stimulant to the digestive organs, and when more freely given produces some general excitement, augments the urine and perspiration, and may bring on nausea, vomiting, and diarrhoea. In overdoses the oil acts as a fatal poison, producing unconsciousness, flushed cheeks, dilated pupils, hurried, stertorous respiration, strong spasms, a full and frequent pulse, repeated convulsions, and then a failing pulse and death." Given in decoction in overdose it does not appear to give rise to convulsions, as noted by Pendleton (quoted below) in a fatal case, differing in this respect from cases of poisoning with the volatile oil. The drug was formerly employed as an emmenagogue, and has diuretic and anthelmintic properties. There are no official preparations, but a fluidextract may be prepared according to the general rule and administered in doses of ℥x to ʒi. The dose of the volatile oil (oleum tanacetii) is 1 to 3 drops. An infusion (tansy tea) may be made in the proportion of ʒi to the pint and used in doses of ʒi-ii.

On January 17, 1907, the writer was hurriedly called to attend the following case at 9 p. m. The patient, a young married woman, twenty years of age, presented the following symptoms: Pulse 160, rapid respiration (40), dilated pupils, clammy skin, more or less rigidity of the muscles of the jaw and legs; she was in a semistupor and unable to answer questions intelligently. Upon questioning the husband, he informed me that his wife, acting upon the advice of a married sister, had taken ʒii of oleum tanacetii for the purpose of bringing on menstruation, at half-past 8 o'clock in the evening. About thirty minutes later, while in the act of disrobing, he heard her fall on the floor. A hypodermic injection of apomorphine hydrochloride (gr. 1/10) was promptly given, and in the vomit the characteristic odor of the drug could readily be detected. This was followed by a liberal dose of spir. ammonii aromatici; in an hour's time the symptoms had improved, respiration becoming less frequent, the pulse more regular, and the patient could respond satisfactorily to questions. Three days later the woman called at my office and stated that the muscles of the jaw still felt stiff and sore, and complained of similar sensations in the muscles of the legs. Judging from the alarming symptoms, it is very probable that the patient would have died, had an emetic not been administered promptly. There was good reason to believe that the drug was not taken with criminal intent, and the woman was entitled to the benefit of the doubt. Careful



questioning elicited a history of irregular menstruation. She began to menstruate at fourteen years of age, but quite irregularly, and there had been amenorrhoea for several months when sixteen years of age; during the last eight months the menses had been entirely suppressed. She had been married for six months; there were, however, no symptoms indicating pregnancy. Four days later the woman informed me that she had commenced to menstruate, probably due to administration of tinct. ferri chloridi. The writer managed to obtain the bottle from which the medicine had been taken and which still contained about  $\frac{3}{4}$  of the oil of tansy; the absence of a proper label and directions and of the pharmacist's name on the bottle aroused suspicion. The patient admitted that she had been instructed by the druggist furnishing the medicine not to mention his name, and she could not or would not remember the place where she had bought the drug.

Tansy appears to be a favorite remedy with the laity in suppressed menstruation, and is regarded popularly as an abortifacient, although it does not possess this power, as has been demonstrated in cases of poisoning with the drug, in which doses of various size, although followed by convulsions and in some instances by death, did not cause abortion. In looking over the literature on the subject, the writer has found several instances of poisoning, following the administration of tansy, which are briefly given.

Dalton (John C., Jr., the *American Journal of the Medical Sciences*, January, 1852, p. 136) describes a case of poisoning with oil of tansy, in which death resulted at the end of three hours and a half, and the quantity of the drug taken was about  $\frac{3}{4}$  and  $\frac{3}{4}$  in a young girl, about twenty-one years of age. The case presented the following appearances: Total unconsciousness, cheeks flushed, of a bright red color; eyes open and very brilliant; pupils of equal size, widely dilated and immovable; sclerotics injected; skin warm, not remarkable as to moisture. Respirations hurried, labored, stertorous, and obstructed by an abundance of frothy mucus. The breath had a strong odor of tansy; pulse quite full, forcible, 128; at intervals of five to ten minutes the body was convulsed by strong spasms, in which the head was thrown back, the respiration suspended, the arms raised and kept rigidly extended, the fingers contracted. This gentleman quotes a case, coming under the notice of Dr. Dalton, of Lowell, of a girl, who took a quantity of oil of tansy just before dinner. After dinner she vomited and immediately fell down insensible and convulsed. She recovered after remaining a long time unconscious. Dr. Dalton (Jr.) speaks of another fatal case of poisoning with oil of tansy, occurring in Boston, under the care of Dr. C. T. Hildreth, which was published in the *American Journal of the Medical Sciences* for May, 1835. In this instance a woman took  $\frac{5}{8}$  of the drug and did not lose consciousness entirely till three quarters of an hour afterwards, though she was convulsed at intervals before that time. After unconsciousness became complete, she did not again recover it, and died rather less than two hours after taking the poison. He concludes by calling attention to the fact that although all the muscles, both of the body and limbs, were for three and one quarter hours subjected to a succession of the most violent contractions, there was no sign of abortion, and after death the ovum was found in the uterus entirely undisturbed.

In Dr. Hildreth's case also, pregnancy existed but

a few weeks advanced, and the drug was undoubtedly taken for the purpose of producing abortion, but nothing of the kind took place. The general symptoms in that case were similar to those described in the foregoing, the most remarkable difference being the more gradual loss of consciousness, and the more rapid death after a much smaller dose. Dr. Chapin (*Boston Medical and Surgical Journal*, 1858, p. 383) describes another occurrence of poisoning in a married woman, who was found in bed, partly conscious, and in paroxysms. The quantity of oil of tansy taken was  $\frac{3}{2}$ ; the woman was four months pregnant, and took the oil to bring about abortion. In an hour the mind became clear and the woman recovered.

John E. Pendleton (*American Medical Times*, ii, 177, March 16, 1861) reports fatal poisoning by decoction of tansy in a negro girl, twenty-one years of age, who had taken a large quantity of strong decoction, for the purpose of producing abortion. She died twenty-six hours after taking the drug. There occurred delirium, slow and laborious respiration, contracted pupils; paralysis of the muscles of deglutition and of all the voluntary muscles ensued. There were no spasmodic or convulsive movements of the body through the whole progress of the case, as has been observed in cases of poisoning by the volatile oil of the drug; abortion did not occur.

It will be seen from the foregoing that a drug with whose properties the laity are but improperly acquainted and whose use may be followed by the gravest consequences should under no circumstances be allowed to be sold promiscuously and without a prescription.

O judgment, thou art fled to brutish beasts,

And men have lost their reason!

Unless energetic measures are taken to suppress the evil, similar cases will continue to occur.

1538 NORTH FIFTEENTH STREET.

#### THE COMPARATIVE THERAPEUTICAL VALUE OF THE COMPOUNDS OF IRON.\*

By R. E. VAN GIESON, M. D.,  
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As introductory to this topic I wish to invite your attention to a brief survey of the present state of our knowledge of hæmoglobin and the metabolism of iron. Somewhat over a half century ago Dr. George B. Wood, in writing of the existence of iron in the blood, stated: "The probability is, that it is united with some peculiar organic principle, having for it an affinity beyond any other body in nature, and capable of being overcome through chemical agency only by the destruction of that principle." It is very remarkable to note that this "probability" of that able clinician expresses very concisely and truly nearly all that we know in regard to this important element at the present day. Long considered as a combination of hæmatin and globulin, it is now known to be a definite nitrogenous element of the blood not separable without destroying its molecular constitution. Hæmatin is a product of destructive analysis. Hæmoglobin is a protein unit. It is the

\*Read before the Medical Association of the County City of New York at a special meeting held at the Hotel de Ville, March 5, 1908.



basic, essential element of the red blood corpuscle and carries literally the breath of life. Its necessary molecule is iron.

The total albumin of the blood is about four per cent. The quantity of iron is less than 0.1 per cent, a surprisingly small amount when we consider the enormous energy developed in carrying oxygen to the remotest tissues of the body, the average adult consuming about eighteen cubic feet of that gas in twenty-four hours. The microscope reveals comparatively few facts as to the structure of the red corpuscle, and physiological chemistry does not add materially to our knowledge, since the chemist can only describe the constituents of dead cells.

We may infer from our present knowledge that the blood corpuscle, inasmuch as it contains normally from eighty-four to ninety-six per cent. of hæmoglobin, is mainly made up of that substance, and that the remainder is an apparently structureless stroma with which the hæmoglobin is united.

Coming now to the metabolism of iron, either as a food or drug, we approach a field which, in spite of the enormous amount of careful research that has been made, is confessedly a *terra incognita*.

Living matter is essentially unstable. Constructive metabolism leads us into a maze of myriads of cells incessantly changing, wherein no fabled thread of Ariadne is found to lead us securely on. A single sentence from Chittenden's *Nutrition of Man* expresses the magnitude and despair of the problem: "Regarding the process of anabolism, as in the construction of living protoplasm out of inert food materials, we can say nothing. This is altogether beyond our ken at present, and doubtless will remain so, since it involves a chemical alteration or change akin to that of bringing the dead to life." Nevertheless, work in this direction has not been entirely futile. We have learned that nearly every foodstuff that enters the human laboratory, with the exception of water, suffers change, and that this is specially true of iron, considered either as a food or medicinal remedy. Melzer, speaking of the metabolism of iron and the changes of ingested iron into hæmoglobin, states: "The normal animal body commands a large reserve fund of iron, which is far in excess over its immediate requirements. The liver, bone marrow, and especially the spleen, are the main depositories for the reserve iron, which is reserved in the form of resistant organic compounds. (This confirms the observation of Carpenter, made some sixty years ago, that the spleen, besides regulating blood pressure, was also an organ of sanguification.) "All ingested and absorbed iron, no matter of what character and origin, goes first to one of these depots, where it becomes converted into organic compounds.

The first function of absorbed iron is to increase the iron reserve.

The ingested iron, no matter of what character, is never utilized directly for the construction of hæmoglobin."

Bearing in mind these important statements so closely connected with our subject, we are better prepared to estimate the comparative value of iron compounds. For practical purposes we can divide them into the ferric and ferrous official preparations, the non-official preparations, of the dispensaries and national formularies; the so-called organic com-

pounds—albuminates, peptonates, caseinates—of which the formulas and methods of preparation are given; and a final class which may be called commercial, in some of which an atomic formula is given, but the method of preparation is known only to the manufacturers. Their names are supposed to indicate their composition. In estimating their comparative remedial value I shall only refer to their use in the tractable forms of anæmia and neurasthenia, where deficiency of hæmoglobin forms the prominent indication for their use.

Direct, primary anæmia from loss of blood is not benefited by iron unless convalescence is retarded. In such cases it is not the lack of red blood corpuscles that makes the real element of danger, but the fall of blood pressure to a point where circulation fails. If the circulation can be maintained there still remains a sufficient number of red blood corpuscles to carry on respiration, and the immediate treatment is to raise the blood pressure within the vessels. Even here, transfused blood from a healthy donor possesses no direct nutritive value, and it is doubtful, at least not proved, that the transfused blood performs the same functions as the original blood of the recipient. A 0.75 per cent. solution of salt, sterilized, injected into the veins, gives all the advantages that can be obtained from the transfusion of blood. If the patient recovers the question of iron comes later on.

At the threshold of our inquiry, the question meets us, Which are to be preferred, the ferric or ferrous compounds?

Ferric salts are supposed to produce insoluble albuminates with the stomach juices, while the ferrous salts give soluble albuminates. But it is contended that the soluble ferrous albuminates are converted into ferric albuminates before absorption takes place. There is, then, practically no real difference, and our choice may be guided more by the palatableness and acceptability to the stomach than by these theoretical suppositions.

It would be foreign to the purpose to attempt to describe each official preparation, the object of this paper being only to consider those that have been and are now in common use. Among the oldest and most useful is the ferrous carbonate in its various forms, which, unless freshly prepared and immediately taken, always contains a variable proportion of sesquioxide.

Dr. George B. Wood, in his *Treatise on Therapeutics*, commends this "both for its gentleness and efficiency. I am in the habit of using it, and calculate with the utmost certainty upon the desired effects from it. In the Pennsylvania Hospital there is a constant succession of patients, especially in the autumn, in the most pitiable state of anæmic debility, often complicated with edema of the limbs, to whom a dose of this medicine three times a day, with a little quinine and nutritious diet, in the course of from two to four weeks, and sometimes even a shorter period, restores healthy color and strength." Its only liquid preparation is the *mistura ferri* composita, a modification of the antihæctic myrrh mixture of Dr. Griffith.

Personally I think I have obtained better effects from iron carbonate by giving it immediately after mixing, and having the ferrous sulphate and potas-

sium carbonate in separate bottles. So prepared and taken the precipitated carbonate is not long enough exposed to the air to produce the sesquioxide. The water used in making the two mixtures should be boiled so as to expel the air. In this way we get nearly the full equivalent of unaltered ferrous carbonate.

Vallet's mass, prepared according to the German pharmacopœia, contains about fifty per cent. of ferrous carbonate. Prepared according to the French pharmacopœia, it contains some forty-one per cent.

Ferrum oxydatum saccharatum solubile contains three per cent. of metallic iron. According to Hager it is not a mere mixture, but a definite compound, in which sugar plays the part of an acid and the iron that of a base. Its solution gives no reaction with potassium ferrocyanide or sulphocyanide; with tannic acid, a very slight opalescence, but no violet or blue black color. To borrow Dr. Wilcox's most appropriate word, the iron seems quite thoroughly "masked," although it is not "organic." Hager states that its introduction into the German pharmacopœia is of the greatest importance. It is mild, but highly efficient. It never irritates even in larger doses, and does not discolor the teeth. It can be added to food without in the least altering the normal taste of the latter. I can only say from personal experience that I can fully testify to the truth of all that Hager has said in its favor, and it should be incorporated in our pharmacopœia. It is especially useful in prescribing for children, as they rarely know that they are "taking medicine." In these cases it is best given in a little weak chocolate or cocoa.

Ferrous sulphate, usually dispensed in pill form, is recommended by Warfinge, of Stockholm, and no doubt is a favorite form of iron with many. I have never used it, on account of its highly astringent and slightly corrosive action on the mucous membrane. Its solution is excessively disagreeable and cannot be disguised by any form of adjuvant.

Ferric phosphates.—Of these the best are the soluble ferric pyrophosphate, official in the pharmacopœia of the United States, and the ferrum pyrophosphoricum cum ammonio citrico (Hager *Pharmaceutische Praxis*, i, p. 1081). The author states: "This preparation, which has the misfortune to possess no empirical or shorter name, is unconditionally a splendid iron remedy, and deserves a more extensive consideration." It differs advantageously from most of the scale salts of iron in being nonhygroscopic, keeps well, is nearly tasteless and easily soluble. It contains on an average 16.6 per cent. of iron.

The ferric salts with the vegetable acids.—Acetates, citrates, tartrates, mallates, and their double salts, in my own experience rank very high. Iron tartrate and potassium, long ago recommended by Ricord in his lectures, is one of our best remedies in postsyphilitic anæmia. The following mixture I have used for many years with good results:

R	Ferri et ammonii citratis,	5v.
	Aque cinnamomi,	f
	Vini ammoniaci,	AA 5vi.
M. S.		

Two teaspoonfuls of this equals about 5 grains. It is agreeable to the taste, acceptable to the digestive organs, and rarely fails to produce the hoped for results.

Iron acetate in the form of Basham's time honored mixture is too well known to need more than a passing allusion. It is official as the liquor ferri et ammonii acetatis.

Dialyzed iron.—Liquor ferri oxychlorati is official in the German pharmacopœia. It has been discarded from the British pharmacopœia. It may be prepared by dialysis or by mixture. Hager states that, prepared by either method, the resulting preparations are chemically identical. It has been objected to because, in contact with the stomach juices, it becomes insoluble, but this is only a transitory condition. It soon becomes soluble and enters rapidly into the intestinal fluids. It is palatable and can be diluted to any extent with distilled water. According to German authorities it should be ranked with the best of iron preparations. The idea of many physicians that the stomach is a dialytic apparatus and therefore must be indifferent is without foundation. Chittenden truly says that dead parchment and the living membrane of the intestines are not to be compared with each other. The living cells that stand as guardians of the portals modify the rate of passage and control absorption.

Reserving one of the best for the last, we take up ferric chloride, the oldest of them all. The official tincture is about the most disagreeable compound of this most valuable salt of iron that could well be devised. A better form is the simple dilution of the official liquor ferri perchloridi to the strength of the tincture and the addition of glycerin. A good formula which I have used for a long time is:

B	Liq. ferri perchlor,	35 parts;
	Aque distillatæ,	65 parts;
		q. s. ad 5x.
	Glycerini,	5ii
M.		

The strength is slightly less than that of the tincture. It is to be noted that iron perchloride solutions, when added to proteid substances, form albuminates, as may be proved by adding it to albumin solutions or with milk. The preceding solution, when given with milk, 10 to 30 drops in 10 to 30 drachms of milk, makes a palatable mixture, does not attack the teeth, and undoubtedly, from the strong affinity of the perchloride for proteids, contains some "masked" or changed iron differing from the perchloride. As a general remedy for anæmia thus administered it will give excellent results, and for the anæmia following or attending rheumatism it is the remedy par excellence.

Organic iron, iron albuminate, caseinated lactate of iron, peptonate of iron, extractum sanguinis bovini.—This group is the result of efforts to attain some form of nitrogenized iron, under the supposition that in such combination they would be more readily absorbed, and consequently more effective as remedies or foods. The formulas for all these can be found in the dispensaries and the National formulary, and can be prepared by any competent pharmacist. Dr. Jackson, of Philadelphia in 1852 prepared a dried blood from bullocks, and for some time it was considered as Nature's remedy for anæmic conditions. The blood is the life. Urgo, fresh or dried blood should make blood. Many of us can recall the dangerous practice of drinking the fresh, warm blood of bullocks at the slaughter house. The results did not justify the very logical



inference. The iron was certainly true organic iron, but it pursued the same path as other forms of iron, and gave no better results, either as a food or tonic.

The last group, comparatively small, are those "organic" preparations that are asserted to be better than those we have long used. In some the atomic formula is given, but their method of preparation is known only to the manufacturers. In the discussion of this class it is hardly possible to be entirely impersonal. I have no ethical prejudice against them, I welcome them with unreserved mental hospitality and cheerful expectancy, I take them experimentally, I prescribe them fairly and with proper judgment as to favorable cases for iron treatment; but thus far I have obtained no better, no quicker results than from the official preparations.

Dr. Laspeyres, of Bonn (*Journal of the American Medical Association*, Literary review, p. 340, 1907), comparing inorganic and organic iron, states: "In the desire to approach the supposed method of Nature there has been a tendency to take up the complex organic preparations to the neglect of those simple preparations which were estimated so highly in the past. The modern preparations cannot be recommended as economical, as the percentage of iron is small and the doses necessarily large." His conclusion is in favor of the official preparations.

Dr. F. W. Warfinge, of Stockholm (*Journal of the American Medical Association*, Literary review, p. 1409, 1907), records results from fifty cases of chlorosis. He states that in chlorosis the effect of iron is not felt unless given in a compound which shows the iron reactions with the ordinary tests.

Dr. Wilcox, in his paper, "Modern Iron Therapy," arrives at a directly opposite conclusion, stating that:

"In determining the form of masked or organic iron for oral administration one should be selected which (1) should be of definite chemical composition; (2) does not precipitate with a silver nitrate solution; (3) does not give the blue black color with MacCallum's test; (4) is not decomposed by the hydrochloric acid of the gastric juice; and (5) it must show definite results in (a) an increase in the number of red bloodcorpuscles, and (b) in the amount of contained hæmoglobin. These requirements are evidently the most rigorous which can be devised, and in meeting them modern iron therapy will be placed upon a secure foundation."

These widely divergent opinions of competent observers must be due to the fact that the older and the more recent preparations in properly selected cases give equally good results, and it is apparent that the rigorous requirements suggested in Dr. Wilcox's paper are not essential to successful treatment.

It is germane to this subject to recall to mind the fact that hæmoglobin percentage when below the normal may be raised without giving iron in any form except as it occurs in the food. Rest in bed, with milk diet and unfermented grape juice, with massage, increases hæmoglobin. The influence of light is favorable in preserving normal hæmoglobin percentage. In animals well fed but deprived of light it falls below the normal. Prison pallor is doubtless due to some extent to reduction of hæmoglobin from deprivation of light. Static electricity is an important aid in improving the condition of impoverished blood. In answer to my in-

quiry on this point, Dr. J. Herman Branth has kindly sent me the following notes:

I have not personally conducted examinations of blood counts, or hæmoglobin percentage, but have read in my medical journals that static electricity elevates the percentage of hæmoglobin. I believe that this is the commonly accepted opinion. I adhere to it, and practice accordingly.

To me personally the principle involved in the cure of anæmia and neurasthenia by the proper form of electricity seems plausible and the results attained confirm the theory. It is generally accepted that protoplasm is stimulated (when below the normal) to greater activity by static electricity, this means improvement in metabolism or the intake of nourishment, and the casting off of waste products. In neuralgia and neurasthenia this process is below the normal, the tissues are underfed, and the accumulated waste acts as toxins to the cells. We know the nerves have no blood vessels, but get their nourishment from the blood vessels in the nerve sheath, and when the blood is impoverished there rises a cry for nerve cell food. This cry we may call neuralgia or a local neurasthenia. In general neurasthenia the whole organism is implicated in this defective metabolism. The concomitants of this condition are general restlessness, undue excitability, loss of sleep, constipation, anæmia, vulnerability to atmospheric changes and to microbic infection, or in general to a reduced resistance to the invasions of disease.

In such a condition, what will the administration of iron do? Will it be absorbed if the organism is suffering from lowered and defective metabolism, and as iron is contained in nearly all our foodstuffs, why does not the organism abstract and assimilate it? We know that under just the conditions described iron in any form frequently passes out of the system without producing any appreciable effect. Now, let us see what happens when we give a case of this kind the static electric bath. In a few minutes it produces unconscious perspiration, sometimes profuse perspiration. In some cases the secretion has such an offensive odor that the room requires ventilation. This certainly indicates the elimination of waste material. *Pari passu* we notice increased heart action. Applying now sparks and spray to the abdomen, we find the peristaltic action of the intestines decidedly increased and evacuations soon follow. Now, if in these forms of defective metabolism we have in electricity a means of eliminating waste products and increasing the heart's action, it is certainly reasonable to expect improved nutrition, and as a result the assimilation of iron given as a remedy is more likely to ensue. I believe most emphatically that electricity in these cases is a most valuable synergist to the favorable action of iron preparations.

Defective metabolism, with its attendant evils of autointoxication and constipation, are very serious impediments to the favorable action of iron compounds. If we give iron in such cases perfunctorily and indiscriminately, we fail to attain the full benefit of the remedy. There may be a temporary improvement, but the conditions which are causative of the anæmia are not controlled, and unfortunately in many cases cannot be, as the circumstances of the patients will not permit them to lose the time and incur the expense of proper preparatory treatment.

To sum up:

A careful study of iron metabolism shows that the official preparations of iron so long useful in the past will increase hæmoglobin.

The ferrous carbonate; the soluble oxide with sugar; the double salts with the vegetable acids; the solution of the perchloride given in combination and largely diluted with milk, are the forms most likely to produce good results.

Directly conflicting views as to the value of the modern proprietary preparations exist among competent observers.

In all iron medication the question of defective metabolism is important.



Cases must be individualized and preparatory treatment is essential.

Rest in bed, massage, milk diet, unfermented grape juice, and static electricity are valuable adjuvants preparatory to or during the administration of the iron compounds.

94 KENT STREET.

# THE SURGICAL TREATMENT OF APPENDICITIS.\*

By JOHN EGERTON CANNADAY, M. D.,  
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The surgical treatment of appendicitis resolves itself into the treatment of chronic cases, acute cases, and pus cases.

In the first and second class of cases I believe in the unqualified removal of the appendix, first, last, and always. In the third class of cases I simply incise and drain, removing the appendix, provided the condition of the patient warrants the interference and provided that the appendix can be secured without breaking down the wall of adhesions that has been formed between the abscess cavity and the general peritoneal cavity.

To successfully cope with the many and sundry shadings, intricacies, complications, and combinations of these three more or less arbitrary classes will at times tax the skill and ingenuity of the most accomplished operator. The chronic cases, unless there are numerous adhesions, can be dealt with through a small incision. When the adhesions are numerous and many difficulties stand in the way of locating, much less removing the appendix, a larger incision with its added room will be required. Again, the skilled surgeon can accomplish through a short incision that which the tyro could only accomplish through a long incision. The incision preferred is a short gridiron; this when closed by tier catgut and healed primarily should never result in hernia. When used for drainage and a small drain used hernia will seldom follow.

When more room is needed, as, for instance, in the dissection of dense adhesions, an incision of fair length in the rectus is more desirable. The muscle fibres should be separated without the division of nerve trunks so as to avoid subsequent muscular atrophy in the abdominal wall.

Pick up the appendix, apply a hæmostat about its middle, ligate its mesoappendix with catgut, including the entire meson in the grasp of the one ligature; an artery forceps is placed on the mesoappendix between the appendix and the ligature for the protection of the latter when the appendix is being freed. A forceps is clamped on to the appendix flush with the cæcum, a second hæmostat is placed just above the first and gradually worked upward for about one quarter of an inch, forcing the contents of the appendix before it. The appendix is now amputated with knife or scissors, flush with the jaws of the forceps applied next the cæcum, and the cut surface touched with the thermocautery or a little carbolic acid on a cotton tipped applicator, followed by alcohol. I invert the appendix by the purse string method with ten day chronic catgut

of medium size threaded on a round pointed needle. Beginning at the point of attachment of the meso-appendix, the needle is carried under the artery supplying the appendix and again under this vessel for the second time, obliterating the vessel as if it had been tied; two or three turns of the needle are taken into the cæcum on either side of the base of appendix. When the handle of the artery forceps is reached the ligature is carried over instead of under in such a manner that when the ligature is drawn taut and the handle of the forceps raised a ring of the cæcum is readily drawn up over the amputated stump of the appendix with much ease. This method is described by me in detail with cuts in the *Journal of American Medical Association* of June 1, 1907, XLVIII, page 1865.

The inversion site is reinforced by a few Lembert sutures of ten day catgut.

Drainage is not used unless it is deemed absolutely necessary. In my own practice I have reversed the old dictum, "When in doubt, drain," and when in doubt I do not drain. In a number of drainage cases it is an advantage to carry the drain through a small stab wound, so that the operation wound may be closed in the usual manner by layer sutures.

At times pus cases are so situated that postperitoneal drainage can be used, but this does not happen very often. Some of the postcæcal abscesses can be appropriately drained through the loin; when an abscess cavity has to be drained remove the appendix, provided it can be gotten out without breaking down the abscess wall; otherwise leave it until after the abscess and its resultant sinus have closed, then do a secondary operation for its removal.

I believe that all patients with appendicitis should be operated upon irrespective of the stage of the trouble. When the case is one of general peritonitis or extensive local peritonitis a small incision should be made and a cigaret drain inserted, no more, no less. Irrigation, sponging, and mopping out, breaking up adhesions, etc., in such a case, would be murderous. Postural drainage is undoubtedly of some value in these cases. I greatly favor having the patient lie on the side in which the drain has been placed for a few hours at least immediately after the insertion of the drain. The administration of normal saline enemata to the patient who is weak or exhausted gives valuable support.

KEESLER BUILDING.

## REPORT OF A CASE OF CEREBRAL ABSCESS WITH MASKED SYMPTOMS.\*

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The following case was admitted on October 14, 1907, to the New York Hospital, medical division, under the service of Dr. Edward P. Cornwall:

Mrs. J. A. C. (with previous hysterectomy), 40 years of age, single, New York.

Family history: Mother, sister, and two brothers died of pulmonary tuberculosis; one brother died of tubercular meningitis.

Past history: No disease of childhood that she remem-

\*Read by author before the Kentucky State Medical Association, Louisville, Ky., October 1907.

\*Read before the New York State Medical Society, December 1907.

bered. Except for two attacks of rheumatism she had always been perfectly healthy. Two years ago she had a severe earache in her right ear, which was relieved by a sinupism applied to the back of her neck; discharge was not present. Menstrual life began at fifteen; twenty-eight day type, lasting from two to three days; rather painful; moderate in amount. Patient had one child, seven months old, no miscarriages. She took an occasional glass of beer, no tea; coffee, three or four cupsful a day.

Her present trouble began two months ago, commencing in a constant, sharp headache, slightly worse at night; always located in the right occipital and parietal regions. She vomited occasionally; the same had no reference to meals. Once or twice the vomiting was rather forcible. She had attacks of vertigo, also visual hallucinations, but never any paralysis or epileptic attacks. Her control of bladder and rectum was perfect, bowels were constipated.

Examination: Patient looked poorly nourished; complexion was fair; lips and conjunctivæ were anæmic, tongue slightly coated. Teeth were in fair condition. Pulse was regular, small, of low tension, vessel wall was not thickened. Pupils were equal and reacted to light. Heart and lungs were normal. Abdomen and extremities were normal. Urinalysis: On October 17, 1907, showed specific gravity 1.018, urine straw colored, triple phosphates present, very fine trace of albumin present, no sugar. There were present a heavy sediment, mucus and debris, epithelium and white blood cells.

Diagnosis: Held in reserve.

Treatment: Purely symptomatic.

Epitome of family history, past history, and present condition. Family history of tuberculosis very strong. No diseases of childhood. Pain in right ear two years ago. Occipital headache on right side of head constant and worse at night. Forcible vomiting. Vertigo. Poorly nourished patient. Anæmic. Small low tension pulse.

On October 20, 1907, eyes were examined by the consulting ophthalmologist and found to be entirely normal, not even a congestion of the vessels of fundus.

On October 21, 1907, the consulting physician examined his patient and thought the condition due to anæmia, malnutrition, and decayed teeth.

On October 31, 1907, the consulting neurologist examined the patient and did a lumbar puncture, but a dry tap was obtained. On the same day an aurist examined ears and only a congestion of right drum was found.

Blood count: On October 31, 1907, showed white blood cells, 18,000; polymuclear cells, 86 per cent; lymphocytes, 11 per cent; eosinophiles, 1 per cent; mast cells, 2 per cent; hæmoglobin (blotting paper method), 90 per cent.

On November 1, 1907, the attending surgeon decided that patient could not be operated upon until something more definite could be localized.

On admission the temperature was 99.6° F.; the highest temperature being 101° F.; lowest temperature 97.2° F. The average morning temperature was about normal; the average evening temperature was 99.4° F. Five days prior to death a normal temperature was present.

The pulse rate ran from 82 on admission to 145 before death. Lowest pulse rate 68.

The respirations never varied from 20 to 24 throughout.

In spite of all treatment the headache continued until November 2d, when patient became stupid but answered questions rationally. Suddenly at 5 p. m. breathing became very slow and shallow. Pulse kept fairly strong, later becoming thready and slow, until death occurred at 6 p. m.

Necropsy: Upon opening the calvarium an irregular, burrowing abscess in the left hemisphere just external to the lateral ventricle could be made out. This burrowing pus could be traced to a small opening entering the right ear. The base of brain was covered with exudate. A complete post mortem examination was not performed, by request of family.

**Conclusions.**—Briefly stated, here was a case of a young woman with a strong family history of tuberculosis; a history of pain in her right ear without any discharge of pus two years previously; a pain in right occipital and parietal region coming on two months before her admission to the hospital, this pain being constant and unrelieved by treatment and worse at night; forcible vomiting; vertigo; anæmic; a low tension of 18.000; low tension pulse; patient

dying after all apparent means had been employed to locate her disease; and the necropsy showing the diseased condition in the left hemisphere of the brain, where there had never been the slightest sign to indicate the location of the abscess in this situation. Had the consulting surgeon operated over the site of trouble as indicated by the symptoms he never would have reached the diseased area.

Operative evacuation of the abscess is the only treatment that can be considered, yet how impossible it is to operate when the symptoms bear no relation to the location of the abscess, as in this particular case. Without such an operation the disease is, of course, fatal.

The statistics of Korner show that there is hope in many of these cases by operation. Of seventy-six cases in the cerebrum, forty-two patients were cured, thirty-four patients died; of sixteen cases in the cerebellum, nine patients were cured, seven died, i. e., 56 per cent. of each were cured by operation.

Greene, in the *International Textbook of Surgery*, says: "To wait till a complete diagnosis of the presence and situation of an abscess is in the majority of cases to lose the only opportunity of saving life, for the full development of symptoms necessary for such a diagnosis in most cases show themselves only in the latest stages, just before death, when the vital forces are so reduced that operative procedure is not justifiable. For a fair chance of success the operation must be done early; and the fact already stated, that in 92 per cent. of otitic abscesses of the brain the bone is diseased directly to the dura, justifies and demands an exploration of the bone, even on slight suspicion of brain disease. If this is done by exposing the ear cavities by the so called radical operation, the disease can be followed inward from its source to the brain."

428 FORTY-SEVENTH STREET.

## Therapeutical Notes.

**The Local Treatment of Diphtheria.**—J. T. MacLachlan contributes to *The British Medical Journal*, for March 21, 1908, a note on a case of diphtheria in which recovery followed the application of a paint consisting of a solution of equal parts of liquor hydrargyri perchloridi and glycerinum acidi tannici, of the *British Pharmacopæia*. He was called to see a child on January 5, 1908, and found it was suffering from diphtheria, there being considerable patches of membrane on both tonsils. The face was pale and puffy, and the pulse was soft. He ordered the paint to be used every two hours, telling the mother the object was to kill the germs in the throat. The mother, in her anxiety to get the child well, actually painted the throat every hour, and in thirty-six hours all trace of membrane had disappeared and the child seemed well again, except that she was weak and anæmic. The paint was continued for several days, at longer intervals, and then stopped and an iron tonic prescribed. On January 20th a bacteriological examination was made and the bacillus of diphtheria was found. The paint had been stopped too soon. The lesson which MacLachlan derives from this experi-

ence is to paint hourly, day and night, until membrane is gone, then continue the application at suitable intervals for a week or longer, or until the swab test is negative. The following is his form of prescription::

- R Liq. hydrarg. perchlor. .... 3i;  
Glycerini acidi tannici. .... 3i.

M.

The author says he has used this paint for many years, ordering it to be applied every two hours, unless during sleep, and has found it only fail on one occasion to clear up the throat, when he used antitoxic serum.

**Sprays for Laryngeal Tuberculosis.**—The following formulas are credited Lemoine and Mendel, respectively, in *Journal de médecine de Paris*, for March 14, 1908:

# I.

- R Boric acid, ..... 5iiss;  
Sodium borate, ..... 5iiss;  
Cocaine, ..... gr. ii;  
Glycerin, ..... 3i;  
Boiling distilled water, ..... 3vi.

M.

# II.

- R Balsam of Peru, ..... ʒi viii;  
Tincture of eucalyptus, ..... aa 3i;  
Tincture of quillaja, ..... ʒi lxxv;  
Distilled cherry laurel water, ..... 5iiss;  
Distilled water, ..... 3xvi.

M.

**Sodium Nitrite in Therapeutics.**—Sodium nitrite has been used for some time in therapeutics. It is a drug which requires to be used with caution, because it is poisonous in comparatively small doses, and fatal cases of poisoning are recorded. It is a white salt, readily soluble in water, and it is ordinarily prescribed in aqueous solutions, in doses of two to five grains during twenty-four hours. It is of value in cases of chronic arterial hypertension, according to M. Vaquez (*Archives des maladies du cœur, des vaisseaux, et du sang*, January, 1908), who prescribes the following syrup:

- R Sodium nitrite, ..... 5ss;  
Tincture of melissa, ..... ʒi lxxv;  
Distilled water, ..... 5iiss;  
Simple syrup, ..... ad 3vi.

M. Sig.: One teaspoonful three times a day, the patient taking the medicine for five days and suspending treatment another five days, when the medicine is resumed.

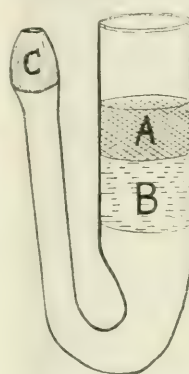
M. Raymond (*loc. citat.*) recommends the hypodermatic administration of sodium nitrite in the treatment of the lightninglike pains of locomotor ataxia. He uses a ten per cent. solution, injecting fifteen minims during the day [? in divided doses] for six days, then suspending treatment for ten days, after which it is renewed for a fresh period of ten days, thirty minims being administered daily in divided doses. The treatment is again suspended as before, and renewed after the interval of rest in doses of forty five minims a day.

**American Wormseed Oil for Ascaris.**—The value of the oil of American wormseed (*Chenopodium anthelminticum*) in the treatment of ascaris is attested by Brunning, of Rostock (*Pharmazeutische Zentralhalle*, March 10, 1908, p. 234), who gives it in from eight to fifteen drop doses, according to the age of the child; every hour for three

hours, in sweetened water, followed by a laxative. If it is not retained readily, or gives rise to colicky pains, when given in this way, it should be taken in a draught of warm milk.

[American wormseed oil is distilled in this country, in the neighborhood of Baltimore, from the entire plant, *Chenopodium ambrosioides* L. var. *anthelminticum* Gray.—ABSTRACTOR.]

**A Middle Ear Inspirator.**—In a communication to the *Journal of the American Medical Association* for March 28th, Percy R. Wood describes an instrument he has devised for the inflation of the



Middle ear inspirator. A, medicated cotton; B, vacuum; C, rubber tip for insertion into nares.

middle ear by the patient at his home. He first calls attention to the fact that tinnitus aurium, which is frequently an annoying and persistent sequel to acute and chronic Eustachian and middle ear catarrh, is often permanently relieved by inflation of the middle ear for a prolonged period. A prolonged course of office treatment is, however, denied to many patients on account of lack of time or means, and for the benefit of such he hit upon the construction of the instrument illustrated, which consists of a glass

tube bent on itself. One extremity is shaped for insertion into one nares, while the other retains the medicament and is inserted between the lips. When charged and in place a sudden expiration forces the medicated vapor into the middle ear. The author says that persistent application of this instrument for weeks or months permanently relieves tinnitus and morbid conditions of the Eustachian and intratympanic membranes in a large percentage of cases. The following solution is used to impregnate the cotton and supply the medicated vapor:

- R Chloroform, ..... 3ii;  
Ether, ..... 3i;  
Alcohol, ..... 3i;  
Oil of rose, ..... enough to scent.

M.

**Zittmann's Decoction.**—In *The Journal of Cutaneous Diseases*, for April, 1908, Professor Montgomery, of the University of California, revives an old and greatly neglected remedy, animadverting at the same time on the present day subserviency of clinicians to chemists. Montgomery believes it is just as erroneous to conclude, because a drug has certain chemical properties, that it must necessarily be of value in a given disease, as to assert that, because a medicament does not answer to certain chemical requirements, it is valueless. Zittmann's decoction at one time enjoyed a great and deserved popularity in the treatment of syphilis, but because the chemistry of the day asserted that the mercury used in it was insoluble, and therefore could never reach the patient, it fell into disuse. Now, through chemistry, it is known that mercury



is present in the finished decoction, and in a very digestible form. He admits that chemistry has done infinite good to the practice of medicine and believes that the hope for future advance lies largely along chemical lines; but "what is objected to is subservience to chemistry, and often to men who never saw a patient." The author gives a minute description of the old way of making Zittmann's decoction, and he emphasizes the necessity of seeing that the instructions are implicitly followed by the druggist who is entrusted to compound it, even if it becomes necessary to "sit over him with a cocked pistol in your hand while the necessary steeping and boiling is being carried out." It is especially difficult to get the instructions fulfilled, Montgomery says, "if the apothecary is over clever and enterprising." The formula of the original preparation is cited by him as follows:

B Sarsaparilla root, .....	100.0 grammes;
Water, .....	2600.0 grammes.

Then add well mixed up and in a linen bag:

White sugar, .....	6.0 grammes;
Powdered alum, .....	6.0 grammes;
Calomel, .....	4.0 grammes;
Cinnabar (mercuric sulphide), .....	1.0 gramme.

Allow to stand over night in a covered porcelain or earthenware vessel. The next morning simmer gently for eight hours. Then add:

Fennel seed, .....	4.0 grammes;
Anise seed, .....	4.0 grammes;
Senna leaves, .....	24.0 grammes;
Licorice root, .....	12.0 grammes.

The leaves should be first brayed in a mortar and then cut fine.

Allow the mixture to stand for three hours and then strain off 2,500 grammes.

This should be labeled Zittmann's decoction (strong).

The weak decoction is made as follows: Take the dregs left after straining off the strong decoction, and add to them:

Sarsaparilla root, .....	50.0 grammes;
Water, .....	2600.0 grammes.

Boil gently as before for three hours, stirring frequently, and add:

Lemon peel, .....	
Cassia bark, .....	
Icicore root, .....	
Short cardamom seeds, .....	ãã 3.0 grammes.

Allow to stand for three hours and strain off 2,500 grammes.

Bottle and label Zittmann's decoction (weak).

The dose of the decoction varies. A wineglassful each of the strong and of the weak is a moderate dose. If it proves too laxative, less may be given. Sometimes large doses are ordered, as a pint of the strong in the morning and a pint of the weak at night, but this is unusual. If the patient is kept in bed, and the decoction is taken warm, it is said to add to its efficacy.

Montgomery says that the decoction may be given also as a mild alternative between courses of inunctions or injections of mercury, or after the prolonged administration of potassium iodide.

**Thymol in Whooping Cough.**—Berger (*Therapeutische Rundschau*, March 22, 1908) says he has met with astonishing success in the treatment of whooping cough by the use of a one tenth of one

per cent. solution of thymol given as an inhalation every three hours, in the following prescription:

B Thymol, .....	gr. viiiss;
Absolute alcohol, .....	℥ lxxv;
Distilled water, .....	℥ xvi.

M.

The thymol will not remain in solution unless the bottle is kept in a warm place at a temperature about 68° F., and it may be necessary to place it in warm water before using, in order to redissolve the thymol.

**Mistura Ferri Aperiens.**—The *Philadelphia Hospital Formulary* (edition of 1899) does not list a preparation bearing the name *Mistura ferri acida*, but under the heading *Mistura ferri aperiens* the following is published:

B Iron sulphate, .....	gr. xvi;
Magnesium sulphate, .....	℥i;
Diluted sulphuric acid, .....	℥i;
Syrup of ginger, .....	℥i;
Infusion of quassia, .....	q. s. ad ℥viii.

Dose: Tablespoonful.

It will be perceived that the quantities of magnesium sulphate and diluted sulphuric acid in this formula are identical with those prescribed in the formula for *Mistura ferri acida* printed in the preceding number of the *Journal* on page 648, but the amount of iron sulphate is reduced and the mixture is made up to eight ounces.

**For Gastric Hyperasthenia.**—The following prescription is attributed to Robin (*Gazette médicale de Nantes*, March 14, 1908):

B Tincture of cocculus, .....	℥iiss;
Tincture of hyoscyamus, .....	
Tincture of belladonna, .....	
Tincture of cannabis indica, .....	
Tincture of opium, .....	ãã ℥i.

M. Sig.: Ten drops at noon and night before meals, and five drops before breakfast.

Another prescription, said to be more effective, is the following:

B Atropine sulphate, .....	gr. 1/7;
Picrotoxine, .....	gr. 1/2;
Alcohol sufficient to dissolve; .....	
Distilled water, .....	℥x.

M. Sig.: One tablespoonful twice daily, before meals, at noon and evening.

**Gargle for Chronic Pharyngitis.**—The following is credited to Eudler in *Journal de médecine de Paris*, for March 14, 1908:

B Zinc sulphate, .....	gr. iiii;
Peppermint water, .....	℥i.

Sig.: Use as a gargle three or four times a day.

**Application for Pruritus Ani et Vulvæ.**—A paste of the following composition may be applied to the parts affected:

B Salicylic acid, .....	gr. xxx;
Phenol, .....	gr. xv;
Tartaric acid, .....	gr. xlv;
Glycerite of starch, .....	℥i.

M.

To be followed by the free use of a dusting powder:

B Powdered talc, .....	℥vii.
Zinc oxide, .....	℥i.

M.

**Application for the Prevention of Bedsores.**—The following, applied as a varnish twice daily to the parts menaced, will act as a preventive of bedsores:

Guttapercha, .....	℥i;
Chloroform, .....	℥i;
Balsam of Peru, .....	gtt. xv.

M.

# NEW YORK MEDICAL JOURNAL

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## THE STATE CHARITIES AID ASSOCIATION'S WORK IN THE CAMPAIGN AGAINST TUBERCULOUS DISEASE.

The State Charities Aid Association is playing a very commendable and efficient part in the effort, undertaken jointly by itself and the Department of Health of the State of New York, to curb the inroads of pulmonary consumption on the public health. Not the least praiseworthy of its activities is the maintenance of a "press bureau," by means of which authentic information is furnished weekly to about 500 newspapers, principally in the State of New York.

We are indebted to the association for a recent issue of its publication, dated March 24th, in which attention is called to the advantage likely to accrue to the Chinese by the forthcoming translation into the Chinese language of Dr. S. Adolphus Knopf's famous prize essay, which we have already announced as about to appear. To some extent, it seems, the preparation of the translation is a result of the association's "press bureau." It is stated in the issue before us that, in reply to an inquiry recently sent out for the purpose of ascertaining whether or not it was the opinion of the editors who received the association's publication that such service was worth while, a letter was received from Mr. Charles M. Fahs, a missionary editor, stating that he thought the service extremely valuable and, adding that he often sent the material to medical missionaries, and that one of them, Dr. George A.

Stewart, connected with a number of farm missions in China, having received from Mr. Fahs a copy of Dr. Knopf's essay, had written to Dr. Knopf for permission to have it translated into Chinese. Dr. Stewart wrote also that the people of China suffered severely from consumption and knew nothing about hygienic methods of combating it.

## THE AMERICAN SOCIETY OF TROPICAL MEDICINE.

The fifth annual meeting of the American Society of Tropical Medicine, which was held in Baltimore, at the Johns Hopkins Hospital, on Saturday, March 28th, was a notable one. In the five years of its existence this society has provided a centre for the distribution of information about tropical diseases and has acted as the rallying point for the increasing number of medical men returning from the tropical climates of the world. Not only are the activities of this body of men of interest to physicians and sanitarians returning from the tropics, but they are or should be of interest to all the practitioners of medicine in the lower austral zone of the United States, which comprises the Carolinas, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Texas, Arizona, New Mexico, and southern California. In all these districts, with the possible exception of southern California, malaria is present in greater or less amount. There is still much to be learned by original investigators about this disease; but there is much more to be learned about it by the general practitioner. In this region also intestinal parasites are more common than in the more temperate climate found above the thirty-sixth parallel of north latitude. The study of the fæces in all cases of chronic gastrointestinal disorder is rapidly producing results which make all the inconvenience of the process well worth while.

While it is quite likely that kala azar and trypanosomiasis will never be found in our own home territory, except as imported diseases, as plague and cholera are occasionally imported, still there is enough work, which is properly classifiable as tropical, to be done to interest an increasing number of medical men.

The programme of the society was carried out in the main as indicated in the news columns in our issue of March 21st. Mr. D. E. Lantz, of the United States Department of Agriculture, gave a very interesting account of the habits of rats, and described the best methods of catching them. Dr. F. E. Russell, of the Army Medical Museum, read a paper on the comparative morphology of *Treponema pallidum* and *Treponema carterii*. Dr. Ferris, of Dr. Roscoe

feller Institute, gave a demonstration of living and stained trypanosomes and spirochætae. The sessions of the meeting, one held in the morning and one in the afternoon, were attended by about a hundred members and guests.

### THE GOLITZYN HOSPITAL.

The Russian physicians' accounts of the casualties of their armies during the Russo-Japanese war are now being brought to the notice of their foreign confrères. We have received a report of the work of the temporary structure of the Golitzyn Hospital in Moscow, edited by Dr. S. Derügingy, chief physician of the hospital.

The charity of the Russian nation during the war was boundless. Rich and poor alike contributed funds for the care of the wounded, for the improvement of the condition of the soldiers at the front and on the march, etc. The Golitzyn Hospital was founded and is supported by the princely family of Golitzyn. The present chief of the family, Prince Sergius Michailovitch Golitzyn, gave the building for a temporary war hospital and provided twenty beds; Mr. Nicolaus Dmitrievitch Selesnev, ten beds; and the Teamsters' Guild of Moscow, twelve beds. Thus the temporary hospital contained forty-two beds and was equipped with a full armamentarium, including a Röntgen ray apparatus provided by Prince B. D. Sidamon-Eristov. Dr. Derügingy supervised the hospital and attended to the surgical cases and operations, Dr. G. J. Pribytkov took charge of the nervous diseases, and Dr. V. N. Spassky treated the other medical cases. Besides these three regular physicians at the Golitzyn Hospital, there were engaged four gentlemen as assistant house physicians at a nominal fee of eighteen dollars a month. Five women volunteered as nurses. Thus it was made possible that the cost of each bed was only one ruble (about sixty-five cents) a day.

From June 18, 1904, to April 10, 1906, 210 wounded and seventy sick soldiers were received, having been sent from the front, which circumstance meant a long and tedious trip. The wounded had certainly received some treatment, not merely "first aid," at and near the battlefield.

Of the 210 wounded, four died, one after an operation for tuberculous coxitis, one from internal hæmorrhage (a hæmophilic), and two from sepsis, having arrived at the hospital very septic. Of the seventy sick, seven died, one of carcinoma of the stomach and six of tuberculous disease of the lungs. Of the sick soldiers, twelve suffered from septic middle ear inflammation, four from emphysema and bronchitis, two from pleurisy without exudation, fifteen from pulmonary tuberculous disease, two

from subacute enteritis, one from perityphlitis, two from typhoid fever, two from syphilis, one from a sequela of gonorrhœa, three from sciatica, three from traumatic nervous disturbance, and two from epilepsy. Eleven were classified as neurasthenics.

Among the wounded, there were seventeen injuries of the cranium, twenty-seven of the brain, and seven of the spinal cord. Three successful trephinations were performed. Ten soldiers were treated for paralyses of peripheral nerves, and in six cases bone sutures were applied for ununited fractures (two in soldiers who afterward died from sepsis). Two operations for aneurysm were performed with good final results. Bullets and metallic splinters were taken out in eighteen cases, while in eight cases the foreign bodies were left in place. The lung was injured in sixteen cases, the abdominal cavity in six, and the spinal column in seven. Simple injuries of the long bones and joints by bullets were treated in thirty-eight wounded, multiple injuries in six. Nine cases presented injuries to other parts of the body, while twenty-eight patients were operated upon for diseases which were not contracted in the field. This short synopsis shows the great variety of cases. Some of the wounded soldiers arrived at the hospital a year and a half after the injury.

### CARRIERS OF THE MALARIAL PARASITES.

Two years ago there were only six mosquitoes which had been definitely settled to be capable of transmitting malarial disease from man to man. These were *Anopheles maculipennis*, *Anopheles bifurcatus*, *Myzomyia funesta*, *Pyretophorus costalis*, *Cellia argyrotarsis*, and *Cellia albipes*. Others were suspected, but there was a doubt. In the second edition of *Tropical Diseases*, by Sir Patrick Manson, 1907, there is a list of twenty-six other members of the family *Anophelina* which have "been shown with more or less precision to be efficient hosts of the malaria parasites." The notable species included in this list are *Myzorrhynchus Lutzii* for Brazil and *Myzomyia Rossii* and *Myzorrhynchus sinensis* for India (the latter also for Japan). In the December number of the *Philippine Journal of Science* there is an interesting article by Mr. Charles S. Banks, entomologist in the Biological Laboratory of the Bureau of Science of Manila, describing the methods by which he succeeded in showing that *Myzomyia Ludlowii* should be added to the list. Mr. Banks's work was done at the navy yard at Olongapo and at the marine rifle range at Maquinaya, where malarial fever of a very pernicious type was prevalent. Among other interesting facts observed in the course of the study, the development



of *Myzomyia Ludlowii* larvæ into pupæ and imagoes in salt water was not the least in importance. The development of the gametocytes into the ookinete and into the sporozoites has been definitely traced in this mosquito, and one person has been experimentally infected by the bite of an infected insect.

### THE COUNTRY DOCTOR.

This is a well worn theme, but it puts on fresh attractiveness under the touch of Dr. N. A. Powell, of Toronto, professor of medical jurisprudence and associate professor of clinical surgery in the Medical Department of the University of Toronto. His address on the subject was published in the March number of the *Canadian Journal of Medicine and Surgery*. It was first delivered in 1890 before the students of Trinity Medical College, and it is so good that we do not wonder that it was repeated by request seventeen years later, in 1907, before the Medical Society of the University of Toronto.

Dr. Powell tells us that for ten years he was himself a country doctor, but that it is not his own story that he recounts. He evidently had other country doctors under observation, and the composite photograph which he carries in his mind, and of which his address is an impression, is a well deserved tribute to the country doctor in general. There may be an occasional black sheep in the ranks, but the average country doctor is such as Dr. Powell depicts him. "The glory of optimism pervades his life." "He is the best friend a community can have. He is the confidant of lovers, and helps to make up their quarrels. He brings together again the husband and wife, whom differences have separated. He is father confessor to half the country, and keeps his trust with knightly honor. His sympathy is deep and genuine, and is not worn upon his coat sleeve. No one more than himself feels contempt for a 'gusher' in or out of his profession."

The address overflows with humor. The author quotes Father Faber as having once said: "There is no greater help to a religious life than a keen sense of the ludicrous." He tells us that "an evangelist at one time got into the habit of calling his audiences 'Dear souls.' Laboring in Ireland, he used to say with effect, 'Dear Belfast souls,' 'Dear Dublin souls,' but when he said 'Dear Cork souls' it did not seem quite so appropriate."

A grand man is the country doctor as portrayed by Dr. Powell, but he is not perfect. "To be perfect," he says, "an ideal doctor, he would need to have the wisdom of Solomon, the patience of Job, the strength of Samson, the bravery of Joshua, the eloquence of Paul, the meekness of Moses, the

faithfulness of Abraham, the charity of Dorcas, and the executive ability of Jezebel. He would have to hunt like Nimrod, fish like Peter, climb like Zacheus, and drive like Jehu. He would have to keep clear of the gout of Asa, the melancholia of Saul, the gastric infelicity of Timothy, and would still fall short of perfection if he had not the tireless perseverance of the devil himself." We have quoted Dr. Powell's own words freely, feeling that any attempt to paraphrase them would detract from their expressiveness. We hope that many of our readers will be fortunate enough to obtain the entire text of the address.

### EXPERIMENTAL VALVULAR LESIONS.

The old method of damaging the valves of the heart, in experimental pathology, by introducing instruments into the heart through the vessels of the neck, was of some value, but it was impossible to regulate the nature and degree of the damage with any degree of certainty. Recently Dr. Cushing and Dr. Branch, of Baltimore (*Journal of Medical Research*, February), taking advantage of McCallum's improved valvulotome, which is inserted directly into the chamber through the heart muscle, have evolved a technique whereby they can induce either regurgitation or stenosis at will. The respiration is controlled by direct inflation through a tracheotomy tube, and the heart is exposed by a muscle splitting operation, the sixth rib being resected. The valvulotome is then inserted into the heart and the valve cusps or chordæ tendineæ divided if it is desired to bring about regurgitation. To induce stenosis a suture is passed around the chordæ tendineæ or through the cusps. Lesions induced in dogs in this manner give rise to signs and symptoms closely resembling those found in human patients with corresponding valvular defects. Of twenty-five dogs subjected to this experiment, eleven recovered, while eight died during the operation and six died later from infection, to which dogs seem peculiarly liable after operations about this part of the body.

The authors not only believe that much may be learned from such studies, but they regard it as possible that the technique may be so improved that it will be feasible to divide a stenotic mitral valve in the human subject, a procedure which, they state, was conceived by Sir Lauder Brunton six years ago (*Lancet*, 1902, i, p. 352). In certain cases it might be justifiable to subject a patient to considerable risk in order to relieve him of the progressive results of a contracting mitral valve. Cushing and Branch do not consider that our present knowledge would justify such an attempt. The new

dog on which they had an opportunity of putting their theory to test certainly upheld them in this position. Not only did the animal die during the operation, but the post mortem disclosed no sign of stenosis, notwithstanding the fact that the diagnosis had been made by eminent clinicians.

#### DR. STANFORD E. CHAILLE'S JUBILEE.

It is singularly appropriate that the alumni of the Medical Department of Tulane University, as well as his many friends, purpose to celebrate the fiftieth year of teaching service of Professor Chaillé, the celebration to take place on May 19 and 20, 1908, in the form of a jubilee.

It is further proposed that a fund be created to preserve the memory of the occasion of Dr. Chaillé's retirement from the medical department and to perpetuate his name. This fund is to be employed to establish a chair of physiology or a chair of hygiene in Tulane University, to be named after Dr. Chaillé. The alumni and friends of Dr. Chaillé are requested to send their contributions to Dr. Isadore Dyer, secretary and treasurer of the Chaillé Memorial Fund, P. O. box 778, New Orleans.

#### News Items.

**Changes of Address.**—Dr. William Edwin Park, from Sunbury, Pa., to New Milford, Susquehanna County, Pa.

**Geneva, N. Y., Medical Society.**—The regular monthly meeting of this society was held on Thursday, April 2d. The general topic for discussion was Tuberculosis.

**The Glens Falls, N. Y., Medical and Surgical Society** held its regular meeting on Thursday evening, April 2d. The paper of the evening was read by Dr. J. S. White, of South Glens Falls, on *The Borderline of Insanity*.

**The Iowa State Sanatorium for the Treatment of Tuberculosis** was opened on February 1st, with six patients. The sanatorium has accommodations for eighty patients and is under the direction of Dr. H. E. Kirschner.

**Charitable Bequests.**—By the will of Dr. John Ordronaux, who died recently at Glenhead, L. I., the Mary Hitchcock Hospital, of Hanover, N. H., receives \$6,000 for a free bed, and the Norton Hospital, of Taunton, Mass., receives \$6,000.

**Philadelphia Medical Examiners' Association.**—At a stated meeting held on Tuesday evening, April 7th, Dr. G. G. Davis delivered an address on *A Consideration of Heredia from the Viewpoint of Life Insurance*. The discussion was opened by Dr. L. J. Hammond.

**Buffalo, N. Y., Academy of Medicine.**—The regular meeting of the Section in Surgery was held on Tuesday evening, April 7th. The principal paper of the evening was read by Dr. Robert W. Lovett, of Boston, on *Acute Traumatic and Chronic Synovitis of the Knee*.

**Union County, N. J., Medical Society.**—The annual meeting of this society was held on Wednesday, April 8th, at the General Hospital, Elizabeth. Officers were elected for the ensuing year, and Dr. H. R. Livengood, the retiring president, read a paper on *Abdominal Pain*.

**Philadelphia Municipal Hospital Changes.**—Dr. Samuel S. Woody has been appointed chief resident physician, Dr. Edward K. Mitchell has been appointed third assistant resident physician, and Dr. Charles J. Swalm has been appointed second assistant resident physician.

**The Medical Society of the Borough of the Bronx.**—A stated meeting of this society was held on Wednesday, April 8th. The principal paper of the evening was read by Dr. William Seaman Bainbridge on *The Diagnosis and Treatment of Cancer—Some Practical Suggestions*.

**The Portland, Me., Medical Club** held a meeting on Thursday, April 2d. Dr. R. F. Goodhue presided, and Dr. W. H. Bradford read the paper of the evening on *Varicose Veins of the Lower Extremities with Resulting Varicose Ulcer*. Dr. P. W. Davis is the secretary of the club.

**The Hospital Ship "Relief,"** under the command of Surgeon Stokes, joined the fleet at Magdalena Bay on March 27th, where a number of sick men from different vessels were transferred to her. The *Relief* will remain with the fleet during the remainder of the cruise around the world.

**National Volunteer Emergency Service.**—The annual meeting of the National Volunteer Emergency Service Corps was held in New York on Tuesday evening, March 31st. Major General James Evelyn Pilcher is the director general of the service and Brigadier General Franclyn Elbert Davis is adjutant general.

**New York State Hospital for the Care of Crippled and Deformed Children.**—The bill recently introduced into the legislature providing an appropriation for the erection of a new building at West Haverstraw, N. Y., has been approved by the finance committee of the senate. It has already passed the assembly.

**No Yellow Fever in Cuba.**—Governor Magoon has received from Major Jefferson R. Kean the reports of twenty-six army surgeons in different parts of Cuba saying that there is no yellow fever in Cuba and that there is no need of further quarantine. The reports add that the health of the island generally is excellent.

**The Michigan State Society for the Prevention and Cure of Tuberculosis.**—This society was organized on February 21st at a meeting held in Detroit under the auspices of the National Association for the Study and Prevention of Tuberculosis, for the purpose of carrying on active work against tuberculosis.

**The Pathological Society of Philadelphia** held a stated meeting on Thursday evening, April 9th. The programme included the following papers: *The Production of Deciduomata*, by Dr. Leo Loeb; *The Interpretation of the Venous Pulse*, by Dr. George Bachman; *Volume and Specific Gravity of Organs Removed at Autopsy*, by Dr. Sydney L. Olsho.

**Medical Society of the County of Richmond, N. Y.**—The regular monthly meeting of this society was held on Wednesday evening, April 8th, at the Staten Island Academy of Medicine. Dr. Eugene J. Callahan read a paper on *Malignant Growths in the Spleen*, and Dr. Carl R. Keppler, of Manhattan, exhibited an apparatus used in the treatment of deformities.

**A Portrait of Dr. Packard Presented to the Pennsylvania Hospital.**—The former resident physicians of the Pennsylvania Hospital presented to the hospital a portrait in oil of the late Dr. John H. Packard, for many years chief surgeon of the institution. The presentation was made on March 27th in the presence of the entire staff of nurses and physicians now connected with the hospital.

**The Lake Keuka, N. Y., Medical and Surgical Association.**—The ninth annual session of this association will be held at Grove Springs, Lake Keuka, N. Y., on July 9th and 10th. The membership of the association includes physicians from the counties of Allegheny, Chemung, Livingston, Monroe, Ontario, Steuben, Schuyler, Seneca, Tioga, Wayne, Wyoming, and Yates. Dr. Lewis W. Rose, of Rochester, is the president of the association.

**Craggs's Research Prize.**—The London School of Tropical Medicine announces that a prize of £50 will be awarded to the student, past or present, of the school who, during the current year (October to October), makes the most valuable contribution to tropical medicine. If the work has already been published it will not be disqualified on that account. All contributions must be in English, and must be sent in on or before October 1, 1908. Further information may be obtained from the Medical Superintendent of the London School of Tropical Medicine, Royal Albert Dock, E. London.

**The Northwestern Medical Society, Philadelphia.**—At a stated meeting of this society, which was held on Monday evening, April 6th, the programme included the following papers: Dr. David L. Edsall, Our Present Knowledge of Autointoxication; Dr. John T. Carpenter, Ocular Complications of Toxæmia; Dr. Barton Cook Hirst, The Toxæmias of Pregnancy and the Puerperium; Dr. Alfred Stengel, The Treatment of Constitutional Toxæmias.

**The Detroit Academy of Medicine** celebrated its fortieth anniversary on February 25th. Five of the original thirteen members are still alive, and one of them, Dr. A. B. Lyons, was present at the meeting and gave a brief address on the early work of the academy. Dr. Leartus Conner reviewed briefly the life and work of each of the deceased charter members, and personal reminiscences of the eight deceased members were given by members of the academy.

**Northern Medical Association of Philadelphia.**—At a meeting of this association held on Friday, April 10th, the evening was devoted to a "symposium" on diseases of the rectum. Dr. Ernest La Place read a paper on the Diagnosis and Treatment of Malignant Diseases of the Rectum. Dr. Collier F. Martin read a paper on the Diagnosis and Treatment of Hemorrhoidal Disease. Dr. J. Coles Brick read a paper on the Diagnosis and Treatment of Ischiorectal Abscess and Fistula.

**Contagious Diseases in Chicago.**—According to the weekly bulletin of the Department of Health, the following cases of contagious diseases were reported during the week ending March 28, 1908: Diphtheria, 105 cases; scarlet fever, 84 cases; measles, 205 cases; chickenpox, 56 cases; typhoid fever, 20 cases; whooping cough, 39 cases; tuberculosis, 56 cases. Diphtheria showed an increase of 30 cases over the preceding week, measles showed an increase of 73 cases, and scarlet fever a decrease of 15 cases.

**The German Röntgen Society.**—In connection with the fourth congress of this society, which is to be held in Berlin on April 26th, there will be a Röntgen tube exposition. This exposition will demonstrate the historical development of the Röntgen tube and will give an exhibit of the various kinds of tubes in use at the present time, but will not show any of them in action. Further information concerning the exhibition may be obtained from Dr. Melzer, Langenbeck Haus, Berlin N., Germany.

**Syracuse, N. Y., Academy of Medicine.**—At a meeting of this academy which was held on Tuesday evening, April 7th, the programme included the following papers: Resection of the Humerus Following Gunshot Wounds, by Dr. F. H. Flaherty; Sporadic Cretinism, by Dr. W. H. Maynard; Tumor of the Pituitary Body, by Dr. F. W. Marlow; Puncture of the Heart with Suicidal Intent, by Dr. H. L. Elsner. Dr. Frederick W. Sears is the president of the academy and Dr. Clarence E. Coon is the secretary.

**Personal.**—Dr. A. A. Michelson, professor of physics in the University of Chicago, has been elected an honorary member of the Royal Irish Academy.

Dr. Theobald Smith, professor of comparative pathology at Harvard University, has been elected an honorary fellow of the Society of Tropical Medicine and Hygiene of London.

Dr. M. G. Varian, of Coram, Cal., is registered at the Philadelphia Polytechnic and College for Graduates in Medicine.

**The Philadelphia Academy of Surgery** held a stated meeting on Monday evening, April 6th. Dr. A. P. C. Ashlund reported a case of nerve anastomosis and anastomosis of tendon transplantation for infantile paralysis. Dr. J. J. A. Van Kaathoven read a paper on Twenty-five Hundred Cases of Gas Ether Anesthesia Without Complication. Dr. Charles H. Frazer read a paper entitled The Surgical Treatment of Trifacial Neuralgia, including a Series of Nucleon Intracranial and Tendon Extracranial Operations, with One Death.

**The Medical Association of the Greater City of New York.** A stated meeting of this association will be held in the Bon Hall, New York Academy of Medicine, on Monday, April 13th, at 8:30 p. m., for which the following programme has been arranged: Dr. Robert Coleman Kemp will read a paper on Various Clinical Types of Acute Phla-

tation of the Stomach; Dr. Samuel G. Gant will read a paper entitled An Efficient Method of Irrigating the Small and Large Intestines; Dr. H. Beekman Delatour will report three cases of perforating ulcers of the alimentary canal; and Dr. A. Ernest Gallant will give a demonstration of a corset for visceral ptoses. Among those who will participate in the general discussion are Dr. William H. Thomson, Dr. Max Einhorn, Dr. Joseph Merzbach, Dr. Jacob Kaufmann, Dr. Martin L. Bodkin, and Dr. Ludwig W. Kast.

**The Health of Pittsburgh.**—During the week ending March 21, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chickenpox, 13 cases, 0 deaths; typhoid fever, 31 cases, 6 deaths; scarlet fever, 18 cases, 1 death; diphtheria, 9 cases, 2 deaths; measles, 172 cases, 3 deaths; whooping cough, 26 cases, 2 deaths; pulmonary tuberculosis, 27 cases, 13 deaths. The total deaths numbered 182 in an estimated population of 403,330, corresponding to an annual death rate of 23.46 in 1,000 of population.

**Rochester, N. Y., Academy of Medicine.**—The regular monthly meeting of the Section in Surgery, which includes anatomy, orthopaedic surgery, ophthalmology, otology, laryngology, dermatology, and genitourinary surgery, was held on Wednesday evening, April 8th. Dr. Floyd S. Winslow reported a case of retention of urine complicating pregnancy, and two cases of tuberculous peritonitis, and Dr. Milton Chapman reported a case of skin grafting. Dr. J. W. McGill is the chairman of the section and Dr. Curtiss Jameson is the secretary.

**New York Academy of Medicine.**—A public meeting will be held in Hosack Hall on Thursday, April 30th, at 8:30 p. m. The Hon. Rufus B. Coving will deliver an address on the Value of Medical Expert Testimony, based on an experience of twenty-eight years on the bench. He will be introduced by Dr. John A. Wyeth, president of the academy, who will make a brief introductory address. At this meeting the president and the members of the State and New York City Bar Associations will be invited to meet the fellows of the academy and the medical profession at large.

**Registration of Tuberculosis Cases in the District of Columbia.**—A bill has been passed by the House of Representatives providing for the registration of all cases of tuberculosis in the District of Columbia, for the free examination of the sputum of suspected cases, and for other measures that will aid in preventing the spread of tuberculosis in the district. This bill will in all probability become a law, and Washington will then have a very comprehensive ordinance covering the question of the registration of tuberculosis.

**The Medical Society of the County of Ontario, N. Y.**—The quarterly meeting of this society will be held in Canandaigua on Wednesday, April 15th, at 2 p. m., in the Y. M. C. A. building. The tuberculosis exhibit of the State Department of Health will be in the building and will be open to the public all day. The programme includes the following papers: The General Practitioner in the Fight Against Tuberculosis, by Dr. F. L. Stebbins; Myocardial Changes with Fleeting Physical Signs, by Dr. H. L. Elsner, of Syracuse; Tuberculosis, by Dr. H. D. Pease, of Albany. Dr. C. P. W. Merritt, of Clifton Springs, is the president of the society, and Dr. D. A. Eiseline, of Shortsville, is the secretary.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of cases, deaths and deaths reported for the two weeks ending April 4, 1908.*

	March 28.		April 4.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonary	113	2	145	10
Diphtheria	105	2	105	11
Measles	205	12	205	11
Scarlet fever	84	4	90	1
Small pox	—	—	—	—
Whooping cough	39	—	39	—
Cholera infantum	1	1	1	1
Whooping cough	1	—	1	—
Unidentified	1	2	1	1
<b>Totals</b>	<b>440</b>	<b>21</b>	<b>490</b>	<b>24</b>



**Scientific Society Meetings in Philadelphia for the Week Ending April 18th.**—*Monday, April 13th.* Section in General Medicine, College of Physicians; Wills Hospital Ophthalmic Society. *April 14th,* Philadelphia, Paediatric Society; Botanical Section, Academy of Natural Sciences. *April 15th,* Philadelphia County Medical Society (business meeting for members only); Section in Otology and Laryngology, College of Physicians; Association of Clinical Assistants, Wills Hospital; Franklin Institute. *Thursday, April 16th,* Section Meeting, Franklin Institute; Medical Society of the Woman's Hospital; Section in Ophthalmology, College of Physicians. *Friday, April 17th,* University of Pennsylvania Medical Society; American Philo-sophical Society.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending March 28, 1908, there were during the week 660 deaths from all causes, 381 males and 281 females, corresponding to an annual death rate of 15.89 in 1,000 of population. In the corresponding period for the year 1907 there were reported 744 deaths from all causes, and the annual death rate was 18.40. The principal causes of death were: Apoplexy, 19; Bright's disease, 37; bronchitis, 25; consumption, 83; cancer, 28; convulsions, 6; diphtheria, 8; heart diseases, 51; influenza, 5; intestinal diseases, acute, 34; measles, 4; nervous diseases, 33; pneumonia, 104; scarlet fever, 8; suicide, 8; typhoid fever, 7; violence (other than suicide), 32; whooping cough, 4; all other causes, 164.

**The Health of Philadelphia.**—During the week ending March 21, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Malarial fever, 2 cases, 0 deaths; typhoid fever, 96 cases, 15 deaths; scarlet fever, 89 cases, 6 deaths; chicken-pox, 36 cases, 0 deaths; diphtheria, 103 cases, 13 deaths; cerebrospinal meningitis, 3 cases, 1 death; measles, 292 cases, 5 deaths; whooping cough, 13 cases, 5 deaths; pulmonary tuberculosis, 115 cases, 65 deaths; pneumonia, 77 cases, 76 deaths; erysipelas, 11 cases, 1 death; puerperal fever, 7 cases, 7 deaths; tetanus, 2 cases, 0 deaths; mumps, 23 cases, 0 deaths; cancer, 21 cases, 25 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 10; diarrhoea and enteritis, under two years of age, 12. The total deaths numbered 531 in an estimated population of 1,532,738, corresponding to an annual death rate of 18.00 in 1,000 of population. The total infant mortality was 115; under one year of age, 87; between one and two years of age, 28. There were 38 stillbirths; 19 males, and 19 females.

**Meetings of Sections of the New York Academy of Medicine.**—The Section in Neurology and Psychiatry will meet on Monday, April 13th, at 8:30 o'clock. Dr. Wolff Freudenthal will present two patients showing peculiar paralytic affections of the larynx. Dr. H. W. Frauen-thal will report eleven cases of anterior poliomyelitis with involvement of the face, and will exhibit photographs of the patients. Dr. William B. Noyes will report a case of anterior poliomyelitis, with blood examination showing malarial parasite. Dr. Robert H. M. Dawbarn will read a paper on End Bearing Stump Comfort by the Aid of Shortening all Sensory Nerves at Amputation. Dr. Smith Ely Jelliffe will read a paper entitled The Psychiatrists and Psychiatry at the Age of the Cæsars.

A meeting of the Section in Public Health will be held on Tuesday evening, April 14th, at 8:15 o'clock. The Hon. Robert W. Heberd, Commissioner of Charities of New York, will read a paper entitled The Need of Additional Facilities for the Care of the Tuberculous Sick in This City. Among those who will take part in the discussion are Dr. John S. Billings, Jr., Dr. Alfred Meyer, Dr. C. M. Cauldwell, Dr. J. A. Miller, Dr. Henry L. Shively, and Dr. L. F. Frissell.

**American Therapeutic Society.**—The ninth annual meeting of this society will be held at the Bellevue-Stratford Hotel, Philadelphia, on May 7th, 8th, and 9th. The preliminary programme, which has just been issued, shows a long list of papers covering a wide range of subjects, and the meeting promises to be one of unusual interest. The presidential address will be delivered on Thursday morning by Dr. John V. Shoemaker, on Therapeutics in the Lighted Future. The Thursday afternoon session will be devoted to a "symposium" on diseases of the vascular system, and in the evening a joint meeting of the American Therapeutic Society and the Philadelphia Branch of the

American Pharmaceutical Association will be held, which will be followed by a reception. The morning session on Friday will be taken up with a discussion of the treatment of tuberculosis, and for the afternoon session the programme shows a list of thirteen papers on subjects of interest to the general practitioner. On Friday evening the president's reception will be held. On Saturday the general subject for discussion at the morning session will be Röntgen ray therapy, and the afternoon session will be devoted to routine business. The annual banquet of the members will be held on Saturday evening. The officers of the society are: President, Dr. John V. Shoemaker, of Philadelphia; first vice president, Dr. Joseph E. Janvrin, of New York; second vice president, Dr. Frederic H. Gerrish, of Portland, Me.; third vice president, Dr. Howard Van Rensselaer, of Albany; secretary, Dr. Noble P. Barnes, of Washington, D. C.

**The Regulation of Lying-in Hospitals in Ohio.**—A bill has been passed by the Ohio State Legislature regulating the establishment and maintenance of private lying-in hospitals, boarding houses for infants, and similar institutions. According to the provisions of the bill, particulars of which we glean from *Charities and the Commons*, no one is allowed to receive women for childbirth or board two or more children without a license from the State Board of Health. The application for the license must bear the approval of the local board of health. The license shall be for a term not exceeding one year. It must specify the number of women and infants who may be received. The State Board of Health and the local board of health may inspect the premises at any time, and may revoke the license at any time. All patients in such licensed institutions must be attended by legally qualified physicians. Complete records of all women or children received must be kept by each person holding the license. No child under two years of age from any such place shall be given out for adoption, except with the consent of a charitable organization, society, or institution having the care of children, duly incorporated, or by a juvenile court. No parent or guardian shall give an infant under the age of two years to any person for the purpose of placing it under the permanent care and control of any person for hire, gain or reward, but this provision shall not apply to any charitable institution, society, or association, or to its agents. No person holding a license shall advertise that he will adopt children or hold out inducements to parents to part with their offspring. Violations of the provisions of the act are misdemeanors, punishable by a fine of not more than \$500, or by imprisonment for a year, or both.

#### Society Meetings for the Coming Week:

**MONDAY, April 13th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Society of Alumni of St. Mary's Hospital, Brooklyn; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, April 14th.**—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Schenectady, N. Y.; Practitioners' Club of Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine).

**WEDNESDAY, April 15th.**—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery; Woman's Medical Association of New York City (Academy of Medicine); Medicological Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club; New Haven, Conn., Medical Association; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York.

**THURSDAY, April 16th.**—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo, N. Y.

**FRIDAY, April 17th.**—New York Academy of Medicine (Section in Orthopaedic Surgery); Clinical Society of the New York Post Graduate Medical School and Hospital; East Side Physicians' Association of the City of New York; New York Microscopical Society; Brooklyn Medical Society.

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

April 2, 1908.

1. Intussusception: A Review of Some Recent Literature, with a Report of Cases, By JAMES S. STONE.
2. Remarks Upon Intussusception, with a Suggestion for a New Method of Operation Upon Cases in Which Reduction is Not Possible, By E. A. CODMAN.
3. Anomalous Folds in the Nasopharynx, By J. PAYSON CLARK.

2. **Intussusception.**—Codman observes that all cases in infants and children, in which the diagnosis can be made and which are not already very feeble, should be given one forcible oil enema under an anæsthetic on the operating table. This should be followed by laparotomy, whether the tumor disappears or not. Before using efforts at reduction forcible enough to cause increased shock, the surgeon should, if he does decide on it, make up his mind to carry out reduction up to the limit of the patient's strength. If reduction is considered too doubtful, resection with double enterostomy is the choice when (a) the mass is wholly composed of small intestine; (b) when it is wholly composed of large intestine and the mechanical conditions make resection easy. If reduction is abandoned and the mass is wholly composed of large intestine, and resection cannot readily be performed, excision of the intussusceptum is indicated by Barker's or Mikulicz's method. In irreducible cases in which the small intestine is invaginated into the large, simple enterostomy without resection and resection of the mass should be abandoned and replaced by ligation of the impacted mesentery and enterostomy. In infants where there is already evidence of severe exhaustion, ligation and enterostomy could probably be done very rapidly and with less operative shock than even a successful reduction, provided the operator from the beginning abandoned any idea of reduction. The essential object of the operation which is here suggested is to produce gangrene of the intussusceptum in a convenient manner, so that within a few days enough softening of the constricted portion will have taken place to allow of its ready reduction by gentle traction. When the arterial supply is cut off it cannot be long before the blood and œdema in the intussusceptum will be squeezed out by the peristalsis of the intussusciptens, leaving the submucosa still strong enough to stand a gentle pull. The suggestion is offered particularly for desperate cases to replace resection and hopeless effort at reduction. It would be easier, quicker, and produce less shock than any other form of operation.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 1, 1908

1. The Ethics of Surgery, By CHARLES W. OVLAND.
2. The Treatment of Iritis, By E. C. ELLETT.
3. Treatment of Ulcers of the Cornea, By H. BERT FOLEY.
4. Alimentary Intoxication, By WILLIAM J. BUTLER.
5. Restoration of the Pelvic Floor, By HOWARD HILL.
6. Subacute Combined Cord Degeneration with Report of Cases, By J. J. GOSSELINK.

2. **The Treatment of Iritis.**—Ellett recalls to our mind Bradley and Stevenson's words in reference to the treatment of iritis, that the object of

treatment of iritis should be: To dilate the pupil, to relieve pain; to treat any constitutional condition that may be present as a cause. To dilate the pupil we must use a mydriatic drug, and atropine, four grains solution to the ounce, would be the best. In patients presenting themselves for treatment with adhesions already formed, it may be necessary to increase the strength to eight grains to the ounce for a few instillations in order forcibly to break up the adhesions. On the other hand, in children, and in those susceptible to the drug, a weaker solution may be expedient. Under some circumstances a small solid crystal of atropine may be introduced. In general four instillations in twenty-four hours, with the patient at rest, and under favorable surroundings, will suffice to keep the pupil dilated. When the patient is first seen it is well for the surgeon to instil the drops until the pupil is dilated, but we frequently see that very little dilation is procured in one hour, while a continuation of the drops for twenty-four hours may break all the adhesions and give a round pupil. Even if this has not happened by the end of the twenty-four hours, it does not mean that the adhesions are permanent, for continued use of the drug may result in the continued rupture of synechia for as long as four or five days. When full dilation is secured, the frequency of the instillation should be reduced until the minimum dose which will maintain the mydriasis is ascertained. Briefly, this should be continued until the eye is free from redness. The state of the pupil and the comfort of the patient together guide us in forming an idea of how satisfactory is the progress of a case of iritis. The use of the mydriatic, cocaine, dionine, rest, protection from light, and the application of heat or cold, all contribute to the patient's comfort and freedom from pain, and while pain persists improvement is not imminent. Special consideration should be given to one or two of these measures. Dionine is much used as an ocular analgesic. In many cases the instillation of a 5 per cent. or 10 per cent. solution will relieve ocular pain for several hours, and it may be repeated as often as necessary. Continuous dry heat of lesser degree is often soothing. Cold applications seem to be of the most value in traumatic cases, with threatened or feared suppuration. In such cases the application should be continuous as long as it is needed at all. It occasionally happens that a patient with ordinary plastic iritis prefers the effect of cold to that of heat, in which case cold may be used continuously or intermittently. We must often give anodynes internally. The various preparations of opium are most effective, but unpleasant by reason of the systemic disturbances to which they give rise. A mixture of antipyrine and sodium salicylate in moderate doses is a very efficient anodyne, five grains of the former and seven and one half of the latter in simple elixir being a convenient form and dosage. Constitutional treatment is essential and includes attention to every constitutional condition that can in any way retard the cure or interfere with the action of remedies. Aside from its relation to cause, internal treatment is of importance, and mercury and the salicylates are of great value in other forms than the syphilitic and rheumatic. Ellett has not had a very favorable



impression of the value of the iodides except in chronic cases or in cases associated with chorioiditis and running a slow course; nor does he find sweats so effective as in chorioiditis and general uveitis, though they are of decided value, as Woodruff and Woods have shown. Burnham's "combined method" of the use of mercury, iodides, and pilocarpine is considered by him well worthy of a trial.

4. **Alimentary Intoxication.**—Butler says of the treatment that it consists in combating the collapse, cutting short the intoxication, and slowly bringing the child back to a diet commensurate with its caloric requirements. The first indication may be met by hypodermoclysis of salt solution, using 50 to 100 c.c., and repeating as is deemed necessary. The second indication is met by withdrawing the food entirely and allowing water only for twenty-four hours. With the subsidence of all symptoms, begin feeding as follows: As exceedingly small quantities of fat are injurious, begin with centrifugated breast milk, if possible, given in teaspoonful doses, five times a day, or an equal quantity of buttermilk, to which neither sugar nor meal has been added; or, if this is not at hand, fat free milk may be used. As a diluent, and to supply the liquid necessary, water and a thin cereal gruel may be used or given separately. After an interval of twenty-four hours, provided treatment has been well tolerated, without any evidence of return of the intoxication, the separate quantities of milk may be increased to two teaspoonfuls, which, after two or three days may, under the circumstances mentioned, be doubled, and so on, until they are gradually brought to a diet (free of fat in artificially fed infants) that will temporarily meet their needs from a caloric standpoint, having added, in the meantime, with their increased tolerance of the buttermilk (where employed), 30 grammes of sugar, preferably maltose, and 15 grammes of flour to each litre of buttermilk while boiling. The child should not be kept on the buttermilk diet longer than six weeks. After this time whole milk dilutions will be necessary to meet its needs. In case the infant was at the breast, after four or five days of careful feeding with centrifugated breast milk, it may be returned to the breast, the amount of milk being carefully controlled. During the treatment slight relapses are common where the food toleration has been passed. More effective and permanent results are accomplished by proceeding slowly, allowing forty-eight hours for judging the effect of a food increase before again adding to it. Cathartics and intestinal antiseptics are unnecessary, unless constipation exists, as sometimes occurs in the soporose form, when a laxative is indicated. There is little doubt that injudicious dieting and constant or frequent administration of laxatives in convalescence are responsible for the persistence of varying temperature rises in the first instance, and slimy green stools in the second instance, which are wrongly interpreted as manifestations of an enterocolonic catarrh, or a bowel infection with repeated reinfections, etc.

#### MEDICAL RECORD.

April 1, 1908.

The Deep Intraocular Lesions of Infantile Inherited Syphilis and Tardy Inherited Syphilis, from the Standpoint of General Pathology, Prognosis, and Treatment. By CHARLES STEINMAN, BOLL.

2. The Treatment of Intra-peritoneal Hemorrhage from Rupture or Abortion of Tubal Pregnancy, By HIRAM N. VINEBERG.
3. Acute Lobar Pneumonia—A Study in Inflammation, By G. K. DICKINSON.
4. Notes on Chronic Rheumatism and Its Treatment, By J. DARDEL.
5. Obstruction of the Duodenum by Gallstones. Pre-operative Localization; Operation; Recovery, By G. A. FRIEDMAN.
6. Treatment of Epithelioma and Carcinoma of the Mucous Membrane, By W. D. WITHERBEE.

#### 1. The Deep Intraocular Lesions of Infantile Inherited Syphilis and Tardy Inherited Syphilis.

—Bull, in speaking of therapeutics, remarks that his question is a broad one and beset with difficulties, which vary with the age of the patient, and especially when we come to consider the question of submitting the parents to continued observation and treatment. In the case of the patient, the indication for specific treatment seems to exist in all cases where there are lesions of possibly syphilitic origin, especially if one or more undoubted stigmata are present. In infants and very young children a proper dietary is very necessary, especially of the supporting kind, for these children need soups or meat extracts at an earlier age than other young children. A mild mercurial ointment acts very well in the cases of infantile iritis, in promoting absorption and assisting to break up the adhesions to the lens capsule. The prognosis as to resulting vision will depend largely on the possible existence of chorioretinitis, vitreous opacities, and lesions of the retina and optic nerve. But these cases of syphilitic lesions of the deep structures of the eye promise much more to persistent and careful specific treatment than is usually supposed. Dr. Bull cites Fournier, who lays down four propositions: 1. Specific treatment is indicated in all cases in which the patients are actually affected by lesions or symptoms which might be due to syphilis, and who show at least one of the stigmata mentioned. 2. If a patient shows one or more of the stigmata mentioned, he should be subjected to specific treatment as a prophylactic measure, even if there be no actual lesion present. 3. In a recognized syphilitic family, if a child has recently been born who presents one or more of the stigmata, the parents should be submitted to prolonged specific treatment, in order to prevent, if possible, the transmission of the inherited taint to any future births. 4. In case a woman becomes pregnant in a family in which the children previously born show some of the stigmata above mentioned, she is to be subjected to rigid specific treatment during her entire pregnancy. In view of the many serious, even disastrous, lesions which have come under his observation, Dr. Bull adds a fifth proposition to the four of Fournier, viz., that it should be made a penal offense for any syphilitic to marry.

3. **Acute Lobar Pneumonia.**—Dickinson remarks that the time necessary for the formation of sufficient opsonin, agglutinin, and antibodies to enable the phagocytes to accomplish their result is the length of the disease process proper. The crisis of the disease occurs at that time when these substances obtain the upper hand. Such is Nature's method of cure, and without this process, without the opsonins, or the agglutinins to assist the phago-



cytic action and the antibodies, the crisis does not occur and death may and probably does follow. As soon as the crisis has occurred, as soon as the battle has been fought and won by Nature, then comes the process of elimination of the different toxoids in the blood and the absorption of the pneumonic exudate and its elimination. This process of absorption is heterolysis—that is, the mutual fermentive action of one extraneous product upon another in the presence of leucocytes and electrolytes leads to their softening and the gradual passage through the lymphatic system into the blood. During pneumonia the sodium chloride output is diminished and often absent, because of its retention in the system, no more in the lung than elsewhere; nevertheless, its presence in the lung is of vast importance. Sodium chloride is an active electrolyte and easily becomes ionized. The electrolytes put life into the proteids, and without their presence active tissue changes would not occur. As soon as the crisis has passed we have the nitrogen output increased and sodium chloride in proportion, while the leucocytes promptly diminish in number. In addition to the local effect of the germ mighty influences are brought to bear in various ways upon the economy in general. After one or two days' intubation, tissue and microbic poisons, of amount sufficient to produce fever, rapidly accumulate. The sudden influx into the system of these materials produces a vasomotor reflex disturbance so severe that the peripheral capillaries contract and the volume of blood is largely thrown into the abdominal cavity. This condition is clinically known as the chill or rigor. Although it is the first symptom ordinarily recognized, a careful study of individual cases, where possible, will show minor respiratory lesions, tonsillitis, indicative of pneumococcus invasion through the tonsil; tracheobronchitis, often induced by the pneumococcus, gastroenteritis suggestive of entrance by this means, or conditions of malaise, with rise in temperature. The supreme factor in treatment is the serum. Leucocytes, except in the very pathogenic types of pneumonia, do not fail, but the ferments peculiar to the serum, though present in the normal individual, require several days for their sufficient elaboration. All treatment therefore should be directed towards the prompt formation of these substances. The opsonins in particular are easily influenced by various conditions. Sleep and mental and physical comfort materially assist in their formation. A quiet, sympathetic, and attentive nurse, congenial surroundings, and the assurance of recovery are not unimportant factors for their formation. Vaccination after the plan of Wright with dead pneumococci obtained by culture from the pharynx is a logical procedure and has been reported as successful. It has been shown that several drugs ordinarily administered during the course of this disease are potential for harm. Alcohol, for instance, will quickly reduce the opsonic index. Another action of alcohol is that it is quickly absorbed from the stomach without being acted upon by the digestive fluids, and, passing into the liver, inhibits that organ's function as a toxine destroyer. Our best clinicians do not resort to it until the crisis, but even then it may be harmful, for, if there remain any pathogenic germs

in the lung with the opsonic index cut down too promptly, relapses may occur. Opium, aconite, and large doses of quinine inhibit the ameboid movements of the white blood corpuscles. Small so called "tonic" doses of quinine, however, have a contrary effect. Water should be given liberally for its flushing effect. As the pneumococcus brings about the formation of acids in the lung and catabolism of body acids in the tissues, some alkaline is valuable through the entire course of the disease; the ammonia preparations are perhaps the best type. They further tend to forestall heart clot.

## BRITISH MEDICAL JOURNAL.

March 21, 1908.

1. Visible Signs of Visceral Disease, By J. GALLOWAY.
2. An Analysis of Two Hundred and Fifty-three Cases of Tabes, By B. BRAMWELL.
3. Remarks on the Treatment of Syphilis by Intramuscular Injections, By J. E. LANE.
4. A Case of Syphilis, Phthisis, and Locomotor Ataxia, By H. G. SUTHERLAND.
5. On Extragenital Syphilitic Infection, By H. BAYOU.

**1. Signs of Visceral Disease.**—Galloway's article deals with the cutaneous signs of liver disease, which signs he classifies as follows: 1. Eruptions of the type of erythema exudativum, occurring in cases of disease of the liver with portal obstruction, such as cirrhosis. Cutaneous manifestations of the erythematous type occur during the course of diseases of the liver, especially in those cases in which the portal blood passes into the general and therefore into the cutaneous circulation without being subjected to the normal cleansing action performed by the liver. (a) Urticaria. This is quite uncommon in liver disease, the circulating toxines tending to produce the allied eruptions of the erythema multiforme type. (b) Erythema exudativum. This is not uncommon in cirrhosis of the liver, occurring most profusely on the trunk as discs or as segments of circles. The irritation and pruritus may be intense. The attacks do not usually last more than ten days, but are apt to recur. The eruption is frequently complicated by jaundice. (c) Hæmorrhagic exudative erythema. Erythematous eruptions occasionally become purpuric, varying from a slight amount of blood staining to intensely hæmorrhagic lesions, occurring as elevated spots or patches having the color of a superficial hæmatoma. (d) Erythema leading to atrophy of the skin. This so called "lupus erythematosus" is entirely distinct from lupus vulgaris; there is no distinct relationship, and possibly only in some cases a remote connection with tuberculous diseases of other organs. The inflammation and exudation are of a peculiar type, leading to atrophy of the connective tissues and alterations in the character of the epithelium. 2. Dilatation of superficial blood vessels as an indication of diseases of the liver. Several forms of dilatation of the superficial veins occur: (a) A very striking type is the enlargement of the subcutaneous veins of the abdomen, forming collateral channels for the return of blood, with a general course from the groin upwards to the intercostal veins and even towards the axilla. These enlarged veins are evidences of obstruction to the vena cava rather than to the portal circulation. (b) Dilatation of venules is usually noted in one of two situations. First, those radiating from the umbilicus and permitting

blood to pass backwards from the liver through its round ligament into the subcutaneous veins of the abdomen. This occurs in cases of obstruction to the portal circulation arising in the liver itself, and permits of the passage of portal blood directly into the general circulation. The condition is known as "caput medusæ" or "cirsomphalos." Second, enlargement of the "costal fringe of venules" along the lower border of the thorax. This is not specially significant of hepatic disease. Third, indications occurring in the course of the lymphatic vessels. An early sign of cancer of the bile ducts and of the gall-bladder is the appearance of an indurated patch involving or in the immediate neighborhood of the umbilicus. Fourth, primary new formations in disease of the liver. Xanthoma. The majority of cases of the widely spread form of xanthoma are accompanied by important morbid changes of metabolism, especially associated with the functions of the liver. Fifth, anomalies of pigmentation as signs of visceral disease. (a) *Hæmochromatosis*. This is due to the destruction of red blood cells, with the formation and deposition of abnormal pigment throughout the body and in the skin. Most of the cases are associated with disease of the liver, and often with glycosuria. (b) *Jaundice*. This, of course, is the most common and most important of the indications of disease of the liver.

2. **Locomotor Ataxia.**—Bramwell has tabulated 263 cases of locomotor ataxia with the following results: 192, or 73 per cent., were in the ataxic stage, and 71, or 27 per cent., in the preataxic stage of the disease. 239, or 90 per cent., were males. In 73 per cent. of the cases the disease began between the ages of thirty and fifty years. In one case it began as early as at twenty-one years, and in another as late as at sixty-six years. One patient, aged seventy-three years, presented many symptoms of the disease, but had no lightning pains. 159, or 60 per cent. of the patients were married. In 155, or 61 per cent., the patients admitted having had syphilis, and in 12 per cent. more syphilis was doubtful. (No attempt was made to discriminate between "hard" and "soft" chancres.) In 45 per cent. of the syphilitic cases, the locomotor ataxia developed within ten years after infection. In only 10 per cent. did it develop more than twenty years after infection. In a few of the cases marriage seemed to have a decided influence either in producing or aggravating the disease. Alcoholic excess was admitted in about 10 per cent. Among the other causes assigned may be mentioned injury, exposure to cold and wet, lying out at night, mental worry, infectious diseases and lead poisoning. The first symptoms, as stated by the patient, were lightning pains in 51 per cent., diplopia in 7 per cent., dimness of vision in 7 per cent., and ataxia in 6 per cent. Lightning pains were by far the most frequent of all the symptoms and signs of the disease. Visceral crises of some form or another were present in 13 per cent. of the cases, the gastric being the most frequent form. Tropic lesions in the bones and joints occurred in 6 per cent. of the cases. In 11 per cent. of the cases general paralysis of the insane developed in the course of the locomotor ataxia. Seventy cases proved fatal, the most frequent cause of death being general paralysis of the

insane. The average duration of the fatal cases was 8.2 years (shortest under one year, longest twenty-two to twenty-three years).

# LANCET.

March 21, 1908.

1. Tuberculosis of the Kidney and Malignant Disease of the Cæcum (Lettgowian Lectures, I), By C. J. SYMONDS.
2. The Surgery of the Spinal Cord and Its Membranes (Hunterian Lectures, III), By D. J. ARMOUR.
3. Acquired Diverticula of the Sigmoid Flexure, Considered Especially in Relation to the Secondary Pathological Processes and Their Clinical Symptoms, By W. H. M. TELLING.
4. Preliminary Note on Some Aspects of Splenic Anæmia, By G. A. GIBSON.
5. A Case of Obstruction Caused by Sarcoma of the Small Intestine, By A. C. D. FIRTH.
6. Deaths Under Anæsthetics, By F. J. WALDO.

3. **Acquired Diverticula of the Sigmoid.**—Telling reports three instances of acquired diverticula of the sigmoid flexure. Diverticula may occur in any part of the intestine and are divided into two kinds, congenital and acquired. Meckel's diverticulum is the most familiar example of the first kind, but they may occur anywhere. Acquired diverticula are also found in almost any situation in the gut. They are generally thought to be most frequent in the large intestine, and especially in the lower part of the descending colon and the sigmoid flexure. In the latter location they are usually multiple, have fairly constant anatomical features, and are particularly liable to undergo secondary pathological processes, with a symptomatology peculiarly their own. The diverticula, apart from such secondary processes, do not give rise to symptoms or cause trouble. In the sigmoid flexure they occur mainly in two rows, either at the side of the gut or close to the mesenteric attachment, more rarely on the convexity. The commonest situation is into the epiploic appendices. In many cases they are confined to them and then generally present a double row of symmetrically placed, hollowed out "pockets." The special favoring of the epiploic appendices is ascribed to the fact that the point of their attachment to the gut is a point of least resistance. In a majority of cases the affected appendages are or have been filled with a large amount of fat. The diverticula vary in size, usually from mere macroscopic visibility to that of a hazel nut. A larger size is rarely attained, owing to secondary changes, which lead either to detachment, ulceration, abscess, or peritonitis. When small they are semiglobular, and as they increase they become more flask shaped. The following are the views held by various observers as to their etiology: 1. The generally advanced age of the patients. In eighty cases the average age was sixty years. 2. Sex. In eighty-one cases fifty-three were men. 3. Obesity. Certainly many of the patients have been fat. 4. Cachexia and absence of fat. Many subjects, on the other hand, are thin, after having been fat. The loss of fat is supposed to weaken the wall of the intestine. 5. The normal structure of the large intestine, which readily lends itself to local yieldings of its walls. 6. The physiological rôle of the sigmoid flexure—feces are retained longer in this part of the gut, and consequently the pressure is greatest. 7. Pressure from within the bowel, due to the accumulation of feces



or gas, or both, constipation and flatulence. 8. The relation of the diverticula to the points of entry of the vessels through the gut walls. 9. The variations in size of the vessels. 10. The connective tissue around the vessels. 11. Muscular deficiency of the gut wall. As the diverticulum enlarges, the earliest pathological change is an atrophy of the muscle layers, with the following serious results: (1) Thinning of the diverticulum wall. (2) Perforating action of the retained concretion. (3) The presence of microorganisms and their toxins. (4) Inflammatory reaction of varying type and degree. The secondary processes to which sigmoid diverticula are liable may be summed up as follows: (a) Infection of the general peritoneal cavity from thinning of the sac walls, without perforation. (b) Acute or gangrenous inflammation—"diverticulitis." (c) Chronic proliferative inflammation with thickening of the gut wall and stenosis of the bowel. (d) The formation of adhesions, especially of adhesions to the small intestine and to the bladder. (e) Perforation of the diverticula, giving rise to general peritonitis, general abscess, submucous fistulæ of the gut wall, and fistulous communication with other viscera, especially the bladder. (f) The lodgment of foreign bodies. (g) Chronic mesenteritis of the sigmoid loop. (h) Local chronic peritonitis. (i) Metastatic suppuration. (j) The development of carcinoma. (k) Perforation into a hernial sac.

6. Deaths Under Anæsthetics.—Waldo has endeavored to ascertain the exact facts regarding the mortality in Great Britain due to anæsthetics, and has examined the methods whereby statistics of the kind are officially presented to the registrar general. His conclusions are as follows: 1. That present available data as to deaths during anæsthesia are so imperfect as to be useless for the purpose of formal investigation. 2. That the returns of such deaths are for the most part obtained from coroners' returns of deaths occurring in hospital practice. 3. That only a small proportion of deaths under anæsthesia in private practice ever come to the notice of registrars or coroners. 4. That imperfect as are the returns for England and Wales, those of Scotland and Ireland are still less trustworthy. 5. That with such imperfect data it is impossible to form any trustworthy conclusions as to the absolute rate of fatalities to administrations, or to the relative proportions of deaths to deaths in the case of particular anæsthetic deaths. 6. That it is highly desirable to arrive at satisfactory conclusions as to the precise facts of all deaths under anæsthesia, both for the safety of the public and the furtherance of scientific knowledge. He therefore recommends: 1. That no general or local anæsthetic shall be administered by any but a duly qualified medical man, except in some exceptional circumstances, which shall be duly reported to some recognised official authority. 2. That full details be kept by the anæsthetist of all administrations of anæsthetics, whether in hospital or private practice, including date, time, and address of patient, an operator and of administrator, nature of operation, the drug used, and other pertinent details. 3. That a register of all administrations of anæsthetics be kept in all medical charities, poor law infirmaries, asylums, and

other public institutions. 4. That so far as possible special skilled anæsthetists be appointed to all hospitals and infirmaries, and that resident anæsthetists be provided in all the larger institutions. 5. That when the administration of an anæsthetic is intrusted to a junior qualified man, he should be supervised by a skilled anæsthetist, except where he can produce a certificate of special skill and experience as an administrator, or where a skilled anæsthetist is not available. 6. That notification be made to the coroner of all deaths occurring at any stage of general anæsthesia by the anæsthetist and other concerned. 7. That coroners be required to hold a public inquiry into all cases of death during anæsthesia, and that they make a detailed report to the registrar general, together with the verdict. 8. That a commission might with advantage be appointed to inquire into the present facts of deaths under anæsthesia, so far as may be ascertainable.

#### LA PRESSE MEDICALE.

March 14, 1908.

1. Laryngostomy. By SARGNON and BARLATIER.
2. Late Ocular Lesions After the Ophthalmoreaction with Tuberculin. By PAUL VAN DERME and EVARISTE STUCKE.
3. Compensatory Hypertrophies and Vascular Actions. By R. ROUME.

1. Laryngostomy.—Sargnon and Barlatier, in a brief historic sketch of this operation, say that it was first performed, to the best of their knowledge, by Professor Ruggi in January, 1898, but its merits were prominently brought forward by Killian in 1906. They describe the operation, which they divide into, 1, the operation itself; 2, the dilatation and the dressings; 3, the autoplasty; and, 4, the watching and the maintenance of a tracheal orifice. Two varieties are named, the typical tracheolaryngostomy and the total or partial laryngostomy. The indications for laryngostomy are laryngotracheal stenoses, in order that they may be dilated, and when there are no stenoses to permit inspection or treatment, such as dressings, caustics, phototherapy, radiotherapy, or curettage. The latter cases include those of malignant tumors in their early stages, certain forms of glottic and subglottic tuberculosis, certain forms of laryngeal paralysis, and recurrent papillomata of the larynx. It is specially indicated in cicatricial strictures. The contraindications are not numerous. The operation should not be performed when there is pus in the trachea, when there is fever, when there is a severe bronchitis, or when there is an obstacle in the trachea below the place where the canula would be, a papilloma, for example. The inconveniences are slight. After the removal of the canula the vocal troubles clear up, and they state that many of their patients sing. The results of the operation they consider very encouraging, and they believe that it furnishes a certain and definite cure for serious cicatricial stenoses otherwise incurable.

March 26, 1908.

1. General Hygiene in the Hygiene of Medicine at the Faculty of Medicine of Paris. By Professor GEORGES BASTET.
2. Statistics of the Bacteriological Microbiology of the Human and Animal Kingdom. By Professor J. G. THOMAS.



**2. Sporotrichosis of the Buccopharyngeal Mucous Membrane.**—Letulle pictures the condition of the mucous membrane of the mouth and pharynx produced by the *Sporotrichum Beurmanni* as well as the microscopical appearance of the spores. He alleges that the disease, both clinically and pathologically, is an affection *sui generis*, distinct in all points from any other ulcerative affection which has yet been described. It does not appear to be related even indirectly to tuberculosis or syphilis. If it should appear coincidentally with one of these diseases in the same patient the differentiation would always be absolute and precise.

#### BERLINER KLINISCHE WOCHENSCHRIFT.

March 9, 1908.

1. What Is the Cause of Death? By JOHANNES ORTH.
2. The Theory and Practice of the Serum Diagnosis of Syphilis, By FLEISCHMANN.
3. The Action of Sodium Oleate in Wassermann's Reaction of Syphilis, By HANS SACHS and KARL ALTMANN.
4. Concerning a Bilateral Isolated Luxation of the First Metatarsal Bone, By ALFRED STIEDA.
5. The Varieties of the Skeleton of the Human Foot, By W. BÖCKER.
6. Hyperæmia in the Treatment of Internal Diseases, By A. LEWANDOWSKI.

1. What is the Cause of Death?—Orth discusses this subject from the medical, scientific, and legal standpoints, but presents little, if anything, new.

2. Theory and Practice of Serum Diagnosis in Syphilis.—Fleischmann studied the effects produced by serum in 230 cases, 192 syphilitic, 38 nonsyphilitic. The thirty-eight control cases included cases of nonsyphilitic brain tumors, tuberculous meningitis, typhoid fever, pneumonia, sepsis, myelitis, apoplexy, and carcinoma. In all of these the reaction was negative. The syphilitic cases were divided into four groups: 1, Positive syphilitics, with positive syphilitic symptoms manifest at the time of investigation, eighty-nine cases; 2, positive syphilitics, without manifest symptoms at the time of investigation, sixty-four cases; 3, patients with symptoms suspiciously like syphilis and questionable former infection, thirty-two cases; 4, positive syphilitics, who presented symptoms of disease which could scarcely be ascribed to the former syphilis, seven cases. The eighty-nine patients who composed the first group presented at the time of investigation primary, secondary, tertiary, or the so called metasymphilitic symptoms. In these the serum gave a positive result in eighty-three, 93.5 per cent.; a negative in six, 6.5 per cent. The six negative cases were a case of tabes dorsalis of several years' duration, which had been repeatedly treated; another case of tabes dorsalis which had been under treatment for years, an untreated case of tabes dorsalis with a syphilitic history of twenty-eight years' duration, an ulcer of the nasal septum that had been treated for three years with inunctions and injections, an old syphilitic chorioiditis, and secondary papules in a patient during treatment. The first five were therefore cases in which the process had been long existent or exhausted, and in four had undergone specific treatment. The second group was composed of sixty-four patients, who presented no manifest symptoms, though conceded to have been infected with syphilis. A positive reaction was ob-

tained in thirty-three, 52 per cent.; a negative in thirty-one, 48 per cent. A comparison of these results with those obtained in the first group shows that the presence of symptoms is of considerable moment in the production of the reaction. The author suggests that in certain of these cases the presence of the reaction may be an indication for the renewal of treatment of the disease. In three of the cases that gave a negative result fresh syphilitic symptoms appeared some months later, and then the reaction was positive. The negative reaction tells us nothing. In the thirty-two cases of the third group one half gave a positive reaction, one half negative. No positive conclusion can be drawn as to the value or lack of value of the reaction in these cases, but in a considerable number the positive reaction was confirmed by the results of specific treatment, and the negative by the course of the disease. The fourth group comprised seven syphilitics who were suffering from probably nonsyphilitic skin affections. The reactions obtained were positive in one, negative in six. The author concludes that in spite of our ignorance in regard to the theoretical basis Wassermann's reaction has an extensive clinical application in the hands of careful investigators experienced in serological work. Its chief domain is in the cases in which suspicious symptoms appear while infection is denied or is uncertain. A positive reaction may be considered diagnostic in such a case, and a negative result, particularly in the absence of former treatment, may, under certain circumstances, be of value. In the second place the test may have a certain value in old cases which have presented no symptoms for a long time, and the question needs to be determined whether to renew treatment or not. A positive reaction might be an indication for such renewal of treatment, even though a negative result would not contraindicate it when suggested otherwise. The reaction does not appear to be useful for the diagnosis of cured syphilis.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

March 17, 1908.

1. The Fluid in the Sound and the Diseased Conjunctival Sac, By SCHIRMER.
2. Destruction of Blood Plaques, Blood Clot, and Muscle Clot, By BÜCKER.
3. A New Stethoscope for Measuring the Subjective Strength of the Heart Beat, By BOCK.
4. The Treatment of Eclampsia, By OSTERLOH.
5. Comparative Studies with the Conjunctival Reaction of Wolff-Eisner and the Ointment Reaction of Moro, By HEINEMANN.
6. Concerning Disinfection of the Hands with Chirosofer, By BECKER.
7. More Favorable Experiences in the Treatment of Blennorrhæa of Adults with Blenolenicet Ointment, By ADAM.
8. Concerning the Relations Between Infant Mortality, Infant Nutrition, and Fitness for Military Duty, By HAHN.
9. Concerning the Ability to Live of Infants with Very Large Congenital Umbilical Hernias, By DURLACHER.
10. Concerning X Ray Momentary Exposures with the Apparatus Used, By GRÖDEL and HORN.
11. The Problem of Skin Electricity, By HARNACH.
12. Fulguration According to Keating Hart, By WIESNER.
13. Lysol and Creosol Soaps, By AHLFELD.
14. Yearly Report of the Out Door Department of the Surgical Clinic at Munich, By GEBELE.
15. Studies in Opsonins (concluded), By MUCH.
16. Obituary of Professor Ferdinand Petersen, By PEISTER.

2. **Destruction of Blood Plaques, Blood Clot, and Muscle Clot.**—Bürker says that his experiments show that the material that prevents, or at least delays, the destruction of the blood plaques and the coagulation of the blood is irritant to the muscles at a temperature of 20° C., the more so the greater the degree to which the destruction of the blood plaques and the coagulation of the blood is prevented. This material influences in like gradation the muscle rigidity at 40° C., in that the muscle contract much earlier and more energetically than the control muscles. But the most striking circumstance is that the muscles, although they finally exhibit all other signs of rigidity, remain transparent, while the control muscles always become whitish and completely opaque. All solutions used to preserve the transparent muscles remained clear, while the control solutions always became slightly cloudy. A final peculiarity mentioned is that these muscles remained transparent when placed in alcohol or formalin. The author finally draws two conclusions from his experiments: 1, That the lime salts are of importance not only for the destruction of the blood plaques and the coagulation of the blood, but also for the normal passing off of the coagulation of muscle; 2, that cloudiness of the muscle is not a necessary criterion of muscle rigidity.

3. **New Stethoscope.**—Bock describes a stethoscope with an apparatus connected with it for the purpose of registering the strength of the heart beats. The instrument is complicated and difficult to describe briefly.

5. **Comparative Studies with the Conjunctival Reaction of Wolff-Eisner and the Ointment Reaction of Moro.**—Heinemann finds that Moro's reaction is as useful in making the diagnosis in tuberculosis as Wolff-Eisner's, and has certain advantages over the latter. After the conjunctival test he observed conjunctivitis, which often afflicted the patient for two weeks, while the ointment reaction was always harmless and afflicted the patient in no way whatever. This he considers a noteworthy practical advantage.

9. **Large Congenital Umbilical Hernia.**—Durlacher reports a case in which a child was born with a very large inoperable umbilical hernia, and was still living at the end of two years and four months. The treatment given was the application of moist warm compresses. He discusses other reported cases, the natural tendency to contraction of the aperture, the prognosis, and treatment, but adds little if anything new.

10. **X Ray Momentary Exposures.**—Grödel and Horn present some beautiful x rays—teleroentgenograms, they call them—produced by exposures of 1/15 of a second, 1 second, and 2 seconds.

#### LA SEMAINE MEDICALE

March 18, 1908

Systematic Drainage as a Prophylactic Measure Against Postoperative Phlebitis. By F. Moty.

**Systematic Drainage as a Prophylactic Measure Against Postoperative Phlebitis.**—Moty refers to the phlebitis that sometimes follows abdominal operations, such as appendectomy, hysterectomy, nephrorrhaphy, or the radical cure of hernia.

#### AMERICAN JOURNAL OF OBSTETRICS.

March, 1908.

1. Recent Advances in Obstetrics, By E. B. CRAGIN.
2. The Diagnosis of Early Pregnancy, By E. McDONALD.
3. High Rectocele After Perineal Repair, By R. L. DICKINSON.
4. Fistula Between the Fundus of the Uterus and the Upper Portion of the Intestine; Operation, Cure, By W. P. GRAVES.
5. Value of Blood Observations in Gynaecological Cases, By H. A. DUNCAN.
6. Dystocia from Ventral Fixation, By O. P. HUMPHSTONE.
7. The Hymen, Anatomically, Medicolegally, and Historically Considered, By E. S. MCKEE.
8. Some Experiences Relative to the Causation and Treatment of Certain Forms of Metrorrhagia, By A. P. CLARKE.
9. Puerperal Hæmorrhage, By J. N. BELL.
10. Personal Observations and Conclusions on the Treatment of Fractures, By D. C. MORIARTY.

1. **Recent Advances in Obstetrics.**—Cragin states that advance has been most marked along three lines: (1) Better knowledge of obstetric pathology, (2) better knowledge of the mechanical problem of delivery, (3) better procedure. Knowledge of obstetric pathology has made most distinct advance in the toxæmia of pregnancy, as shown by pernicious vomiting on the one hand and eclampsia on the other. In pernicious vomiting there is fatty and hydropic degeneration of the liver, which may be diffuse, while the kidneys show degeneration of the epithelium of the convoluted tubules. In eclampsia there are two clinical types, one in which the liver is greatly involved and the kidneys slightly, and the other in which the kidneys are chiefly affected and the liver slightly. Three varieties of lesions were found in livers which were studied, the area of degeneration in the lobules varying in each type. The nephritic type of eclampsia included (1) those who had suffered with nephritis, the eclampsia having aroused the old trouble; (2) those whose kidneys were previously healthy. Better knowledge of the mechanics of labor consists in noting carefully the relation between the foetal head and the maternal pelvis in the later months of pregnancy, also in the early correction of occiput posterior presentations. Better procedure is based upon better pathology and better mechanical knowledge.

2. **The Diagnosis of Early Pregnancy.**—McDonald divides the signs and symptoms of pregnancy into (1) those from the history, (2) breast signs, (3) signs on vaginal examination. Absence of menstruation may or may not be a significant sign. It is frequently present from other causes than pregnancy. On the other hand, a bloody discharge may occur during the first three months of pregnancy. Nausea and vomiting are common symptoms, but neither are they limited to early pregnancy. They are present in about half the cases of pregnancy. Sensitiveness in the breasts is usually felt within two months of conception, and by the end of that period the enlarged papillæ, and the changed areolæ of the breasts are manifest. The vaginal signs are purplish hue of the cervix, softening of the cervix, compressible isthmus, alterations in the size, shape, and consistency of the uterus, and intermittent contractions of the uterus. The last of these are present or may be excited throughout



pregnancy. None of the foregoing signs are constant. Their value chiefly consists in the confirmatory evidence which they add to other signs.

**3. High Rectocele After Perineal Repair.**—Dickinson states that the factors in the production of rectocele are: 1. Laceration or lack of tone in the fascia and muscles of the pelvic floor. 2. Injury to the muscular layers of the rectal wall, or defective activity of such layers. 3. Defects in conformation of the rectum, or in the axis of the rectal canal, or both. 4. Obstruction from rigor or irritability of the sphincter. The methods of study of the form and direction of the rectal and anal canals upon the living are as follows: 1. The rectum is distended with air, and viewed with specula in the knee chest or in the lithotomy posture with lowered head. 2. By digital touch. 3. By tracing tape or wire, the measurements and angles being plotted on a full size sketch. High rectocele after operation is to be prevented (1) by digital rectal examination of sèptum before anæsthesia, (2) by identification of the structures at operation, and high apposition, (3) by after care. Precautions after operation for bad cases are (a) three or four weeks in bed, (b) a daily soft movement of the bowels, (c) low intraabdominal tension for three months, (d) overcoming irritability or sensitiveness or undue rigor of the sphincter, and watchfulness against constipation.

#### THE PRACTITIONER.

March, 1908.

1. The Aortic Incompetence of Later Life,  
By J. F. H. BROADBENT.
2. Appendicitis,  
By E. S. BISHOP.
3. Valvular Disease of the Heart,  
By R. CRAWFORD.
4. Simple Nasal Obstruction,  
By W. S. SYME.
5. The So Called Adenomata of the Palate.  
By T. P. LEGG.
6. Rupture of the Genital Canal During Labor,  
By H. T. HICKS.
7. Ophthalmia Neonatorum,  
By S. MAYOU.
8. A New Method of Intestinal Anastomosis Suitable for Cases of Gangrenous Intussusception,  
By A. EDMUNDS.
9. Future Lines of Treatment: Their Effect on the Profession,  
By W. J. TYSON.
10. A Review of Some Recent Work on Gout,  
By A. W. SIKES.
11. A Review of Diseases of the Blood and Blood Forming Organs,  
By H. B. SHAW.
12. A Case of Retroperitoneal Endothelioma Simulating Malignant Disease of the Pancreas,  
By A. W. FALCONER.
13. Open Method of Ether Administration Combined with Chloroform,  
By H. R. PHILLIPS.

**1. The Aortic Incompetence of Later Life.**—Broadbent mentions as causes of degenerative lesions producing aortic regurgitation in old age (1) senile degenerative change, (2) high arterial tension or constant strain on the valves and arch of the aorta, (3) severe intermittent strain on the valves from frequent and violent fluctuations in the blood pressure, (4) syphilitic aortitis, (5) rupture of a valve. The physical signs are sudden, short, and forcible pulse wave, high blood pressure, hypertrophy of the left ventricle with a diastolic murmur at the aortic cartilage, the aortic second sound being also present and indicating dilatation of the aorta. If the lesion is due to intermittent strain in an arduous occupation, mitral incompetence quickly follows, with cough, dyspnoea, cyanosis, enlarged liver, fullness of the veins of the neck, cedema of the legs, and

death from heart failure. Aneurysm is one of the possible consequences. Uræmic symptoms and angina pectoris may also be present. The prognosis is always unfavorable, sudden death being of frequent occurrence. When uræmic symptoms are present mercurial purgatives, diuretics, and iodides, with a purin free diet, are indicated. With anginoid symptoms the nitrites and morphine should be administered. Digitalis is indicated only in some of the cases in which compensation has failed.

**2. Appendicitis.**—Bishop thinks the widespread opinion that the usual symptoms of an acute attack of appendicitis should be the signal for an immediate operation is entirely erroneous, and he protests against such an opinion. The opinion that every surgeon or practitioner who does not at once attack it surgically is criminally negligent is similarly erroneous. If there is a history of two or three previous slight attacks, gangrene and perforation may be excluded. If acute perforation has occurred into a protected cavity and not into the general cavity of the peritonæum it had better be let alone. The rage for speed in operating is responsible for much bad work, and the rash and hasty breaking up of protective adhesions often leads to infection of the general peritonæum. During the acute stage the virulence of the microorganisms is at its highest, the development of opsonins and antitoxines is at its lowest. In cases in which there have been previous attacks it is therefore wise to defer operating until a quiescent period. In cases without a history it is frequently, but not always, best to operate at the earliest possible moment.

**3. Valvular Disease of the Heart.**—Crawford says of pulmonary stenosis that it is a rare lesion and may be congenital or acquired. Rheumatism, syphilis, and bacteria are causative in the congenital variety, rheumatism and other acute infective diseases in the acquired variety. It may exist (1) at the situation of the orifice and valves, (2) in the infundibulum of the ventricle, (3) in the artery of its main subdivisions. It quickly causes hypertrophy and dilatation of the right ventricle. Clinically one observes in such cases pallor, dyspnoea on exertion, and general debility. Some of the cases present marked symptoms of circulatory sepsis. The visible signs may be pulsation over the front of the heart and in the epigastrium, and in some cases præcordial bulging. The diagnosis rests upon the presence of a systolic murmur in the second left interspace, moving upward and outward, accompanied by a thrill. The second sound is diminished or reduplicated, and the right ventricle shows hypertrophy or dilatation. Sufferers with this condition are very susceptible to tuberculosis. As to treatment, bronchial catarrh must be avoided, a dry and warm climate must be selected, and great exertion must be avoided. In general, the treatment must be symptomatic, on the lines applicable to cardiac failure.

**6. Rupture of the Genital Canal.**—Hicks thinks this accident should be classified as intra and extraperitoneal, rather than as complete and incomplete. The latter is simple as to treatment and prognosis compared with the former. Intraperitoneal rupture may be (a) spontaneous and without delivery of the fetus, or (b) with delivery of the fetus and fol-



lowing version or other forcible manipulation. The former is usually unavoidable, rupture occurring at the point of greatest pressure, its direction being transverse to the line of greatest tension. It is generally behind and vertical in the vagina and oblique or transverse in the lower uterine segment. It is almost always at the cervicovaginal junction, extending upward and downward. The abdomen must be opened if foetus and placenta have entered the peritoneal cavity. The rent should be sutured, the peritoneal cavity shut off from the uterine cavity, and the latter drained. Bleeding must be checked by ligation of bleeding vessels or the tissues through which they are passing. Wounds of the bladder should be ligated. In cases in which suturing of the uterus is inadvisable a gauze drain should pass from the rent to the vagina. Internal version and transverse presentation cause most of the ruptures in which the foetus has been delivered. The rent may not be discovered for hours after its occurrence. Irrigation and drainage with gauze constitute the treatment. One must not forget the possible development of abscess in the torn and bruised tissues.

#### THE MILITARY SURGEON.

April, 1908.

1. The Purification of Drinking Water for Troops in the Field, By CARL R. DARNALL.
2. An Efficient Method of Disposing of Garbage and Kitchen Refuse by Incineration Under the Camp Spider, By HERBERT A. ARNOLD.
3. Tea as a Beverage for the Military Service, By GEORGE F. MITCHELL.
4. A Case of Lumbar Hernia, By JAMES RAYMOND HURLEY.
5. The United States Naval Station, Olongapo, Philippine Islands; Its Location, Climate and Diseases, By C. P. KINDLEBERGER.

1. The Purification of Drinking Water for Troops in the Field.—Darnall describes his apparatus. It consists of a galvanized iron tank or can 24 inches high with an oval section measuring 7 by 16 inches; two cylindrical water cans 7 by 22 inches, with a mark indicating the three-gallon point; and a filter consisting of a cylindrical metal framework, connected to a siphon of one half inch galvanized water pipe. The short limb of the pipe is closed at the end, but communicates with the interior of the framework of the filter. The long arm is provided with a stopcock. Over this cylindrical framework the filtering medium is wound and fastened in such a manner that water must traverse the filter to gain access to the short limb of the siphon. The filtering material is a cotton fabric known as "outing flannel," and is quite closely woven. About twenty-eight thicknesses are used after being folded into a suitable size and sewed together. This material met the requirements better than any other that was tried. It gives a large flow of water, is easily sterilized, and does not shrink. Such a siphon weighs about twelve pounds and will deliver about fifty-five gallons of water per hour. To start the siphon action, a small pump somewhat like a bicycle pump is used. The apparatus is so constructed that all parts may be packed in the large oval can which is then placed in a light wooden crate. This crate is also used for a stand for the filter. This filter complete weighs about thirty-five pounds without the crate which, on occasion, may be dispensed with.

By leaving out the water cans, the weight may be further reduced to twenty-six pounds. By distributing the parts among several men it can be easily transported by marching troops. In operating this form of apparatus "hydroxid powder" is used, a one-pound tin of this being sufficient for 500 gallons of water. The powder consists of alum and soda, mixed in the form of a powder. The method of operation is simple. The filter cloths, of which there are several, are all sterilized by boiling in the morning before starting and one is put on the filter ready for use. At the end of the march the apparatus is set up in a few minutes; the cans or camp kettles are used to measure the water, to which a sufficient quantity of the powder is added by means of the small measure furnished with each container. After stirring, the water is poured into the filter can and the filter is then started. Within ten minutes after halting filtered water may be delivered to the troops. A larger apparatus is more elaborate, being furnished with a pump and means of automatically supplying the solutions of alum and soda to the water. This model with all its accessories crated for transport weighs about 390 pounds. Its capacity is 400 gallons per hour. As regards efficiency it may be said that in a series of experiments conducted by a board of officers of the army it was found that this filter removes about ninety-nine per cent. of the contained bacteria. Since the filter-cloths are sterilized daily by boiling, bacteria cannot multiply in them. The filter also removes all organic coloring matter, and all mud and clay, leaving the water clear and palatable.

#### Proceedings of Societies.

#### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Annual Meeting, Held January 20, 1908.

The President, Dr. T. E. SATTERTHWAIT, in the Chair.

**Election of Officers.**—The following officers were elected: President, Dr. Robert T. Morris; corresponding and statistical secretary, Dr. Frank C. Raynor; treasurer, Dr. H. Ernest Gallant; chairman for the borough of Brooklyn, Dr. J. Scott Wood.

**Report of the Corresponding and Statistical Secretary.**—This report showed that during the year thirty-one new members had been elected, and that the total membership of the association was now 647.

**Ureteral Catheterism.**—In this paper Dr. F. TILDEN BROWN expressed his gratification at the increasing appreciation shown by the profession at large for the accurate diagnosis of urinary disorders and abnormalities of the urinary tract, which was only afforded by this differentiating practice. He then proceeded to give a demonstration of his combined cystoscopic and radiographic caddy, as well as one connected with the development of the cystoscope since Nitze and Leiter first made their wonderfully advanced presentation in 1870. The speaker said that since 1894, when after a successful and comparatively easy application of the unappreciated Brenner catheterism cystoscope in a

case of urinary tract tuberculosis (where the result served to decide an all important question as to surgical interference), he had been interested in testing the relative merits of the different catheterizing instruments existing at that period; and he was satisfied that for this purpose, in general, the direct vision cystoscope was possessed of more advantages and fewer disadvantages than the prismatic, or indirect, type. Hence his adoption of the Brenner pattern for his first efforts in development of the cystoscope. Dr. Brown's remarks were directed more particularly to instruments and methods with which he had himself had to do, and were supplemented by wall drawings and photographs to demonstrate the various developmental forms, since 1900, of his original "composite cystoscope," the identical instrument which a St. Louis cystoscopist had recently appropriated, and had been presenting as his own "universal cystoscope." This composite cystoscope, made by the Wappler Company, of New York, was a vastly more useful instrument than its immediate predecessor, the author's double catheter direct vision cystoscope, which Leiter, of Vienna, made for him in 1898, and which was the first telescopic cystoscope, of any form, to provide for two catheters and effect synchronous catheterism of the ureters. But this Vienna instrument had no reserve channels for irrigation. It was with the end in view of finding a way to add such irrigation channels to the already practicable double catheter direct vision cystoscope, while, at the same time, not increasing the circumference of the shaft beyond 24 French, that the Brown-Wappler efforts were first directed, in 1900. With what initial success these efforts had met and what constantly added improvements he expected, the present presentation was intended to fully demonstrate. It should be here added that the speaker's first double catheter instrument was but a modification of the then existing Brenner single cystoscope, whereas his subsequent instruments involved a wholly novel departure from all the preexisting types. The first essential change lay in getting rid of the old time terminal window at the vesical end of the sheath, and this was followed by the use of different kinds of interchangeable telescopic tubes for the same common sheath. Up to the present time its development on this basis had resulted in giving us at least three complete cystoscopes for different purposes, adjustable in one sheath. Still another tube, of paramount value, to go with this common sheath, was all but completed, in the shape of an indirect vision double catheter telescope, which would be welcome to those who preferred this method of ureter catheterism to the direct one, and which here in America had been gaining constantly in favor since the first introduction of the composite cystoscope.

As to the uses of ureteral catheterism, Dr. Brown said these might come under two heads—diagnostic and therapeutic. The latter, in his belief, were quite limited, and it was also his opinion that those enthusiasts over kidney lavage of a few years ago who, missing the diagnostic resources of this procedure, professed to meet with so vast a number of patients with pyelitis as to astonish others who had long been studying such conditions with intel-

ligence, and by the aid of this same differentiating means—not only had they discovered that pyelitis was very common, but, furthermore, that it was a leading factor in the causation of Bright's disease. From such original deductions, regarding both the prevalence of pyelitis and their new aetiology of Bright's disease, it was not difficult to foresee what a marked change the future mortality statistics, in connection with such forms of renal disease, when treated by their medicated lavage of the pelvis, would show! The speaker said that he could appreciate the fact that there were exceptional cases of pyelitis which would be advantageously treated, at least in part, by this method, but that for the great majority internal medication, together with climate, hygiene, and diet, would be much more efficient and vastly safer.

The therapeutic use of the ureter catheter, on the other hand, in cases of stones lodged in the ureter was, from the speaker's experience, one of considerable importance. In not a few the descent of such calculi had been determined at once or in intermittent stages, by the stretching incidental to the introduction of the catheter. Besides this mechanical effect of the catheter it was of undoubted service in such cases, when the eye of the catheter had reached a point above the lodged calculus, either to use warm gomanol oil or add to the existing urinary hydrostatic pressure by the guarded and gradual injection of warm boric or saline solution. The efficacy of the ureter catheter for the immediate relief of some cases of acute hydronephrosis by carefully insinuating the eye of the catheter past the mechanical barrier (whether this was stricture of the ureter, angling of the ureter, or impaction of a calculus) was self evident. Where, in such cases, the catheter was successfully used, it was at once appreciated as being a therapeutic and diagnostic resource of the greatest value.

The last therapeutic purpose of the ureter catheter referred to by the speaker was that of serving as a tubular splint for a partly or completely severed ureter, whether such was the result of accident in abdominopelvic surgery or of any compression trauma of this tube incidental to accidents. Not only would extravasation be prevented by draining the urine past such laceration, but the presence of the catheter also served as a mandrel during the suture of the ureter.

The second, or diagnostic, class of uses of the ureteral catheter was altogether too numerous and too well recognized to require comment, even if time permitted. Upon only one, as yet not well appreciated, field of value the speaker said he would dwell for a moment. This was the combined use of radiography with ureter catheterism. It was a well known fact that many plates of the bony pelvis revealed shadows which, as regarded shape and position, it was impossible for even the most expert interpreters of x ray plates to say whether they represented a calculus in the ureter or some simulating body in the immediate vicinity. When these shadows were found in patients giving a fairly typical clinical history of lodged ureteral stone, the only nearly absolute safeguard for the surgeon, as well as the patient, against an unnecessary operation was to be had from this practice of first



passing a ureteral catheter to a distance beyond the site of this previously recognized questionable shadow, then inserting a metal stylet (preferably of platinum) into the catheter, and again making an x ray picture of both. Of course when the questionable former shadow was seen to be in the same anteroposterior plane as the shadow of the metal stylet—in other words, when these were apparently in direct contact—the diagnosis was materially strengthened. On the other hand, if an appreciable space existed between the two shadows, the diagnosis was almost negated. A double ureter or encysted calculus would need to be involved if the diagnosis was still to be maintained. The speaker showed photographic prints from x ray plates illustrative of all these conditions. It was because of the great value of this diagnostic resource that Dr. Brown had had made a table where this entire procedure could not only be carried out in the specialist's office, but where no essential change or movement of the patient's body was necessary after insertion of the stiletted catheter. In conclusion, he said that this and closely allied branches of x ray work were so essentially within the province of the genitourinary specialist that an office could not be said to be complete in its appointments without them.

**On the Newer Methods of Examining the Bladder.**—This paper was read by Dr. FREDERIC BIERHOFF (see *Journal*, pp. 588, *et seq.*).

**Notes on Overtreatment of the Urethra and Bladder.**—In this paper Dr. JAMES PEDERSEN presented reports of several cases which illustrated the bad effects of injudicious management. In one of these the patient, a young man of twenty-two, reported a slight urethral discharge to his physician, who told him there was no infection, and proceeded to pass a full sized sound. This gave him pain and caused some hæmorrhage, and on the following day he had a chill, followed by fever. There then developed an increasing frequency of urination, with progressive obstruction, and on the twentieth day after the passage of the sound complete retention occurred. It was then that Dr. Pedersen first saw the patient. With a rubber catheter, which was passed without difficulty, twenty-four ounces of chocolate colored urine was drawn from the over-distended bladder, and catheterism was repeated every eight hours. In two days fluctuation in the prostate made its appearance. The pus present was evacuated through a median vertical perineal incision, and at the end of eight days systematic treatment of the urethrocystitis and dilatation of the stricture were instituted.

In another case the patient, twenty-five years of age, had frequency of urination about five months after the disappearance of a urethritis lasting six months. About a month later he noticed a redness about the meatus, and shortly afterward there appeared a urethral discharge, which gradually increased. In a week's time it became greenish yellow in color, and by the end of another week he was suffering from very frequent and painful erections. Under the use of daily irrigations of the penile urethra by his family physician the discharge was reduced in six or seven days to an occasional morning drop, but although the irrigations were kept up regularly

for two months the one drop still continued. During this time, however, no attention was paid to the patient's adverse mode of life, the correction of which would no doubt have greatly aided recovery. The physician then gave an instillation of a ten per cent. solution of silver nitrate, and the consequences were disastrous. This patient was seen in consultation four days later by Dr. Pedersen, and the discharge, which promised to continue indefinitely, was then thin and purulent.

Another case was that of an unmarried man of thirty who had suffered much from ungratified sexual excitement, and one year previously had had a short attack of urethritis. This case, the speaker said, afforded a striking example of a total disregard of the patient's general condition and lack of recuperative power, for the man was anæmic and poorly nourished, and had undergone two operations (eight years apart) for osteomyelitis. Three months ago he began to suffer from pain and tenderness in some of his joints and bones, a scanty urethral discharge, frequent desire to urinate, loss of appetite, and general ill health. After three weeks' treatment by intravesical irrigation, sounds were passed every third day, as it was discovered that he had a stricture. The patient then went south for three weeks, and came back greatly improved in every respect. Dilatation was now resumed and practised more frequently than before, and the result was a return of the frequency and urgency of urination. The point which Dr. Pedersen said he wished to make was that, allowing for errors of judgment and in diagnosis, and for accidents from the use of instruments, there remained a fair number of cases of faulty treatment (chiefly overtreatment), in which a correct, or nearly correct, diagnosis had been made, but in which overzeal or overconfidence had led the physician into doing the patient an unwitting injustice.

**Conservative Prostatectomy.**—Dr. FOLLEN CABOT read this paper (see *Journal*, pp. 384, *et seq.*).

Dr. PARKER SYMS said that Dr. Brown was certainly to be congratulated on the admirable work which he had done. By his ingenious apparatus and technique he had added no little to the resources of surgery. He conceded freely that ureteral catheterism had a legitimate field, but this was a somewhat limited one. In hands as skilful and careful as those of Dr. Brown the procedure was an entirely safe one, but it seemed to him that the time had come when a note of warning should be given against its too promiscuous use. It should be limited, he thought, to cases in which other measures had failed and in which it was imperatively demanded for diagnostic purposes. With it there was danger of infecting the ureter, and if, from this, one kidney became infected, it might lead to disease of the other also. When infection was already present in the urinary tract, he thought ureteral catheterism should be avoided. Under any circumstances this procedure should be practised only by those specially skilled in its performance.

In speaking on Dr. Bierhoff's paper he said that the cystoscope was unquestionably of very great value. But, while this, too, had its dangers and limitations, and while the positive proof which it afforded was indisputable its negative proof was



not conclusive. Because the cystoscope did not reveal a certain condition in the bladder, it did not follow that that condition was not present. Taken all together, the evidence which this instrument afforded was not so exact as he wished that it was.

In regard to prostatectomy, we had now gone so far that surgeons were pretty generally agreed as to the propriety and indications of the operation, though differing more or less as to methods. Personally, he preferred the perineal route. He believed that the mortality was less with this than with the suprapubic—not the immediate mortality alone, but also that during the period of convalescence. One great advantage of the perineal operation was the short duration of confinement required. As a rule, he allowed his patients to get out of bed at the end of forty-eight hours, or certainly within three days. Suprapubic prostatectomy not only necessitated a longer confinement, but involved more danger in the subsequent convalescence. He was glad to learn that by conservative prostatectomy Dr. Cabot meant an operation in two stages. In selected cases he himself had followed this plan for the past ten years, and at times he had found it very useful. He recalled one case particularly in which the patient was almost moribund, and where he believed that to complete the operation at one sitting would certainly have proved fatal. Here he first drained the bladder, and later, after the patient had become much stronger through the relief thus afforded, he removed the prostate through the same incision. In all cases where a slightly increased loss of blood or a slightly longer anæsthesia would in all probability turn the tide against recovery, he now made it a practice to adopt the two operation plan.

Dr. G. MORGAN MUREN, of Brooklyn, said he agreed with Dr. Syms that at present the cystoscope was resorted to too often, and he believed that other useful means of diagnosis had been neglected by those who were enthusiastic cystoscopists. The patient's welfare was thus jeopardized by the too frequent resort to this instrument, although it was, in its legitimate place, one of great practical value. As regarded prostatectomy, he said that frequent reference had been made to selected cases, but no one had spoken about the unselected cases, those of old men whose general condition was such that any radical operation was likely to prove fatal. He had seen such patients die after suprapubic and after perineal prostatectomy, as well as after the two stage operation described by Dr. Cabot. In this class of cases Dr. Muren preferred the method of permanent suprapubic drainage of the bladder, which he said he had employed in a number of instances, making the incision required for the purpose under local anæsthesia. It was here most important to prevent the leakage of urine, and for this purpose he exhibited an apparatus with a plug attachment which he had devised and which he had found very serviceable.

Dr. MARTIN W. WARE said that the papers presented this evening had made it clear that, after all, the cystoscope was an instrument of precision. We should look upon it, he thought, in the same light as the microscope, on the findings of which we seldom relied solely, to the exclusion of other factors. Although the cystoscope was an instrument of precision, however, its proper use required a good deal

more care than was generally supposed to be the case. Its employment was never a procedure of exigency. After paying a tribute to the achievements of Dr. Brown in the field of ureteral cystoscopy, and extolling the value of his instruments, the speaker said that certain cases were met with in which the conditions were such that direct illumination of the ureteral orifices was impossible, and in which it was therefore necessary to resort to the Nitze cystoscope. While the possibility of infecting a healthy kidney by ureteral catheterism should be borne in mind, the danger of infection from this source, and particularly in tuberculous conditions, had no doubt been exaggerated. The proof was still entirely lacking that through this agency the opposite kidney had become infected, and he believed that any such contention was largely a myth. Cystoscopy in children constituted a field which was as yet not thoroughly opened up. In those under five years of age the calibre of the urethra was so small that the instruments thus far devised for the purpose of exploring the bladder had not proved satisfactory, on account of the small size of the prism which had to be used. He thought it might be of interest to know that the salpingoscope, an instrument which rhinologists used for exploring the orifices of the Eustachian tubes, had been employed with success by some operators in the case of young children. It was of the Nitze type, and the principal objection to it was the shortness of the shaft. This was one, however, which could be readily obviated.

Dr. BROWN said that, while he believed that in the vast majority of cases requiring ureteral catheterism the direct instrument could be used, and while he believed that method preferable for a variety of reasons (among them being the saving of time and the diminished risk of hæmorrhage), he fully appreciated the value of the indirect instrument in atypical cases. As to the supposed dangers attending ureteral catheterism, Dr. Ware had very well answered some of the criticisms made, and personally he was not aware of any accident having occurred in the cases he had examined. He had refused to take up this procedure, or even simple cystoscopy, until he had become convinced that it was possible to have all the apparatus employed completely sterilized. It would not do to resort to boiling for this purpose, but by repeated experiments he had proved that the vapor of formaldehyde was thoroughly efficient. He therefore did not think that his tools were dangerous, and, as he was equally careful to have the urethra and bladder properly cleansed, and to perform the operation under strict aseptic precautions generally, he believed the danger of infection was minimized. Even if the tip of a catheter which had become accidentally infected was introduced into a healthy ureter, he doubted whether the kidney would become involved, for it was now recognized that an ascending infection was apt to become less and less potent as it advanced. It was descending infection of the kidney which we had most to dread. There was a good deal of injury involved in the turning about of a searcher in cases of stone in the bladder; yet there was very little danger of infection from this source.

Dr. BERNHOFF said that his own preference was

for the indirect vision cystoscope, and he had been perfectly satisfied with the results obtained with this. He could not agree at all with Dr. Muren. If an examination was to be made, he did not think it was fair to the patient to experiment with an insufficient method. It was the duty of the surgeon to resort at once to the scientific procedure, cystoscopy. This, in the speaker's opinion, offered the maximum of information with the minimum of risk. The cystoscope was certainly not a safe instrument in the hands of an incompetent operator, but he had never seen a case in which complete asepsis was observed, and burning of the bladder wall avoided, which was followed by a reaction. In order to determine the existing condition, it was sometimes necessary, to have two sittings, or even more. He said that negative evidence did show something, and cited an illustrative case in which the diagnosis of hematuria of renal origin was made out. In reply to Dr. Ware, he said that it was not necessary to resort to the salpingoscope in the case of young children, for at present there were to be had special children's cystoscopes, which were longer than the salpingoscope and which, notwithstanding their small calibre, were perfectly satisfactory as regarded the results afforded.

Dr. PEDERSEN said that from his own experience he could confirm Dr. Brown's statement that calculi were sometimes more quickly got rid of after the passage of the ureteral catheter. He had also seen a stone lodged at the orifice of the ureter disengaged by the passage over it of the searcher. Radiography with a stiletted catheter in the ureter for the diagnosis of ureteral calculus he thought a matter of great interest. In a case of Dr. Forbes Hawkes's the shadow supposed to represent the calculus was at some distance from the catheter, and it seemed probable to him that this was one of those instances of bifurcated ureter which were sometimes met with. Therefore there was some danger of being misled by the evidence afforded by the x ray. Cystoscopy he believed to be absolutely safe when performed with proper precautions and under proper conditions. As to prostatectomy, he was convinced of the usefulness of the two stage operation in certain cases, and he thought that he had saved a patient's life last spring by means of it. In reply to Dr. Syms, he would say that perineal drainage after the first step was not always safe.

#### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*One Hundred and Second Annual Meeting, held in Albany,  
January 27, 28, 29, and 30, 1908.*

The President, Dr. FREDERIC C. CURTIS, of Albany, in the Chair.

(Continued from page 570.)

Dr. MORGAN, of New York, stated that the subject was too large to be properly discussed at that time, and that if he were called upon to give advice to beginners in the profession he would say, "Keep out of debt and remember that all cases of stomach and bowel trouble are not cases of stomach and bowel trouble."

He considered such names as hyperchlorhydria as high sounding but useless as to the expression of a pathological entity, and thought its only value lay in the impression the high sounding title made upon the patient, so that the doctor's directions would be more faithfully carried out. In nervous disease of the stomach he deemed it necessary to eliminate eye strain and the normal involution of the appendix.

Dr. DUNNING, of Orange County, asked for a reasonable explanation of the development of duodenal ulcer after extensive burns, also for a satisfactory method of diagnosing cancer in its early stages. She asked if the injection of trypsin in people not affected with malignancy would never give the tryptoglycogenic reaction, and if it was always present in patients so affected.

Dr. JACOBI believed that neuroses of the stomach usually meant nervous exhaustion. The diagnosis, he thought, between hyperchlorhydria, ulcer, and disease of the colon could be reached by the fact that in hyperchlorhydria the pain was often relieved by the taking of food. In ulcer it was increased soon after or even while eating, and in disease of the colon it came on two or three hours after the food had been taken. He never admitted so many articles of diet as Dr. Rochester had allowed, but his programme was "milk, milk, milk, with rarely a little stale bread." A small quantity of rice was also allowed at intervals, and bismuth and magnesia were administered. A cure might be hoped for in five or six weeks, and while this treatment was being carried on the patient would often take on flesh.

Dr. BULKLEY cited the case of a woman who ate her breakfast as usual, though she was to have an operation that day, but she did not eat any lunch. In the afternoon, when she was anesthetized, she vomited up the breakfast unchanged. He concluded from that that it was the nervous condition of the patient which retarded the digestion, and that nervous conditions from any other cause might also have the same effect.

Dr. COLLINS, of New York, believed the involved classification of gastric neuroses upon a thoroughly theoretical and hypothetical basis to be highly undesirable and to denote a retrogression of about fifty years. He defended the term hypochlorhydria as legitimate and signifying something.

Dr. ANGELL, of Rochester, wished to back up Dr. Collins in every particular. He considered the discussion of gastric neuroses as highly speculative.

Dr. WAYNE stated that in his experience, especially in the early stages of ulcer, the administration of food did not increase, but, on the contrary, relieved the pain.

Dr. MAYO wished to express his gratitude to Dr. Stockton for his excellent discussion. He stated that he always liked to discuss a question with Dr. Stockton because he believed that he as a surgeon might overestimate the surgical importance of conditions and not give the medical side of the question its proper consideration. While eighty-one per cent. of the cases of pancreatitis had been associated with gallstones, he hoped that the discussion would stimulate the medical department of the profession to investigate the cause of pancreatitis when no gallstone disease coexisted.

Dr. OCHSNER believed all cases of ulcer, when

they cannot be cured by a reasonable trial medically, to be surgical. He stated that when these cases did come to operation secondary changes, such as pyloric obstruction, dilatation, or adhesions to other organs, had occurred. The cause of ulcer of the duodenum following burns was purely theoretical, as was also the trypsin diagnosis of cancer, though he was very glad to have had it brought up.

(To be continued.)

## Letters to the Editors.

### A CATECHISM FOR PHYSICIANS.

LANARK, ONT., March 31, 1908.

#### To the Editors:

As an old subscriber and ardent admirer of your journal, allow me to make a suggestion pertaining to the personal side of our fraternity, in the shape of questions which thousands of the subscribers would willingly answer. The answers could be tabulated according to their frequency and importance.

1. Is it your ambition to earn enough in a certain time limit to be able to live at ease without practising the profession?
2. Are you desirous of municipal or political honors plus what they may bring in a financial way?
3. Would a good property (your business location) and a good life insurance, in keeping with your income, satisfy your money ambitions?
4. Do your poor patients get as good attention as you well to do ones?
5. Do you read medical works and magazines, besides other up to date literature, daily?
6. Do you strive to keep in touch with and on friendly terms with your professional neighbors?
7. Do you belong to the local medical association or any other?
8. What are your intellectual and physical hobbies (if any)?
9. Are you of a mechanical nature as regards the use of your hands and head?
10. Are you prepared and capable to attack ninety per cent. of surgical difficulties?
11. What is your present ambition?

J. E. KLOTZ.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Essentials of Modern Electrotherapeutics.* An Elementary Textbook on the Scientific Therapeutic Use of Electricity and Radiant Energy. By FREDERICK FINCH STRONG, M. D., Instructor in Electrotherapeutics at Tufts College Medical School, Boston. New York: Rebman Company, 1908. Pp. x-112.

This little book contains in a very handy form the elements of the scientific therapeutic use of electricity and radiant energy. The author does not presuppose much elementary knowledge in his reader, and introduces him immediately *in medias res*. He speaks of the modern theories of matter, force, and the fundamental laws and principles of electrophysics (Chapters I and II). After physi-

ology has been considered from the electrical standpoint in Chapter III, galvanism and faradism are treated in Chapters IV and V. Electrodiagnosis is the subject of Chapter VI, while in Chapters VII, VIII, and IX are mentioned the types of static machines, high frequency currents, and Röntgen rays. Phototherapy is spoken of in Chapter X, and the therapeutic use of ozone in Chapter XI.

The illustrations which accompany the text are well executed and will be of great help in understanding the subject. The book will be welcomed by every practitioner who is not an expert or specialist in this branch of medicine, and by every student.

*A Textbook of Surgical Anatomy.* By WILLIAM FRANCIS CAMPBELL, M. D., Professor of Anatomy, Long Island College Hospital, etc. With 319 Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 675.

Scattered through the pages of this book there is indeed a good deal of what may properly be called surgical anatomy, but essentially it deals with descriptive anatomy from the regional point of view. The author speaks of it as an "applied anatomy," and in so doing he appears to us to be correct, for he makes his anatomical teaching apply quite largely to medical as well as to surgical practice. On this account the book will prove of value to practitioners in general. The pictorial illustrations are numerous and clear. In one respect some of them are strikingly different from the lugubrious pictures of the older anatomical works; where the face is shown, it is usually a living and cheerful face, not that of a corpse. This is particularly true of Fig. 89 (page 174), which depicts a young woman from whom a generous slice of flesh has been removed so as to show the proximal ends of the subclavian vessels, which have been cut through. In spite of this mutilation, the girl's face shows no sign of distress.

*The History of the Study of Medicine in the British Isles.* The Fitz-Patrick Lectures for 1905-6. Delivered before the Royal College of Physicians of London. By NORMAN MOORE, M. D. Cantab., Fellow of the Royal College of Physicians, etc. Oxford: The Clarendon Press, 1908. Pp. vi-202.

This book consists of four lectures. In the first of these lectures the author, after a short introduction in which he also mentions Dr. Thomas Fitz-Patrick, in whose honor the Fitz-Patrick lectures were founded by Mrs. Fitz-Patrick, speaks of medical study in London during the Middle Ages, exemplifying it with the description of the life of John Mirfield, who lived in London and died about 1258. He also mentions among others a medicus Grimbaldus, who witnessed in 1105 the signatures to a grant. A copy of this document faces the title page, while the text itself will be found in the appendix.

The second lecture treats of the education of physicians in London in the seventeenth century. Here are described the lives of Nicholas, of Casa, Dr. Thomas Linacre, the founder and first president of the College of Physicians (founded in 1518), and others. But the representative of this period is Dr. Edward Browne, who died in 1708.

The third and fourth lectures give the history of the study of clinical medicine in the British Islands. The first part is given over to Sir Theodore Turquet Mayerne (died in 1655), who reported on the death of King James I and Queen Henrietta Maria.



These documents are well translated in the text, and the Latin originals are to be found in the appendix. Several letters from the royal personages to their body physician are given. Sir Theodore was also a friend of William Harvey. Mayerne's, Harvey's, Glisson's, Sydenham's, and others' influence upon the study of medicine in England is mentioned, and Boerhaave's upon Scotland and Ireland. The appendix contains also a note of Harvey on Galen. A very complete index is of great advantage.

The book has been marvelously compiled and arranged; the labor and researches of Dr. Norman Moore must be greatly admired; and the Royal College of Physicians is to be congratulated on having entrusted the Fitz-Patrick lectures to such a scholar. We can recommend the book to every physician as a recreation after the duties of a strenuous day.

*Jahresbericht über die Leistungen und Fortschritte auf dem Gebiete der Erkrankungen des Urogenitalapparates.* Begründet von Prof. Dr. M. NITZE und Dr. S. JACOBY, Berlin. Herausgegeben von Priv. Doz. Dr. ALBU, Berlin; Prof. Dr. R. DU BOIS-REYMOND, Berlin, etc. Und unter Mitwirkung von J. ALBARRAN, Paris; A. BIER, Berlin; H. FENWICK, London; A. VON FRISCH, Wien; H. KUMMELL, Hamburg; H. Young, Baltimore. Redigiert von Prof. Dr. A. KOLLMANN, Leipzig, und Dr. S. JACOBY, in Berlin. II. Jahrgang, Bericht über das Jahr 1906. Berlin: S. Karger, 1907. Pp. 452.

This second volume of the yearbook of urology represents the advances made in this branch during the year 1906. It does not differ materially from the first volume, issued for 1905, which we reviewed here last year. The death of Professor Nitzte in 1906 necessitated a change in the editorial management, and Professor Kollmann, of Leipsic, took up the work of the distinguished cystoscopist. Dr. Hugh Young, of Baltimore, and Dr. Krotoszyner, of San Francisco, represent this country on the editorial staff of the yearbook. In this volume there is a slightly diminished tendency to quote principally German authorities and authors, so that the yearbook is gradually assuming a more international character. It presents a very fair collection of abstracts on every subject pertaining to urology, and will prove very useful to compilers of literature and to writers and students who follow the progress of urology from year to year.

*Clinical Therapeutics.* A Handbook on the Special Treatment of Internal Disease. By ALFRED C. CROFTAN, Author of *Clinical Urology*. Second Edition, Revised. Chicago: Cleveland Press, 1907. Pp. 626.

The first edition of Dr. Croftan's very useful book has been rapidly exhausted, and within a few months this second issue has been launched. There have been no great advances in therapeutics within that short space of time, but the book has undergone careful revision. It represents undoubtedly not only one of the most practical, but also one of the most readable and convenient works on the treatment of disease that have appeared within recent years. There is nothing in the book that suggests the old textbooks on materia medica and therapeutics. It is purely a clinical work, dealing with diseases, symptoms, and complications as they occur in every day work and giving precise directions, with the reasons therefor, for treatment. Numerous useful prescriptions appear in the text,

but the author has made it a point to include all the modern methods of physical and dietetic treatment. Accurate, detailed directions are given for the carrying out of these methods, so that with this book alone on hand a practitioner can follow out the treatment of disease in all its phases. We strongly recommend the book, being convinced of its value, and satisfied by practical experience with it, that it will prove acceptable to practitioners.

*The Operative Treatment of Prolapse and Retroversion of the Uterus.* By J. INGLIS PARSONS, M. D., M. R. C. P., M. R. C. S., Physician to the Chelsea Hospital for Women; Late Surgeon to the Royal Maternity Charity Hospital; Fellow of the Royal Medical and Chirurgical Society, etc. London: John Bale, Sons, and Danielsson, Ltd. Pp. viii-90.

The purpose of this little monograph is to exploit the author's operation for prolapse of the uterus. Briefly, this consists in the injection into each broad ligament of a solution of quinine, which, producing an effusion, brings about the deposit of fibrous connective tissue, and that, in turn, gives firm support to the uterus. The author alleges, among the advantages of this procedure, painlessness and absence of shock and hemorrhage. His own experiences in 105 cases have been entirely satisfactory to him. The uterus expands easily during pregnancy, and is not placed in abnormal positions. The technics of the operation are fully described and illustrated.

*Diseases of the Male Generative Organs.* By EDRED M. CORNER, M. A., M. B., B. Sc., F. R. C. S., Surgeon to Out-Patients, St. Thomas's Hospital, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. x-279.

This little manual forms a part of a series of monographs. It deals with diseases of the generative, as distinct from the urinary organs, and therefore includes a brief description of the diseases of the testicle and its envelopes, of the epididymis, the spermatic cord, and the seminal vesicles. Some of the diseases of the penis, prepuce, and scrotum bearing upon the generative function have been included. The diseases of the prostate are considered in another volume of the series. It is a rather odd notion, to deal with diseases of the genitourinary organs in their relations solely to the generative function. We do not, for our part, see the special need of dealing with strictures of the urethra, for instance, from the point of view of their influence upon the sexual function. However, the book is one which it is a pleasure to read, and it will prove very useful to students taking special courses in this particular line of work. It is compact and convenient to carry in its flexible cover. Its contents represent rather informal talks in the style of a clinical lecture than formal essays.

*Essentials of Obstetrics.* By CHARLES JEWETT, A. M., M. D., Sc. D., Professor of Obstetrics and Gynecology in the Long Island College Hospital and Obstetrician and Gynecologist to the Hospital, etc. Assisted by HAROLD F. JEWETT, M. D. Third Edition, Revised and Enlarged. Illustrated by Thirty Illustrations and Five Colored Plates. Philadelphia: Lea Brothers & Co., 1907. Pp. vi+17 to 413.

The popular success of Dr. Jewett's little book is made evident by the appearance of the third edition. As an introduction to more extensive works and as

a guide to lectures, it fulfils its purpose admirably by bringing before the student the essential facts of the subject. While the illustrations are mainly schematic, they are well adapted to their didactic purpose.

*The Medical and Surgical Uses of Electricity, Including the X Ray, Phototherapy, the Finzen Light, Vibratory Therapeutics, High Frequency Currents, and Radioactivity.* By A. D. ROCKWELL, A. M., M. D., Neurologist and Electrotherapist to the Flushing Hospital, etc. With Two Hundred and Fifty-nine Illustrations. New York: E. B. Treat & Co., 1907. Pp. xvi-676.

The present edition, which is practically the eleventh of Beard and Rockwell's standard work, has been thoroughly revised. Many chapters have been rewritten and much new material has been added. Especially is this the case in the chapters on high frequency currents, on x ray diagnosis and therapeutics, on phototherapy, and on radioactivity.

It has been the aim of the author to present in book form the results of his own labors and of the researches of all other investigators in electrotherapeutics. He has well succeeded, and the summary thus obtained, which he places before his readers, is practical and exhaustive, and the book can well be recommended.

*Lehrbuch der spezifischen Diagnostik und Therapie der Tuberkulose.* Für Ärzte und Studierende. Von Dr. BANDELIER, dirigierendem Arzte der Lungenheilstätte Cottbus, und Dr. ROEPKE, dirigierendem Arzte der Eisenbahnheilstätte Melsungen. Mit 18 Temperaturkurven, auf 5 lithographischen Tafeln. Würzburg: A. Stuber, 1908. Pp. 113.

Bandelier and Roepke have collected data from their experience, and have thus written a book from practice for practice. The book is divided into three parts: The specific diagnosis of tuberculosis, the treatment of tuberculosis of the lungs, and the treatment of tuberculosis of other organs. A general introduction precedes the main body of the work, and a conclusion follows it. The bibliography comprises seventy-three reference books and articles, of which number three are French, one is English, and one is Italian, the rest are German and Austrian.

The authors wish to call the attention of the profession to the use of tuberculin. They speak of old tuberculin, new tuberculin, and new tuberculin bacilli emulsion; Denys's tuberculin; Klebs's tuberculin; Beranek's tuberculin; Spengler's bovine tuberculosis tuberculin therapy; von Behring's specific remedy; other tuberculins following Koch's method; the immunization methods following Jenner and Pasteur's theories; and nastin. These they classify as active immunizing remedies, while the passive ones are Maragliano's serum; Figari's hæmoantitoxine; Marmorek's antituberculosis serum, and streptococci sera. The book contains also very interesting statistical material.

#### BOOKS, PAMPHLETS, ETC., RECEIVED.

*Medical Gynecology.* By Howard A. Kelly, A. B., LL. D., F. R. C. S. (Hon. Edinb.), Professor of Gynecological Surgery in the Johns Hopkins University, Gynecologist to the Johns Hopkins Hospital, Baltimore, etc. With One Hundred and Sixty-three Illustrations, for the Most Part by Max Broedel and A. Horn. New York and London: D. Appleton & Co., 1908. Pp. 662.

Transactions of the American Climatological Association. For the Year 1907. Volume XXIII. Pp. 330.

## Miscellany.

**George Sand and Her Lovers.**—An interesting problem in literary clinics is discussed in Mr. Francis Gribble's new book, *George Sand and Her Lovers*. What was the nature of the illness through which the novelist nursed Alfred de Musset when she was living with him at Venice? Dr. Pagello, who, while attending the patient, supplanted him in the affections of his mistress, writes: "I diagnosed a nervous typhoid fever." That, of course, is nonsense. Nervous typhoid fever is a complication unknown to medicine, and typhoid fever itself was unknown to medicine in the year 1834. Typhoid and typhus were at that date confounded and called "continued fever." It follows that the alleged diagnosis was really an afterthought; and the record of the symptoms indicates that the afterthought was due, not to increased pathological knowledge, but to a desire to protect the poet's reputation by tampering with the truth. "When," as Mr. Gribble writes, "we find the delirious patient seeing 'phantoms' round his bed, needing to be held down by two strong men, warned by his doctor during his convalescence to avoid strong drink, suspected of obtaining it surreptitiously, and relapsing, we know pretty well what to think." What we feel compelled to think is, of course, that the disorder from which Musset was suffering was delirium tremens. We feel as certain of that as it is possible to be of the malady of any patient whom we have not actually had under observation. The fact—a "new fact" in literary history—may perhaps in some measure explain the facility with which George Sand transferred her affections from the sufferer to his medical attendant, though it certainly cannot be said that it makes Pagello's conduct in kissing her behind the screen, as Musset averred that he did, any the more excusable from the point of view either of morality or of professional etiquette.—From *The Practitioner*, March, 1908.

**Sugar in the Soldier's Ration.**—In the April number of the *Archives de médecine et de pharmacie militaires*, Major P. Joly presents the results of a series of experiments on sugar in the field ration of the foot soldier, in the 94th French Infantry Regiment during the autumn manoeuvres of 1906, from which he concludes that: 1. Two companies, respectively, of 142 and 149 men, without any previous selection, were able to absorb, during twenty or seventeen days, a daily dose of sugar varying from 60 to 165 grammes without any digestive trouble or other signs of intolerance resulting therefrom. 2. A hundred grammes of fresh meat may be replaced in the daily ration by a hundred grammes of sugar without the men perceiving the diminution in the amount of meat. They accepted readily, and most of them with great pleasure, the addition of sugar in the form of sweetened drink—coffee, wines, or water. 3. The substitution of 120 grammes of sugar for the hundred grammes of fresh meat resulted in improvement in the physiological condition of men subject to muscular exertion, decreasing the number of heart beats, the respiratory rhythm, and the weight of the body consecutively; augmenting the physical resistance and decreasing the sick rate. 4. The over-







*Plague—Foreign.*

Brazil—Bahia.....	Feb. 1-29.....	5	1
Chile—Antofagasta.....	Feb. 23.....	14	1
Chile—Arica.....	Feb. 19-26.....	6	1
Chile—Iquique.....	Feb. 25.....	1	Present
Chile—Valparaiso.....	Dec. 14-28.....	2	1
Ecuador—Guayaquil.....	Feb. 15-29.....	4	9
India—Bombay.....	Feb. 18-25.....	125	
India—Calcutta.....	Jan. 18-25.....	40	
India—Rangoon.....	Feb. 8-15.....	12	
Peru—Callao.....	Feb. 22-29.....	1	1
Peru—Catacos.....	Feb. 22-29.....	12	
Peru—Chepen.....	Feb. 22-29.....	9	4
Peru—Eten.....	Feb. 22-29.....	15	10
Peru—Lima.....	Feb. 22-29.....	9	4
Peru—Mansefu.....	Feb. 22-29.....	7	4
Peru—Mollendo.....	Feb. 22-29.....	3	2
Peru—Paita.....	Feb. 22-29.....	1	2
Peru—Santa Eulalia.....	Feb. 22-29.....	6	6
Peru—Trujillo.....	Feb. 22-29.....	32	10

**Public Health and Marine Hospital Service:**

*Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the fourteen days ending April 1, 1908:*

AMESSE, J. W., Passed Assistant Surgeon. Relieved from temporary duty in the Hygienic Laboratory, Washington, D. C., and directed to rejoin his station at Havana, Cuba.

ANDERSON, J. F., Passed Assistant Surgeon. Directed to proceed to Asheville, N. C., for special temporary duty, upon completion of which to rejoin his station in the Hygienic Laboratory, Washington, D. C.

BRYAN, W. M., Assistant Surgeon. Temporarily relieved from duty at New Orleans, and directed to proceed to New Orleans Quarantine Station, reporting to the medical officer in command for duty.

CARMICHAEL, D. A., Surgeon. Granted leave of absence for ten days, from March 25, 1908, on account of sickness.

DE VALIN, HUGH, Assistant Surgeon. Relieved from duty at New Orleans Quarantine Station and directed to proceed to Savannah Quarantine Station and assume charge at that port.

GUSTEITER, A. L., Acting Assistant Surgeon. Granted leave of absence for four days, from March 3, 1908, on account of sickness.

FISTER, S. B., Acting Assistant Surgeon. Granted leave of absence for fifteen days, from April 6, 1908.

JACKSON, J. M., Jr., Acting Assistant Surgeon. Granted leave of absence for seven days from April 14, 1908.

KALLOCH, P. C., Surgeon. Directed to proceed to Bradford, Me., for special temporary duty, upon completion of which to rejoin his station at Portland.

KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for one day, March 10, 1908, under paragraph 210, Service Regulations.

SIMONSON, G. T., Acting Assistant Surgeon. Granted leave of absence for two days, from March 31, 1908.

TARBELL, B. C., Acting Assistant Surgeon. Granted leave of absence for thirty days, from April 1, 1908, and excused without pay for a further period of two weeks from expiration of leave.

WARREN, B. S., Passed Assistant Surgeon. Detailed to represent the service at the annual meeting of the Oklahoma State Medical Association at Sulphur, Okla., May 14-16, 1908.

WIGHTMAN, W. M., Assistant Surgeon. Granted leave of absence for seven days, from March 1, 1908.

*Board Convened.*

A board of medical officers was convened to meet at Boston, Mass., April 9, 1908, for the purpose of making physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Assistant Surgeon T. W. Salmon, recorder.

*Resignation.*

Resignation of Assistant Surgeon R. B. Scofield accepted, by direction of the President, to take effect April 17, 1908.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending April 4, 1908:*

CLAYTON, J. B., Captain and Assistant Surgeon. Will report in person to Major William C. Borden, Surgeon, president of the examining board at Manila, P. I., at such time as may be required by the board for examination for promotion to the rank of major.

DEAN, E. A., Captain and Assistant Surgeon. Will report in person to Major William C. Borden, Surgeon, president of the examining board at Manila, P. I., at such time as may be required by the board for examination for promotion to the rank of major.

HARRIS, J. R., Captain and Assistant Surgeon. Relieved from further treatment at the General Hospital, Presidio of San Francisco, Cal., and ordered to return to station, Fort Worden, Washington.

HEINZMAN, C. L., Colonel and Assistant Surgeon General. Retired from active service, upon his own application, after forty years' service.

KIEFFER, C. F., Major and Surgeon. Retired from active service on account of disability, to take effect June 24, 1908, and granted leave of absence to include that date.

**Navy Intelligence:**

*Official list of changes in the medical corps of the United States Navy for the week ending April 4, 1908:*

BAKER, M. C., Assistant Surgeon. Detached from duty on the Midway Islands and ordered to the Navy Yard, Mare Island, Cal.

LEACH, P., Surgeon. Ordered home to await orders, when discharged from treatment at the Army and Navy Hospital, Hot Springs, Ark.

KOLTES, F. X., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Navy Yard, Mare Island, Cal.

PUCK, R. F. S., Pharmacist. Ordered to the naval training station, San Francisco, Cal.

**Births, Marriages, and Deaths.***Married.*

ANDERSON—HUNT.—In Birmingham, Alabama, on Saturday, March 21st, Dr. J. Henry Anderson and Miss Daisy Hunt.

DOLL—RUSSELL.—In St. Louis, Missouri, on Tuesday, March 24th, Dr. Joseph Doll and Dr. Libby Russell.

STEIN—BEDFORD.—In Scranton, Pennsylvania, on Thursday, March 26th, Dr. James Stein and Miss Sadie May Bedford.

*Died.*

BAILEY.—In San Francisco, California, on Tuesday, March 24th, Brigadier General Elisha I. Bailey, United States Army (retired), aged eighty-three years.

CANNADAY.—In Jacks Mills, Floyd County, Virginia, on Friday, March 20th, Dr. Asa H. Cannaday.

CARTER.—In Meridian, Mississippi, on Tuesday, March 24th, Dr. N. G. Carter.

CHANDLER.—In Cornwall, New York, on Saturday, March 21st, Dr. Daniel Henry Chandler.

CRUMP.—In Millersburg, Ohio, on Thursday, March 19th, Dr. A. A. Crump, Sr., aged eighty-eight years.

DWIGHT.—In Philadelphia, on Wednesday, April 1st, Dr. Henry E. Dwight, aged seventy-five years.

FASSETT.—In New York, on Tuesday, March 24th, Dr. Bryant Sloat Fassett, aged twenty-eight years.

GILLET.—In Detroit, Michigan, on Thursday, April 2d, Dr. Wilbur Gillet.

HEALY.—In New York, on Sunday, March 29th, Dr. James Redmond Healy, aged fifty-eight years.

JUDD.—In Philadelphia, on Wednesday, March 18th, Dr. Leonardo D. Judd, aged sixty-six years.

ORR.—In St. Louis, Missouri, on Saturday, March 28th, Dr. Charles J. Orr, aged forty-four years.

PENNINGTON.—In Brooklyn, N. Y., on Monday, March 30th, Dr. William J. Pennington, aged forty-one years.

ROBINSON.—In Boston, on Sunday, March 29th, Dr. Albert Brown Robinson, aged seventy-three years.

SPEAR.—In Norristown, Pennsylvania, on Friday, April 3d, Dr. John C. Spear, United States Navy (retired).

THIBODAUX.—In Napoleonville, Louisiana, on Sunday, March 22d, Dr. O. J. Thibodaux, aged forty-two years.

THOMSON.—In Belchertown, Massachusetts, on Sunday, March 29th, Dr. Edmund Sanford Thomson, aged forty years.

# New York Medical Journal

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### Original Communications.

#### A COLONY SANATORIUM FOR THE NERVOUS AND NEURASTHENIC; A MUCH NEEDED WORK OF PHILANTHROPY.

BY GEORGE W. JACOBY, M. D.,  
New York.

Whether those statistics which show an increase in functional nervous diseases are correct or not, is a question which I should not care to discuss, but it is certain that we are constantly hearing and reading of the alarming manner in which neuroses and psychoses are augmenting, while nowhere can we find any statement that either the former or the latter are diminishing in frequency. Nor should we be astonished if such an increase were proved to be a fact, for the present day life makes constantly growing demands upon the nervous system of every individual; modern educational requirements, the ever extending competition in business and professional life, the rapid popularization of the use of new inventions, are all factors which put an additional stress upon a brain which has not as yet adapted itself to the conditions with which it has to cope.

If we admit the fact that there is such an increase, as it seems we must, then we cannot avoid asking whether the progress of these diseases, affections which constitute a menace to the welfare and happiness of many individuals and families, which destroy the economic worth of many people, which annually deprive the state of many of its best workers, cannot in some way be opposed.

Before answering this question, it will be necessary to review briefly some of the causes which produce these troubles, and to give thought to the conditions under which they occur.

In so doing, as well as in discussing their prophylaxis and contravention, much will necessarily be said which is elementary, and which has been said time and time again, but these things do not lose in weight through repetition and reiteration, and they cannot be said too often.

The confines of the various disorders called neurasthenia, hysteria, and nervousness interweave and overlap at many points, so that no sharp line of demarcation can be drawn between them.

Nevertheless, an effort should be made to distinguish between neurasthenia, which is always pathological, and the nervousness which may exist within physiological limits, at least, we need in a way specify what we mean by these expressions.

For the terms nervousness, nervous prostration, and neurasthenia are used by many physicians as expressive of one and the same condition.

Popular opinion here seems to draw a more distinct line, and we find our patients speaking of nervousness and neurasthenia with the understanding that the former is a more or less temporary condition, and that the latter is an actual disease. And we physicians must admit that this is correct; for, while neurasthenia is an affection which consists of a premature exhaustion and an untimely inhibition or arrest of function, occurring usually in a neuropath, frequently in a psychopath by birth, nervousness, on the other hand, is a condition which may be produced in anyone, even in the most robust.

The expectant attention caused by portending events, the effects of sickness with its physical and psychic drain, all produce a condition which we call nervousness and which passes away with its producing cause. In contradistinction to this transitory nervousness, there is still another form which is more or less permanent, frequently congenital, and found among all classes of people.

Persons so afflicted appear perfectly healthy, but are the possessors of a nervous system which reacts differently to external impressions from that of a normal person. Slight excitations produce unusually strong sensations; disordered equilibrium, pain, and emotions of an ultrapositive kind are produced by inadequate causes; this nervous person can exert himself, can, under pressure, do even more than circumstances require of him, and never is there a question of the occurrence of more than physiological fatigue.

Neurasthenia, on the other hand, is characterized mainly by an abnormal exhaustibility. The neurasthenic is at the end of his forces, he is unable to go on any longer, he is tired out; even under pressure he cannot force himself, and this exhaustibility implicates not only the somatic processes, but first and foremost the psychic ones. It would seem as though the entire exhaustibility was primarily of psychic origin.

Associated and going hand in hand with this exhaustibility there is always a more or less constant uniform excitability and irritability of all sensory apparatus, with the result that normal sensory impressions, as well as the physiological performance of the functions of internal organs, are abnormally perceived and create feelings of distress.

Just as no distinct line of demarcation can be drawn between nervousness, neurasthenia, hysteria, and other allied affections, so the causes of all of these affections may fittingly be discussed together.

Neither condition comes on suddenly, like lightning from a clear sky, but each requires time for its development. While neurasthenia frequently makes its appearance with an apparently sudden onset—and such a state has been called “acute neurasthenia”—the fact remains that such an acute onset is merely the culmination of a series of events, the climax in a tragedy. Even when this affection occurs in young children—and Oppenheim says that he has seen the severe form occurring in a child two and a half years old, and has treated many children between the ages of three and five years suffering from this trouble—it is always a result of accumulated previous causes.

Of such preceding causes, the most important is heredity. Precisely as in infectious diseases a certain soil is necessary for the growth of the virus, so here there is frequently inherited a predisposition which renders the individual less resistant to certain noxious influences to which everyone is more or less exposed.

While such a disposition may be an acquired one, in the vast majority of instances it is congenital, i. e., inherited, and due to the same troubles or to other nervous affections in the ancestors. The greater such predisposition, the more easily will the influences to which everyone is exposed exert their action in a causative way and bring about the troubles of which we speak.

First and foremost among the actually exciting ones are those which act psychically. Emotional excitations of all kinds, whether single and severe or repeated and mild, are the most potent. Thus we find that the struggle for existence among the conditions of modern life, especially among those found in the large centers of industrial and scientific activity, and the steady, persistent work with its attendant sorrows, deprivations, and over-anxiety for success, are among the most prolific causes; causes which are the results of conditions from which, for the large mass of people, there has been no possibility of escape.

Especially here in America are people forced into surroundings for which they have never been fitted, and especially here are premature demands made upon their nervous system before they are mature and properly qualified. This lack of proper training deprives many of the workers, in all branches, of the best protection against functional nervous diseases, which any person can have, namely, a well trained nervous system.

This struggle for existence by the congenital neuropath or the educationally unfit forces many to the use and then to the abuse of stimulants and excitants, and herein we have another important exciting cause.

This early and excessive use of coffee, tea, alcohol, and tobacco is especially deleterious in its action upon the nervous system of those very ones who are most prone to go to excess in their use.

Therefore, predisposition, aided by the storm and stress of active competition and abetted by the use of stimulants, must be looked upon as the main cause for the premature collapse of nerve force which we call neurasthenia; so it will be found that the majority of neurasthenics are between twenty-five and fifty years of age, and that their occupa-

tions are those which are attended by worry, undue excitement, uncertainty, excessive wear and tear, and thus we find mentally active persons more easily affected than those whose occupation is solely physical. Authors, actors, schoolteachers, governesses, telegraph and telephone operators are among those most frequently affected, and the increase of neurasthenia among women dates from the modern era which has opened to them new channels of work and has admitted them more generally into the so called learned professions. But whatever may be the occupation in which persons have broken down, it is never the occupation alone which has been the cause.

This cannot be too often repeated. The emotional fitness or unfitness of an individual for his occupation is of the utmost importance as a causative factor, and overwork alone, without any emotional cause and without any errors in mode of life, will never act to produce such a collapse.

It is, therefore, not astonishing that this class of functional nervous diseases is not confined to the wealthy, and that the rich and the poor are indiscriminately affected. But certain causes are of greater influence in the one class, while different ones obtain in the other. Poverty in itself, with its limitations of proper rest and recuperation, is a very positive cause. Years of neurological dispensary work among the poor have convinced me that nervousness, neurasthenia, hysteria, etc., are quite as prevalent among the indigent as among the well to do.

Other factors which are prominent in the production of neurasthenia are those which are caused by family environment, and which are intimately associated with the entire atmosphere of the home. Here the very causes which have made themselves felt in the sowing of the hereditary seed continue to exist and act as a fertilizer upon the very soil which they have helped to produce.

Each year the endeavor to attain satisfactory prophylactic measures in all fields of medicine becomes more and more pronounced. This very prophylaxis is the chief end of hygiene, and the enormous progress which this branch of bionomy has attained must merit the recognition and approbation of every worker in every branch of clinical medicine. We, who see a great deal of functional nervous disorders, cannot but express the hope that prophylactic measures, which have accomplished so much in the direction of infectious diseases and give promise of the ultimate eradication of typhoid fever and tuberculosis, may in some way also aid in preventing, or in counteracting, the spread of those affections which we are now considering.

When it is remembered that neurasthenia implicates the productive stage of life, and incapacitates, not only for days and weeks, as do so many epidemic diseases, but for months and years, and even for an entire lifetime; and when we also consider the social and material impoverishment of the individual and of his family caused by this and analogous affections—then we can appreciate how great a saving of suffering and deprivation for the individual and how great an economy for the State, in a material way, such prophylaxis would carry with it. When once it is generally recognized that



neuroses, even of a mild kind, in one's ancestors, may give rise to the most severe psychoses in the descendant, that the neurosis in the former is simply the formative stage of the psychosis in the latter, and that the prevention, or, if not this, the cure of the one may mean the interception of the development of the other, then the community and the State will be forced to busy themselves with the problem of the prophylaxis of functional nervous affections, and, failing in this, to give their support to means which promise relief from the existing conditions.

Unfortunately any direct prophylaxis is only partly in our power. The demand made by certain writers that we wage war against hereditary influences, and that we attempt to modify the seed of a neuropathic disposition, is futile, except in so far as has already been indicated and also in so far as treatment in itself is a prophylactic measure for future generations. Thus the questions of natural selection, of limitation of the spread of disease by regulation of marriage, of the care and mental hygiene of children with neurotic family histories, are to a certain extent utopian and too distant to be discussed in the present connection.

Yet, we physicians can do much to promote a rational rearing of children, to instruct parents and educators in regard to the noxious influence of certain external circumstances in the family and the school, to disseminate teachings on the deleterious influences of stimulants and excitants upon the developing nervous system, to promulgate correct ideas in regard to improper and premature sexual tendencies, and to establish a correct adjustment between the environment and the individual. Of most importance in the latter connection is the correct choice of an occupation, of the life work of an individual, because here, even with all due consideration for individual tendencies and proclivities, too little attention is often given to the nervous predisposition of such a person.

While, after all, it must be admitted that the question of the prevention of functional nervous diseases is intimately bound up with, and can hardly be separated from, that of their treatment and cure, it must also be admitted that in this prevention or cure of functional nervous troubles lies, to a great extent, the prophylaxis of insanity. Precisely at this developmental period of insanity, the existence of neurasthenia in one generation or another, at this most important period in the life history of a psychosis little or nothing is done. And this is so because our hands are tied! There is no place for patients with imperative concepts, for patients who are not insane, but who without proper care may easily become so, while with proper care they may be reclaimed and become useful members of society. No institution exists which will receive the neurasthenics, hysterics, or psychasthenics.

The correct treatment of a neurasthenic patient is the most difficult problem in clinical neurology. How much can be done for such a patient can be realized only when we have at our command all the therapeutic resources which study and experience have given us. Unfortunately, these resources have not received the attention from either state or society which they merit. The direct therapeutic

neuroses of varied kind has been disregarded by them, in order that the treatment of psychoses might receive the immediate attention which its importance demands. The care of other affections also—such, for instance, as tuberculosis—is occupying the attention of the public to an extent which leaves but little room for the just therapeutic consideration of functional nervous disorders. This is so because the actual menace to society and state by insanity and tuberculosis has been popularly recognized. When it is equally well understood that the large and increasing group of functional nervous affections is causing great injury to the masses and to the health of the nations, then the public will demand as its right the proper care of the broken down and nervous invalid.

This proper care must, as can easily be understood, consist primarily in the opportunity for rest and recuperation. While the treatment of neurasthenia should, so far as is possible, be a causative one, we all know that no cure can be effected without attention to the details of everyday life. The main principle of any successful treatment must be sought in the regulation of all activities, and not in the use of any single remedy or method. Occupations must be interrupted or adjusted. Activity and inactivity must be duly apportioned, the bodily functions must be regulated, habits of life must be supervised and methodized, and to hydrotherapy, electrotherapy, psychotherapy, etc., must be allotted the share which each or all combined may deserve. Above all, however, we must realize and acknowledge that no specific medicinal treatment is known and that the use of drugs can have but a symptomatic value.

Everyone of any experience whatsoever will admit that, in order to carry out the principles of treatment which here have been merely sketched, the prime requisite is the removal of the patient from his habitual surroundings, surroundings in which there exists no appreciation of the patient's condition, in which the recognition of the existence of actual disease is wanting, in which the constant admonitions to "brace up," to "exert your will power," force the patient to mental and bodily overexertion, and in which the worries about a livelihood are always dominant. Still, such a change alone will help but few.

It is being recognized more and more that these functional diseases of the nervous system can receive satisfactory treatment only in institutions especially arranged for this purpose. The majority of these nervous disorders require for their treatment such an amount of constant attention as can be obtained only in a well regulated institution, with its expert supervision and trained attendants.

Yet, we are being constantly asked, cannot the advice and the teachings which are given in an institution be written down? Cannot patients be instructed to lead the proper life, if not in their own homes, at any rate away from an institution? The answer to this cannot be too categorical. Certainly not! Teachings in advance as to how the patient should employ each moment of each day are entirely out of the question.

There can be no question about this, and every neurologist has long recognized the beam which a

well regulated sanatorium represents in the treatment of these affections; and this is true for all classes of patients, for the poor and the indigent as well as for the well to do and the rich.

In the case of the nervous or neurasthenic patient who is well to do, relaxation and supervision can usually be obtained without difficulty and for a sufficient length of time; for them there exists in all countries a large number of sanatoria, in which approximately proper care may be obtained. But the question of what is to be done for the poverty stricken patients who suffer from these same affections still remains, for this country at any rate, an unsolved problem.

Such needy patients are unable, even for a brief period of time, to meet the pecuniary demands of the cheapest of the existing sanatoriums; their earning capacity has gradually been reduced by prolonged inadequacy, and has finally become exhausted; they have sought and obtained medical counsel of all kind, but still they have at no time been relieved of their irritating surroundings, with their attendant insalubrious conditions, nagging influences, the hard work of to-day and the worry for the morrow. Is it a wonder that the treatment of neurasthenia among the poor is a heart sore to the conscientious physician?

The conditions here outlined have for a long time been recognized and their existence deplored by every neurologist and psychiatrist. Bender, Cramer, Determan, Erb, Forel, Fürstner, Jolly, Kraepelin, Krafft-Ebing, Laehr, Moebius, Neumann, and Peretti have in their excellent writings called attention to the necessity for relief in this direction, and but recently, in a presidential address before the American Neurological Association, Stedman, of Boston, has pleaded for early and efficient action. There can to-day be no question that there is a crying need for the establishment of a proper form of sanatorium for the nervous poor.

Statistical proof of the urgent need for such sanatoria has, for Germany, been furnished by Hoffmann and Peretti, who have clearly shown that such an institution would at once be filled to its utmost capacity. Such a sanatorium, in order to fulfill its mission and actually to cure a large percentage of cases, must be established upon totally different lines from those of the existing institutions for the wealthy, for it must be conceded that, with few exceptions, our present sanatoriums for nervous diseases do not produce results which are in any way adequate. Sanatorium care, as at present carried out, only too often tends toward the demoralization of the patient on account of the listless life which he is obliged to lead.

The principles which should govern the establishment and management of a sanatorium for the needy neurasthenic are those which long ago were laid down by Moebius and others, and which have since been shown practically to be correct. These principles, briefly stated, call for the proper application of rest and occupation. This rest must be physical and psychical, must be furnished by the location of the institution in the country, away from the turbulence of the city; the institution must be, as Laehr expresses it, "a harbor for those who, in the strife

and stress of the world's activities, have become shipwrecked."

But rest alone, while of the utmost importance at the opportune time, becomes an obstacle to further improvement when persisted in beyond its useful period. Then it is that the second element enters into consideration, that the weakened organ requires strengthening, and that action and activity must be superadded.

Moebius demands the "exclusion of false, harmful, or useless activity, the incitation to good, satisfactory work alternating in the proper way with rest." Even if others before Moebius have dwelt upon the value of work as a therapeutic adjunct in the treatment of neurasthenia, no one has stated so clearly as he has done that it is the *proper* work or the *correct* regulation of activity which must be the chief remedy. In an introduction to Schwartz's book he specifies his ideas as follows:

The nerve sanatorium (*Nervenheilstätte*) must be a school. The patients must learn how to live. I do not ask for a hospital, but for a school of life. If workshops are erected in a hospital and the patients are sent into them for an hour in order to let them do any superfluous work, then the work is prescribed in the same mechanical sense as bathing, massage, and anything else. That is not the way I meant it to be. The nerve sanatorium should be an organism appropriately devised and supported by the activity of all its parts, and at this useful and necessary work the patient, so far as his strength will allow, should be placed. This aim can be attained only if the sanatorium is a large landed seat, in which the work is not artificially provided, but is proffered of itself in all its manifoldness, and in which a sensible supervisor is able to give to each his own.

Thus those patients who have become nervously exhausted through overactivity or in consequence of the unsuitability of their occupation will have their new life adapted to their tastes and their capacity; they will, by means of the organization and discipline of the institution, learn what is best for them, the one being taught a trade, the other some simple office work, and the third being occupied in some agricultural or horticultural pursuit. Determan asks for still more; he wants the new profession, of whatever nature it may be, to be drilled into them until they become adepts, until they are able to compete, to some extent at least, with the healthy, and until they have thus become partially if not entirely self-supporting.

These demands may seem high, but they are practically realizable. This is shown by the history of such institutions, of such colonies.

There is still another side than the mere practical one, one which Cramer calls the "imponderable," and that is the entire social and human question which is touched by the establishment of these colonies. As Cramer justly says, such an establishment means the drying of many a tear and the relief of many a family from worry and anxiety. This plea for work, the demand for occupation for our neurasthenics, will not seem new to those of us who for years have been sending many of our patients to a ranch or to a farm, farming them out, so to say; but we shall all admit that the "proper" occupation, the "proper" work, was never found under those conditions. This plan has in my hands proved to be very troublesome and quite as ineffectual as the insufficient supervision of hygienic and



medical matters would lead one to expect. For the nervous or for the constitutional or acquired neurosthenic this plan is a failure.

Nor is the demand for work new to those who know what has for many years been done in this direction in asylums for the insane. Indeed, it seems strange, considering that our sanatoriums for nervous diseases are developmentally an outgrowth of the asylum, that the idea of occupation as applied to patients in the asylum should not sooner have been transferred to those in the sanatorium.

Yet, notwithstanding the many arguments and appeals to the public, it was not until 1897 that any practical result could be attained. In that year the fruition of Moebius's writings became apparent in the donation by a few charitable persons in Berlin of a tract of land and about \$60,000 for the purpose of founding a sanatorium for impecunious nervous patients. Hereupon an appeal was issued to a larger circle, and Haus Schönow was founded as *the first institution in the world devoted to this special purpose*.

Dr. Max Lähr was chosen director, and the first patient was received in October, 1899. Since then the movement has progressed. "Kolonie Friedau" is being organized in Switzerland; in Sachsen Weimar and Hessen negotiations for similar foundations are far advanced; in the Rheinprovinz such an institution is going up; in 1903 the "Rasemühle," near Göttingen, was organized through the efforts of Professor Cramer; most recently the city of Frankfurt on the Main has resolved to organize a villa colony for nervous diseases, and has set aside 400,000 marks for this purpose, and, finally, other countries have taken up the efforts of Germany to provide for the care and cure of the needy neurosthenic by the establishment of proper sanatoriums or colonies. Sweden is contemplating the foundation of a sanatorium upon Schönow's model, and at the Second International Congress for Assistance to the Insane, held in Milan in 1906, the following resolution was adopted:

"The congress expresses the desire to see organized popular sanatoriums for the nervous, erected in propitious locations, open to all without preliminary formalities, as is now being done in Germany."

The principles of treatment and of life in such sanatoria may best be practically studied in Haus Schönow and in the Rasemühle, and have been described accurately and in detail by Determann as well as by Grohmann.

It has been my good fortune to witness the daily régime in both of these institutions, and it affords me pleasure on this occasion to express my thanks to Professor Lähr, director of Haus Schönow, and to Professor Cramer, director of the Rasemühle, for their courtesy and extraordinary amiability in giving me free access to all parts of their institutions and in supplying me with much of the life and practical material which forms the basis of the present writing. The aim of such sanatoriums is, above all, the cure of the patient, not only in the hospital sense of the word, but also in an economic one, and the result which is sought for the patient is stable health with capacity for work and self support.

Whether this can be done or not, or whether it

can even be approximated, may be a moot question, but all plans for organization, construction, and management must be laid with this one aim in view. While the choice of a suitable location for our colony sanatorium should in a way be governed by considerations of climate, atmospheric conditions, and scenic attractions, these factors will, after all, remain secondary to the more imminent and practical ones of adaptability to the requirements as already described. For this reason a tract of land should be chosen which is made up of farm and woodland, upon which the various agricultural and horticultural pursuits to which we shall refer presently may be carried on, and which will furnish proper surroundings for the buildings which are necessary for administrative and therapeutic purposes. This land should be located upon a railroad and near a large city, not only for the purpose of convenience of access, so as easily to obtain supplies and to dispose of the products of farm and workshop, but also in order that trained assistance of a medical, technical, and pedagogical nature may be obtained, and that diversion of a suitable kind may be easily furnished. So also should the water supply not only be adequate for all hygienic purposes, but, if possible, be ample to furnish power for mills and to serve as a source of supply for the production of all the electric current that may be required.

The size of the grounds must be sufficient to furnish patients with opportunities for occupation, recreation, and treatment in the open air, in addition to offering facilities for raising products for home use, such as milk, fruit, vegetables, and a portion at least of the meat to be consumed. The acreage of the land will, of course, also be governed by the number of patients destined to be received in the institution or colony.

The number of patients thus to be received was determined by the committee appointed for the organization of Haus Schönow, and their decision was that a beginning should be made with not fewer than seventy to eighty patients; that with a smaller number classification became impracticable, the division of sexes became difficult, and the cost per capita became prohibitive. On the other hand, if too large a number of patients were to be admitted, the supervision would become more complicated and the entire organization to a certain extent unwieldy. Yet Grohmann, as well as Determann, on account of the easier apportionment of the work as well as on account of the reduction of the proportionate cost of maintenance, favors the admission of from 100 to 150 patients, and experience would seem to show that this number is the one which from all points of view can be most practically and most economically cared for. It must be evident, in view of the amount of individual attention required by each neurosthenic, and in consideration of the time which must be devoted to the psychic as well as to the physical instruction and care of each patient, that the medical superintendent, no matter how many assistants may be given him, will be unable to supervise more than this number of patients satisfactorily.

The question of economy still, of course, is an important one, for no matter how or from what source the money for the establishment of the colony is obtained, we should never lose sight of the fact



that the purpose of the institution is the care of the needy and relatively impoverished; that, even if it is designed to receive such patients as are able to pay a certain amount, in addition to those who are received gratuitously, the viewpoint is hereby in no wise changed, for the amount which such patients should pay must, under no circumstances, be so large as to invalidate the character of the colony as one designed for the care of the needy or to curtail the sojourn of those whose spirit of independence impels them to pay something. We should never forget that in many cases, notwithstanding all advantages, prolonged care presents the only hope of recovery.

In view of the fact that the class of patients to be admitted is made up primarily of the needy and destitute, we are at once confronted with the questions: What kind of patients, aside from their financial distress, should be admitted into such a colony? What kind may be admitted, what kind must be excluded? From a medical point of view there seems to be unanimity of opinion as to what classes of cases are specially suitable for reception into such a sanatorium. The proper patients are those with the numerous functional neuroses, particularly those suffering from neurasthenia, nervousness, and hysteria with its diverse manifestations. There seems to be no reason why persons with other functional nervous affections, such as certain vasomotor neuroses, migraine, chorea, etc., should not also be admitted, but it may be a question of doubt whether patients with mild hypochondriasis, melancholia, and other nervous affections belonging to the border line between neuroses and psychoses should be accepted. Certain it is that persons with developed insanity, epileptics, and those addicted to drugs cannot be received. They should be placed in separate institutions, and can under no circumstances be treated together with the subjects of functional neuroses.

Other factors than that of pure medical diagnosis also enter into the question of acceptance or rejection, and the large class of morally irresponsible degenerates, those who would prove to be a social and moral canker to the other inmates, and who are so easily recognized by the experienced observer, must not be received.

Huber has summed up this question well by formulating these rules: Patients suitable for reception must enter voluntarily, with the expressed desire for medical treatment; they must have full consciousness and recognition of their illness, and have perfect control of their own actions, in order to be able to follow medical instructions; they must not require watching, and must not appear abnormal to their fellows or infringe upon their rights.

The admission of patients suffering from organic diseases of the nervous system may be deemed inadvisable, on account of such patients' requiring essentially hospital treatment; at the same time such hospitalization of the patients afflicted with organic disease could easily be effected in conjunction with the colonization of the sufferers from functional affections, to the benefit of both classes, the one receiving their hospital treatment together with light, air, and the advantages of out of town life, while the other would thus receive the moral teach-

ings which the presence of organic disease must have upon the minds of those afflicted with functional troubles. While the entire institution might become unwieldy through this double purpose, no objection could be raised if the two institutions were associated in location, yet remained under different management.

The question has been discussed of whether both sexes should be received in one and the same colony, and, if this is done, whether they should be separately nursed and cared for. Inasmuch as the institution is to be a working one, one in which work of all kind is to be done so far as practicable by the patients, there will be plenty of work which can be done only by one sex or the other, and that would make the presence of both sexes desirable.

Grohmann also believes that the association of the sexes adds to the facility of treatment, that the men especially become more tractable, more inclined to work and exert more self control. What has been found to be the case in Haus Schönow and in the Rasemühle will probably apply to all similar institutions; this experience has been that the association of the sexes has added much to the congenial tone of the sanatorium; men and women are more careful of their demeanor and pay more attention to their clothing and appearance when under the influence of the other sex. While in the Rasemühle there is only separation of sleeping and toilet apartments, in Haus Schönow the sexes have been separated as to house, meals, and work, and partially even in their entertainments and recreations.

The question of which building system is to be adopted and what buildings are essential is of importance, yet it would go beyond the scope of the present article to enter upon these details. Certain principles of general planning must, however, be alluded to.

Thus, the system of large buildings, such as are used for asylums and hospitals, is entirely out of the question. Each building designed for the living apartments should in outward appearance and inner furnishings bear a great resemblance to a home, for the psychic effect which such surroundings exert upon our patients must not for a moment be lost from sight. The buildings must be comparatively small, should not be too near together, and should be constructed to give the impression, as Determann says, of a villa colony. He also has designated the following buildings as necessary:

1. A main building, for administrative and therapeutic purposes, containing a laboratory, living room for physicians, amusement halls for patients, etc.
2. Dwelling houses for patients.
3. A building for workshops and occupations of varied kind.
4. A central building for heat, electricity, hot water, steam, etc.
5. Agricultural buildings—farm buildings, dairy, granary.

In addition to these, a special hospital building, perhaps also one for a training school for nurses, and some sheltered promenade corridors with open front, so that patients may exercise and rest in the open air in all kinds of weather, must be considered. These corridors might be so made as to connect the various buildings.

The great advantages of such a colony system would be that a few essential houses could be erected, and these then be supplemented by others from time to time, as the institution grew in size, much of the work being done with the aid of the patients. All details of construction, elaboration of building plans, etc., must be left for discussion upon some future occasion, for the question to which we desire to give consideration now pertains more directly to actual treatment.

The treatment as carried on in such a colony will of necessity have to be of the broadest possible nature, and the principles which are to govern it must rise to the requirements set by Moebius, who, as stated, demands a school and not a hospital. Accordingly, no method of treatment must cast its exclusive impress upon the whole, and, to cite Moebius again: "That which most surely distinguishes the quack from the true physician is the one sidedness of the former. Every one who cures with a *method*, may he swear by water, or massage, or by electricity, or by nature as such, or by any other thing, is a quack or becomes one. The whole world acts so as to influence people; everything possible may be injurious, and in the same way help may come from the most varied sides."

So the chief essential of success is to find a proper head for the institution, the "true physician," who is broad minded and efficient, for everything will depend upon him; he must have a gift for imparting knowledge, must be able to teach the correct and healthy mode of life, and to bring about a reversal of ingrained habits, to recognize what the individual patient can do and what he cannot do, and to select for him the proper occupation—in short, to regulate his every action. In addition to all this, he must be a disciplinarian of the highest order.

Can such a man be found? Certainly it is no easy task, but Haus Schönow owes its success to having found such a one in Professor Lähr, and, with the example which he has set, the administration of such a colony should not be overdifficult.

In addition to the psychic influence which such a superintending physician will exert upon the patients, he must have at his command all the physical appliances which are even now found in all well regulated sanatoria, facilities for hydrotherapy, medicinal baths, electricity, massage, gymnastics, air baths, etc.; in fact, all apparatus and appurtenances for scientific and medical use. So everything which has proved of value in the old sanatoriums will be taken over into the new one. Opportunities for diversion of all kind, for summer and winter, for outdoor and indoor, must exist. Every factor by which health can be influenced will have to receive consideration in forming the atmosphere of the institution.

While the dominant difference between the colony which is being considered and the existing sanatoria is the spirit of occupation and of work which permeates the entire place, the colony being a working colony in the ideal sense of the term, "rest cure" will have their place and are by no means to be discarded. Every neurasthenic, as we have stated, exhausted, he requires rest and feeding, and

the more acute the breakdown, the more the symptoms of exhaustion and irritability outweigh the others, the greater will be the need for physical rest, for freedom from physical and psychic concentration. Yet only for a time. Soon the general principle of alternate rest and activity asserts itself, and the time comes in all cases when rest alone is detrimental; then active work, or the "work treatment," "work cure," is put into force. Here it may be said that the appellation "work sanatoriums" is a misnomer and misleading. Moebius calls it "hideous," and it should never be employed.

To this question of work we will now give closer attention; the principles as laid down and practically applied by Grohmann in Zürich, by Lähr in Haus Schönow, and by Cramer in Rasemühle are those which must serve as a basis.

It is hardly necessary to ask what work is. Yet it would seem as though many of the advocates of this therapeutic auxiliary looked upon it merely as the direct use of the muscles, as an output of mechanical energy. While this element of work, in so far as its action upon physical processes, circulatory, respiratory, digestive, and metabolic, is concerned, certainly bears an important part in the production of therapeutic results, no one can gainsay that the most important factor in beneficial work, as applied to the treatment of the nervous and the neurasthenic, is the psychic one, or deny that this factor exerts its influence not only through the negative quality of causing distraction from morbid concepts and obsessions, but also by means of its very positive qualities of producing concentration of mental processes, restoring disordered emotional equilibrium, strengthening the will, and increasing self confidence.

Too much stress cannot be laid upon the psychic effect produced in these patients by work, and for this reason the work which each person is called upon to do should have in view an ultimate object which will appeal to him, one which will be other than that only of effecting a cure. While the recognition of this curative action will exert a salutary influence, this knowledge, if unextended, would tend toward the increase of introspective and egotistical emotions; if, however, it is supplemented by the knowledge that all work has a broader object, that the work which is being done has a certain future value, and above all that this work is of actual use to the small community of which the patient is for the time a part, that the present and future welfare of the colony depend in a way upon his work, then an interest in the work will be incited and continued in many a patient upon whom purely selfish reasonings would be lost. The psychic influence here spoken of extends even to the nonworkers, and the patient who is too ill to work will profit by the atmosphere of occupation with which he is surrounded.

It has been the experience of all institutions in which work has been introduced as a therapeutic measure that most of the patients, independent of class or former position in life, will grasp at the opportunity for habitual regular occupation, and that the selection of the kind of occupation for each group of patients should be governed by that factor.

through which work exerts its greatest therapeutic effect, namely, its psychic action, the latter being effected by means of the allurements of novelty, the recognition of the curative influence, the pleasure in accomplishing and executing new things, the interest aroused by the use of novel apparatus, and, last but not least, the ethical and altruistic emotions already referred to. These considerations apply not only to the selection of the suitable work, but to the maintenance of the patient's interest in the work after it has once been aroused. While change of work may be called for occasionally and variety of work at different periods of the day may be necessary, the experience in Haus Schönow has been that it is not so much a question of variety in work as it is one of systematization and thoroughness. Of greatest import will always remain the correct instruction and the constant incitation with the most careful supervision.

The organization of the work must be begun by the selection of proper paid and trained supervisors. These supervisors, who must have the necessary knowledge, tact, and adaptability, will act as assistants in the various fields of work, will, so to say, be the leaders. They will give instruction in the manner of carrying out the technical work and will also give instruction in the general utility of work, the value of cooperation, etc. In short, technical and ethical instruction will have to go hand in hand.

It will not be long after such a colony has been in operation before these assistants and leaders can be selected from among the older patients. This stimulus of advancement is of great value, and in the course of time paying positions can be made for such patients as have shown themselves to be specially qualified and interested. In this way gradually a staff of competent instructors will be established.

The psychic aspect of treatment by occupation being of such great importance, the entire institution must be organized with the end in view of gaining and maintaining the patients' interest. The institution must bear the impress of contented work brought about by the establishment of bright, cheery, and hygienic workshops, well equipped with the necessary tools, and clean and orderly throughout.

These workshops should be sufficiently large to enable a number of patients to work with ease at one and the same time, for the comradeship of work is an important factor in gaining results. Occupation of whatsoever nature should always be carried out in company, and no patient should be put to work in a room by himself. We have already stated that most of the patients will be glad to join in an occupation which dispels the tediousness of inactivity, and it is a fact that after a prodromal and necessary period of rest, nearly all will, of themselves, ask to be allowed to work. But this beginning cannot be left to the will of the patient; when once the decision has been reached that the proper time for work has come, the proper occupation must be selected and the work medically imposed. Lähr says that in Haus Schönow but few patients were uninfluenced by the recognition of the value of work, and most of them went at it with pleasure, at first perhaps only upon medical orders; and I

myself am satisfied that in Schönow, as well as in the Rasemühle, the majority of patients work regularly, earnestly, and successfully.

Schwartz, who spent five months as a patient in Schönow, says that during the time of his stay he knew of but one patient who refused to work. Occasionally there were complaints about the work being obligatory, but every one lauded the opportunity for work. Of forty male patients in the colony in that early part of its career there were once thirty-four at work, gardening, at one and the same time; the six not working were too ill. He was astonished at the enthusiasm and perseverance which the patients at all times showed in their work.

Schwartz, who, together with Moebius and Hoffmann, is against the obligatoriness of work, certainly does not fortify his opinion by his experience at Schönow. There any patient absolutely refusing to work when ordered to do so is at once discharged, and it appears to me reasonable, inasmuch as the work is prescribed as part of the treatment, and may be modified or omitted only in accordance with the judgment of the physician in each individual case, so that the refusal to work must be viewed as an act of insubordination to medical orders, which cannot be condoned unless the discipline of the place is to be allowed to suffer.

The selection of the kind of work best adapted to the need of each patient is not an easy matter, but can usually be properly made by the application of the principles already described. Before such choice is made the decision must, however, be reached as to whether manual occupation or some form of brain work is preferable. It has been said that this choice will depend upon the nature of the work which has led to the breakdown; that in the case of brain workers brain activity is to be reduced or excluded and muscular work substituted, while the manual worker is to be interested in a more or less psychic way.

We, who believe that the chief therapeutic value of work, whether of brain or of body, lies in its psychic influence, cannot accede to this view without modification, for it must appear to us that in the vast majority of cases preference is to be given to some form of manual work, regardless of the previous habits of the patient. This is so because manual work carries with it a direct action upon the somatic processes, in addition to its psychic influence, and because most patients, whether head workers or hand workers, have been accustomed to some form of manual occupation from early life, and it will be easy to accustom them again to do that which they did in their childhood; in addition to this, there can be no question that manual work can be more easily organized, supervised, and controlled.

The fear expressed that purely mechanical work would be devoid of interest to the head workers, from which class the majority of patients are recruited, has been controverted by practical experience. This has shown that in the existing colonies the most enthusiastic workers in the shop and garden belong to the intellectual class.

On the other hand, when manual work is chosen for former hand workers, the patient ought not at



once be put to work at that which has constituted his own trade. As soon as that is done the entire psychic effect of the work is lost; the work with which he is so familiar, and which has been a factor in his breakdown, will to him be nothing but "work," and counteracting suggestions of manifold nature will neutralize the suggestion which we had hoped to impart.

Care should, of course, be exercised lest the patient overdo, for, aside from the fact that in all neurasthenics there exists a pronounced exhaustibility, those patients who have hitherto done nothing but brain work, and have led a more or less sedentary life, have no gauge for their physical capacity and are apt to overexert themselves. Careful supervision, especially under proper observation of the pulse rate, will here be the chief protection against exhaustion.

Under no circumstances should physical exercise be looked upon as a substitute for physical rest. The evil effects of mental overexertion can never be counteracted by muscular activity, and bodily work as such is no remedy for fatigue of any kind. The practise of recommending physical work as a neutralizer of mental fatigue can only be characterized as pernicious.

The choice of the special kinds of occupation to be used in the colony will be met by the principle of the greatest good to the greatest number, and the result of experience has been that this requirement is best met by two kinds of work—these are carpentering and gardening. Both of these combine the psychic and mechanical factors essential to successful therapy in a greater measure than any other kinds of work.

Carpentering especially is of very great value; in no other occupation are mental interest and muscular activity combined as they are here; according to the kind of work done, sawing, planing, or hammering, all movements of the body may be obtained in any relationship and to any desired extent.

At the same time the result of the work soon becomes manifest, for in a relatively short space of time some useful object may be produced; the work is concrete, it may be surveyed from beginning to end, and thus psychic interest be maintained.

To gardening, as Grohmann has shown, must be given second place; its disadvantages lie in the psychic reason that it is not sufficiently concrete to be surveyed and learned in a few months. The period of growth of most plants is too long to enable patients to obtain a general view of the connection between their daily task and the total result. But the factors which go to make up gardening as a whole, the digging, hoeing, raking, cutting, etc., are all of inestimable value. For this reason the simpler forms of gardening are of greater service than those of higher grade.

While carpentering, gardening, or agricultural work will constitute the chief sorts of occupation, other forms must also be employed. For those patients in whom no interest can be aroused in carpentering or gardening, or who for one reason or another cannot or may not take part in these pursuits, some supplementary work must be furnished.

Bookbinding, scroll sawing, pyrography, drawing, modelling, wood carving, designing, photography,

decoration of pottery, or clerical work will serve as the means to our end. In Haus Schönow, bookbinding has proved to be a suitable occupation for many patients and is utilized for an hour each day, under the supervision of a patient who has been specially taught and with the assistance of a professional bookbinder who does not live in the colony. Thus, in 1903, 124 books were bound by patients for the colony's library.

Typesetting and printing are also done there, and upholstering in all its branches has, by its diversity and evident results, given pleasure and occupation to many patients. Basket making and analogous occupations, which have been recommended by many and which are much employed in colonies for other classes of patients, are justly characterized by Grohmann as "stupid."

Female patients will also find fruitful sources of activity in the necessary household duties and kitchen work of varied kind. It would be futile to enter here upon the details of all of the various kinds of work which may prove serviceable or to attempt to plan too much ahead of the actual establishment of the colony; much will develop of itself, much will show itself during development and growth which cannot be foreseen and which will be adapted particularly to the individual colony which has been organized.

Above all, however, let us bear in mind that the work as planned and carried out in institutions for the insane should not, as has been advised, be transported as such into the colonies for neurasthenics. No matter what the nature of the work made use of, we should always remember that every treatment by means of occupation has its limitations, and that the indiscriminate use of such treatment necessarily carries with it the dangers attendant upon indiscriminate of every nature.

If new colonies are to be established upon the aforesaid or similar lines, and of the crying need for their existence in every State of the Union there can be no question, we must ask ourselves the practical question, Who is to furnish the means for their organization and support?

That the State would profit greatly by the establishment of such colonies has already been shown, and that State prophylaxis and State hygiene are rights which the people can demand has been acknowledged by the State through its work in every other direction. The State must aid in maintaining the physical and psychic availability of the individual, for the assets of a nation are made up of this physical and psychic productivity of its individuals.

On the other hand, the State can hardly be appealed to for aid until the practical proof of the necessity and benefits has been furnished, and it is even questionable whether it would be wise to seek State support in the beginning. The institution being essentially a charitable one it will be found that the impressible neurasthenic will be more willing to place himself under treatment, and will do so with greater freedom of mind, if the colony is the outcome of private charity than of a State charity. In the latter case the parallel between asylums and workhouses would be very close.

Private charity will here, as it has so often done before, once again have to lead the way. I cannot

quite well that the demands made upon such private charity are enormous, and that individual donors are appealed to for aid from all sides and for all purposes; yet, when once the worthiness of such an institution has been proved, there should be no difficulty in obtaining even more than the necessary support from all classes of society. The history of the European colonies shows that we should have no misgiving as to the possibility of obtaining the necessary financial support. What has been done abroad with difficulty should be accomplished here with ease.

In conclusion, I would say that any description of the entire organization and equipment of such a people's sanatorium for functional nervous affections would give one the impression of great complications and unwieldiness of management. This impression is, however, at once dispelled by a personal inspection of the existing colonies. It is entirely a question of initiative, growth, and development.

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## THE MOST USEFUL SPECIALTY IN MEDICINE

*To Estimate the Vital Status and Enhance Efficiency by Eliciting Contributory Agencies in Reestablishing Autoprotective Equilibrium.*

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No form of medical specialism can accomplish so much as one which aims to reinforce inherent energies, to perfect latent or impaired powers. It is but a limited conception of professional duty to be content to merely repair damages or injuries, to overcome the effects of disorders, or even to cure actual disease. In the field of restoration large individual abilities are exhibited by the exponents of restricted specialisms. The best effects are, even there, due to the measure of wisdom shown in dealing with the broader factors involved in supplying constitutional needs. The solution of most of these problems often lies in estimating the exact status of the grosser mechanisms and in correcting many contributory disabilities not ordinarily recognized as significant.

Every person, young or old, is capable of a notable increase in vital status by revising modes of life. This is particularly demonstrable as middle age approaches and tissue elasticity subsides. Some of these deviations merge into serious retrograde changes, often shown by rigidities, densities, caused by faulty habits or vitiated automatisms, due to omissions of suitable variety in both impulses and movements, whereby alone symmetrical action and reaction are assured. The factors involved are both psychical and physical. The deadening effects of routine, of monotony, are well known. Stimuli should be varied; suggestion or autosuggestion is rarely adequate to preserve rhythm. Individual resourcefulness is seldom large, or only exhibited in restricted and specialized lines. Hence it is of value to invite skilled direction from one who has achieved a well rounded familiarity with human perfectibility, needs, and derangements, and can judiciously particularize.

Human health, constituting, as it does, the basis of economics, is steadily coming to be recognized at its true commercial value. Bread winners especially are awakening to this fact, and beginning to appreciate expert professional aid in perfecting and maintaining bodily efficiency. That physician is most wise and useful who omits no opportunity to estimate the fundamental factors in any problem presenting. Not only should he meet immediate exigencies, deal correctly with confronting difficulties, but search out and correct underlying and contributory causes, which may keep the individual on an inferior plane of potentiality. He should do much more; make occasions, seek earliest possible opportunities to learn all relevant facts bearing upon the vital status of those in his charge. To accomplish this the public requires constant and varied education. The tendency is for each good citizen to make the best of his condition, to treat lightly unobtrusive ailments, to forge energetically ahead, ignoring slight symptoms, especially psychical phenomena, so that, too often, serious states are only revealed when far advanced or too late. This disregard of ailments is commendable; it makes for renown, for character

building, for success. Through such pertinacity only are the highest ends achieved. Carried to its logical limit, however, it lures the ignorant optimist to a state of perilous monism. Conversely, to err by overmuch selfsearching leads to hypochondriasis, timidity, inefficiency. Most physicians are aware of this, but there are different degrees of awareness. Some impressions, even some convictions, are cloudy, inexact, or, worse, fail to act as stimuli to right action. A nicety of judgment is needed in solving such problems. For instance, it will prove a boon to a man complaining of a slight dyspepsia for the physician consulted to discover and rehabilitate an organism never brought to that degree of vigor and stability which, if attained, would have enabled him to become a power. Hitherto he may have been held by removable limitations to some petty, hiring post.

Numberless men and women often courageously and intelligently undertake ventures well within their inherent powers, who are yet not able alone to bring them to full fruition. They may be handicapped by physical defects, wasteful in method, underdeveloped, lacking in some essential particular, or all these combine to keep them low in the economic scale. Unwarned, confident, they often assume increasing burdens and press on to, or beyond, the limit of their working powers. There then ensues some minor or major accident, and a useful life is warped, mind and body are distorted, perhaps thereby also complicating important collateral domestic or financial interests. All this dwarfing could have been avoided by adopting one of two courses of action: (1) Had the family physician been observant, wise, and, above all, dominant, corrective measures could have been instituted sufficiently early; or (2) had the individual been duly alive to his economic needs, advice would have been sought capable of establishing full working efficiency.

It is true that the general practitioner, hampered as he too often is by a multitude of fatiguing exactions, harassing exigencies, may not be expected to accomplish more than he does. Too frequently, however, his interest is exhibited rather in the immediate than in the basic problems.

Admitting the force of the proposition suggested, there would seem to be ample work in any community for specialization in *systematic amplifications of efficiency*. The chief difficulty, as in all specialisms, is the petty distrust and jealousy which discourages frank consultation, cooperation, except in departments of professional effort rigidly defined.

Another serious difficulty is the supineness of the profession in omitting to *compel recognition of the high pecuniary value of expert advice in the conduct of life*. The general public are not slow to realize the value of first class working efficiency, however blind individuals may be to their own ultimate advantage. For the relief of actual disease or damage, even more so for fancied ailment, they are often willing to consult a physician. When people arrive at the conviction of a need for general or special betterment, they are usually prepared and willing to spend time and money on measures con-

fidently endorsed. Hence much capital is invested in various medical enterprises, good and bad, legitimate and quackish. If, however, they would realize that the best, the most complete, plan is to promptly and frankly consult a physician, or to seek advice periodically as to how they may retain their health, improve their powers, achieve a relative perfection, by far the greatest gains in efficiency would follow.

Furthermore, should objection be raised to this unusual course of action, practical analogues can be shown to obtain in many other lines of professional activities as in manufacturing, engineering, or mercantile lines. Specialists flourish, earning large sums, who are employed to revise existing business methods, suggest improvements, promising the enhancement of organization, economics, and earnings. I know one gentleman, a mechanical engineer, who in early middle life adopted this improvement specialty much to his own financial advantage. There are many such in other lines. This form of specialization is preeminently a practical one, and within the capacity of many. It requires thorough technical knowledge and a broad grasp of details and policies. Lesser business specialists there are in plenty, competent in narrower lines; experts in mechanics, in chemistry, in labor saving devices, in advertising methods, in the search for markets, etc. These are the analogues of our specialists in diseases of the eye, ear, throat, skin, heart and lungs, kidneys, rectum, etc. Busy they become, satisfactory earnings do they make, valuable services do they render. Yet wherein does this detail service compare to that of one who, having all these and other resources at command, shall, with their aid when needed, estimate the organic index, the structural, the circulatory balance; ascertain the significance, by expert estimation, of developmental faults, of significant maladjustments, of the phenomena and effects of vitiated physical habits, motor, sensory, psychic, and the like?

One of the most important points is to determine and adjust the kind and quality of mental impulse, present or needed; the capacity for psychical right direction and persistence.

In the process of enhancing vital powers there are diverse, well known, excellent resources, often wisely employed. These embrace such familiar measures as regulation of life on a hygienic basis, including all those factors which contribute to physical economies, to normal activities, as by open air life, dietetic care, correction of functional or constitutional errors by well chosen drugs and the like.

These are efficacious in proportion to (1) the judgment and care exercised by the adviser in searching out causes, and (2) to the degree of cooperation supplied by the individual. Success depends upon a thorough estimation of the specific needs of each person.

The possibilities of such specializations may be rendered clearer by one or two illustrations, combining certain supplemental measures which have often contributed materially to my own successes, viz., the correction of conditions which may be described as *dysmetries*, but which really constitute



the foundation of many metabolic disorders and demand orthopaedic treatment.

A long experience in and many consistent endeavors to solve the complex problems of patent but indefinitely lowered health, to get that uplift so desirable whereby we may make efficacious previous efforts, has impressed me with the importance of securing greater elasticity of the tissues and promptitude in the reaction times between controlling centres and outlying motor parts. This constitutes a key to vascular competence, by enhancing vasomotor reflexes throughout the whole system. The grosser mechanisms often need even more attention than is afforded by customary methods of organic regulation, because without first achieving elasticity therapeutic results are not so readily secured. *Full organic competence is not sustainable unless the supporting structures are maintained in normal degrees of mobility.* The lungs, heart, etc., for instance, cannot do their perfect work in a contracted thorax. The abdominal viscera are unable to perform their full duties unless their supporting structures are adequately strong and elastic to exercise normal counter pressure. The hollow viscera both above and below the diaphragm need to be held poised in the normal interrelationships, so that vital hydraulics, connecting tubes large and small, suffer no interference from undue compressions. Poisons, endogenous and exogenous, work greater harm unless local stasis is relieved. No amount of salutary passive conditions can accomplish much if the normal stimuli to circulation lack something of necessary impulses and responses. The most powerful drugs can do little for ultimate restoration of capacity if the great oxygenating laboratories, the muscles, cease to do their essential cooperative part.

The subsidiary centres in the spinal cord, regulating vasomotor action, require that the paravertebral tissues shall continue to receive normal stimulation. So simple seeming a measure as making more flexible the backbone is followed in my experience by extraordinary betterments. There are thus provided structural normalities in the reflex cycle to motor stimuli through the vasomotor cell bodies in the corresponding segments of the cord. Hence the ebb and flow of fluids is encouraged. The physiological factors in this reflex process I have often outlined; the clinical proof is daily seen in my work.

Paraphrastically let me say that the benefits which we know to follow physical activities are explainable upon this same principle of responsiveness to reflex motor stimulation through vasomotor subcentres. For those who are unwilling, unable, or organically unfit to avail themselves of open air sports, muscular activities, as much or even more can be accomplished by brief but exact education in the cycle of motor impulses and responses, along with correction of local rigidities in the skeletal structures, direct or collateral. There is needed a precise estimation of what is amiss in the particular person, by whatever means the individual taste, opportunities or organic competence makes practicable, and correcting, in so far as is feasible, the observed shortcomings.

*By securing greater elasticity of the less used structures we can accomplish improvements in many unexpected directions, among the chief of which is securing harmonious interreactions through systematic motor stimulations.* The body is dependent upon wholesome motor stimulations for the maintenance of diverse nutritive processes. The paravertebral tissues are, as has been said, innervated by the posterior primary divisions of the spinal cord; mechanical stimulation of these structures causes salutary reflex vasomotor effects, through the cell bodies in the segments inducing pronounced circulatory quiescence or enhancement. Derangements in organic or other peripheral tissues always induce alterations in the nutrition of the cell bodies from plus or minus afflux of blood. These are almost always recognizable through alterations in the gross morphology of the erector spinæ muscles and of the ligaments. *By encouraging activities in these paravertebral muscles, and securing elasticity in the ligaments in the back, there follows, in my experience, a corresponding and correlated enhancement of all organic activities.* This can be readily accomplished by systematic posturings, torsions, bendings, etc., alone or along with extensions of the limbs and systematic forced respiratory acts, whereby the junctures of the ribs and backbone are made more mobile.

Indeed, oftentimes a larger benefit follows from a ten minutes daily practice of such stretchings than from hours of ill directed "physical culture" stunts. Take an instance, oft recurring, where the chest has become rigid, usually contracted, the neck tissues also. It is a principle evolved by my experience that *normality of posture is essential to organic competence.* Erectness is compounded of vertical and horizontal lines from which diverse other lines may depend. While curving lines make for grace they tend to impair the power of support. The weaker the person the greater are the curves exhibited. Much bodily weakness is conditional upon that exaggeration of dependent lines which evidences incompetence in the supporting structures. These supporting structures may be at fault, both at origin and periphery. For example, the visceroptosis, as I have repeatedly emphasized, arise in central defects which can and should be radically corrected by enhancing the vital index through attention to the inherent fountains of force.<sup>1</sup> A secondary cause is loss of integrity in those agencies exercising support which is supplied by collateral and external structures. Where these are voluntary muscles their vigor must be enhanced by all means, among the most definite of which is suitable use by exercise.

*The key to erectness, hence of skeletal efficiency, hence of visceral interrelationships, hence of an important factor in organic competence, lies in the maintenance of a normal posture of the thorax.* This assumes the maintenance of a relatively straight backbone and horizontality of ribs. When the ribs remain relatively hori-

The principles of organic action, as made plain to the first time by Chas. F. de M. Taylor, in the *Internal Secretions*. The dominant agencies are the ductless glands, the adjuvant system.

zontal and are easily held well up to their normal levels, there is thereby afforded adequate support to the diaphragm, the external and internal abdominal muscles, and to all those structures combining to afford visceral support. There is thus afforded a surprising degree of improvement in organic competence.

To secure this thoracic normality requires intelligent motor education. By the simple device of training a patient to clasp the hands behind, pulling apart strongly and pushing the arms forcefully down, at the same time thrusting up the chin vertically, these contracted tissues are forcefully stretched, perhaps for the first time in years. This act repeated, and with steady increments of force, widens the front of the thorax, educates the down pull of the erector spinae muscles, and overcomes the common and damaging habit of stooping. Stooping always induces undue compression of the larger viscera.

By this procedure I have been able frequently to rid patients of limitations caused by adherent pleura; to improve the power and sonority of the voice; to restore in a measure chronically impaired hearing; to relieve many of the evil effects of chronic heart disease; to mitigate asthmatic states, etc. The increased respiratory capacity induced also makes for many æsthetic as well as essential betterments. By adding to this (the most efficient known "setting up" device) forced expiratory action, the lower ribs being made to forcibly contract, the abdominal contents are raised toward the diaphragm, hence a varied train of advantages ensues. In short, by a close study of the minor contractures and their economic corrections, it is practicable to achieve that symmetry and elasticity of the body, at any age, which constitutes the index of working capacity.

One eminently satisfactory and unexpected result has followed in a dozen instances from voluntary elasticizing of tissues, viz., improvements in progressive deafness. The description of one case will serve to illustrate.

A lady, sixty-nine years of age, had steadily lost sense of hearing, being told by the best otologists that it was due to inevitable, unchangeable changes aggravating catarrhal processes. She was a vigorous, massive woman, over red, presenting distressing phenomena due to passive congestion of the head. In my efforts to relieve the obvious tissue waterlogging, I trained her in neck stretchings, torsions, forcible chin elevations, etc. Also I adopted hints from a Viennese laryngologist, in an article on treatment of chronic catarrhal conditions, to forcibly open the mouth, simulating the act of yawning, all with the purpose of so stretching the stiffened tissues as to invite afflux of blood to impoverished muscles and adjacent structures.

To my surprise and gratification the hearing steadily improved. Now, at the age of seventy-seven, this lady can hear about twenty-five per cent. better. Many similar results have followed like efforts, success being in proportion to intelligent cooperation and persistence.

Such a careful study of individual defects, inherent or acquired, as are here instructed, and their judicious correction, using resourcefulness in not only removing but enhancing the existing strain by rational auxiliary measures, affords full scope for a specialty to which none other can be superior.

—UOPI PINE STREET—

## THE PALLIATIVE TREATMENT OF PROSTATIC HYPERTROPHY.\*

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When our president invited me to address this society, he suggested that I take, as a topic which would be of interest to the general practitioner, the palliative treatment of prostatic hypertrophy. In accepting his invitation, I accepted also his suggestion regarding a topic, for the reason that I have long felt that the possibilities of palliative treatment in cases of prostatic hypertrophy have been rather overshadowed by the enthusiasm felt by the general surgeon for radical operation in this disease condition. I do not wish to be misunderstood. There comes a time in the history of almost every case of true prostatic hypertrophy when a radical operation is demanded; but I also feel certain that the indications for operation and the contraindications forbidding operation are not sufficiently studied by the general run of surgeons, and that they often lose sight of the not inconsiderable risk which always accompanies so grave an operation as the extirpation of the prostate in their enthusiasm over a certain type of operative procedure. Some of the cases which I have seen and examined, after a considerable lapse of time following radical operations, have made me think that they would have been better off had the means employed been palliative rather than operative. I firmly believe that the *true* statistics of radical prostatic operations have not, as yet, been written. The temptation to class cases as cured, when, a short time after the operation the patient is free of symptoms and discards his catheter, is very great.

We must not forget, on the other hand, that there is a large percentage of cases in whom, for various reasons, it is an impossibility for the patients conscientiously to carry out the various measures necessary for a successful palliative treatment, and that, in these instances, radical operative treatment should be the choice, as being the lesser of two evils.

Leaving aside any consideration of the question as to whether true hypertrophy of the prostate is of inflammatory origin, or of true neoplastic character, we may pass to the classification of the stages of prostatic hypertrophy as we see them in practice.

The first stage—the premonitory, or developmental—is characterized by the conditions that the bladder is still able to empty itself, practically completely, and that the patient complains, chiefly, of an increased desire to pass water, and increasing tenesmus, which develop into an imperative desire to urinate, and, finally, of a difficulty in passing water. The first symptom which usually affects a patient and draws his attention to the fact that his bladder is not normal is the development of a desire to urinate frequently during the night. He must get up once or twice during the night, or, at least, as this stage is seldom complicated by cystitis, the nocturnal is not marked. The patient usually promptly falls asleep, after having emptied his bladder, and his general condition is not materially affected. The

eral condition is little impaired. Usually the amount of urine passed at each micturition is rather small, but there may be a true nocturnal polyuria. A frequent symptom during this stage is that the patients complain of a burning pain, which they locate a short distance behind the glans penis. The ability to start the stream of urine is also somewhat impaired, and the stream itself is rather smaller than formerly, and weaker. These symptoms are, in great part, due to congestive conditions of the prostate and prostatic urethra, and we frequently meet with sphincteral spasm, which shows itself by an interrupted jet of urine, a few drops, or a teaspoonful being ejected during each act of micturition. The fact that the symptoms are more pronounced during the night is ascribed to an increased congestion, or hyperæmia of the prostate, while the patient is in a recumbent position. This condition also explains the frequent occurrence of painful erections during the night. During this stage any conditions which tend to increase pelvic congestion increase the symptoms, particularly the dysuria, very much. If we examine patients in this stage, we are frequently surprised at the comparatively slight degree of hypertrophy palpable upon examination per rectum. The prostate is only slightly enlarged, and is of a moderately elastic consistence. The insertion of a catheter usually meets with a distinct sensation of obstruction when it enters the prostatic urethra, and its passage is usually accompanied, at this point, with considerable pain. The amount of residual urine in this stage is usually small, 15, 25, or 30 c.c. being a fair average. Examination with the cystoscope reveals but slight hypertrophy of the gland, with, in almost all instances, little or no evidence of hypertrophy of the bladder muscle, and no inflammatory changes. I have, however, repeatedly seen unusually prominent veins just at and about the vesical neck.

It is during this stage that most can be done by palliative measures. The patient should be carefully instructed concerning his mode of life, and the necessity for his bearing in mind the fact that his prostate is not normal, and that he must regulate his life and his habits to conform with the needs of his condition, is imperative. It must be borne in upon his mind with emphasis that whereas, with care upon his part, he may live in comfort for many years, his prostate and bladder are his points of least resistance, and that every indiscretion or carelessness of which he is guilty will show itself in the increased symptoms from which he suffers. Such patients should be instructed to avoid, above all things, sitting for long periods, long drives, or long rides in railway carriages; horseback riding, in particular, must be avoided. I have made it a rule to advise men whose work is of a sedentary character, under such circumstances, to use an air ring upon their chairs or seats. They must avoid excesses in eating; avoid alcohol, spices, or highly spiced foods, exposure to cold and wet, and must attend to the condition of the bowels, and arrange for regular evacuations daily. Where cathartics are necessary, mild medicaments, such as cascara, epsom salts in moderate doses, castor oil, or some of the mild aperient waters are preferable. The patient should dress in such a manner that sudden changes in temperature may

not bring on chilling of the body. I advise patients of this class to wear natural wool underwear, in different weights, during the entire year, and also to avoid wetting of the feet, or sitting down upon cold or wet ground. Sexual intercourse, in moderation, is not harmful, but all sexual excesses are strictly contraindicated. These patients should be instructed, also, that should complete retention occur, at any time during the course of their trouble, they may employ a hot sitzbath, of from five to ten minutes' duration, and attempt to urinate while seated in the bath. In fact, I have found the hot sitzbath, used at night, just before the patient retires, a routine measure of great help in lessening the prostatic congestion, and have frequently been surprised to note the marked relief which such a simple measure procured for the patients during the night. They should also be instructed that in case of sudden, complete retention, they must not delay long before sending for their physician, but that if the attempt to urinate while seated in the hot bath fails, they should at once send for their medical attendant and permit him to draw off the urine by the catheter.

Where the compressor and sphincter cramp is pronounced, the careful passage of a metallic instrument is advisable. Many authors speak of the passage of a metal sound in these cases. Personally, I prefer to use a metal *catheter*, of a size corresponding to the sound, because of the lessened danger of making false passages. The manoeuvre which I always employ in such cases is as follows: The glans penis and prepuce are thoroughly cleansed with a solution of bichloride of mercury, 1 in 4,000. The anterior urethra is then irrigated with a solution of 1 in 20,000 bichloride of mercury, after which the attempt is made to inject a small quantity, the amount of which is noted, through the posterior urethra, into the bladder. Where the compressor cramp is pronounced, 8 c.c. of one per cent. cocaine solution is now injected into the urethra, and the urethra gently manipulated in such a manner that the solution is forced into the posterior urethra. After superficially anesthetizing the posterior urethra in this manner, a cleansing fluid may be injected through into the bladder. The catheter, sterilized by boiling, is now gently passed into the bladder, and the appearance of fluid, escaping from the catheter, is positive proof that the instrument is in the bladder. The bladder is now thoroughly cleansed with tepid one per cent. boric acid solution, and the catheter allowed to remain in place for a few minutes and then withdrawn. Some authors advise the use of posterior urethral dilators in cases of this sort. My personal preference, however, is for the metallic catheter, as before mentioned, for the stated reasons.

The most frequent complication of this stage of the disease is complete retention of urine, following, usually, some breach of the before mentioned regulations for the general conduct of the patient. This may be treated by rest in bed, and by intermittent catheterization; but should it persist, I believe the preferable treatment to be the *cathéter à demeure*. This may be left in place for several days, under aseptic and antiseptic precautions, and its use is generally quickly followed by relief of the acute retention.



Out of this first develops the second stage, or stage of vesical insufficiency, due to the gradual weakening of the muscle fibres of the bladder wall. This stage is characterized by a chronic, incomplete retention of urine. The symptoms which present themselves during this stage are, in the main, exaggerations of those present in the first stage. Added to this are the symptoms resulting from the accompanying cystitis, which, sooner or later, develops in all of these cases. I have been surprised, however, in many cases, to find how long a period will pass during which men, with marked retention, will maintain urine which is practically normal. The intervals of rest between the imperative desires to urinate grow shorter. During the day the patients urinate at intervals, frequently as short as an hour. The sensation of burning and of tenesmus is increased. The stream of urine grows weaker and smaller, even at times flowing merely in drops. The patients also complain of an increasing pain in the region of the glans penis, and of an uncomfortable sensation, as of a foreign body, in the rectum. Obstipation is increased. The patients pass stool which is thinner than the normal, and sometimes flattened, and prolapse of the rectum or the formation of hæmorrhoids are not of infrequent occurrence as a result of the severe straining to evacuate the urine. During the night, particularly, the frequency of urination is increased, the intervals being even so short as a half hour. During this period also the patient's general condition suffers; digestive disturbances result, and mild febrile movement may occur. Owing to these various general disturbances, and, in great measure, to the disturbance of the night's rest, the patients grow weaker, and are less able to ward off complications. Here, too, vesical or urethral hæmorrhages may occur; cystitis is very likely to result, and an infection of the kidneys or pelvis may occur. Polyuria is not an infrequent development during this stage. This second stage develops either suddenly, as the result of an acute retention of urine, or it may come on slowly. Palpation of the prostate now reveals a rather markedly enlarged gland, and the cystoscope shows a prominence of the lateral lobes, or the middle lobe, or a combination of these. The lengthening of the prostatic urethra is also more pronounced. In addition thereto, the cystoscope usually reveals a condition of columnar bladder—more or less marked hypertrophy of strands, or bundles of bladder muscle, with spaces of weakened bladder wall between them. We also here frequently note the development of diverticula. There is usually, also, an accompanying hyperæmic or inflammatory condition of the bladder wall, which is more marked in the region of the trigone and the vesical neck. Here, too, we frequently see a varicose condition of the vessels at the bladder neck. The most important requirement of treatment during this second stage is systematic and regular emptying of the bladder by catheterization. The tendency toward too frequent catheterization, however, must be combated. Where the patient has a residual urine of between 150 and 200 c.c. it is usually sufficient to empty the bladder once during the course of the day. The time for this catheterization is preferably at night, just before the patient retires to bed. In this manner he is insured a longer period of rest during the night.

Catheterization, whether performed by the patient or by the physician himself, must be done with the greatest care and gentleness. It should be borne in mind that the powers of resistance of these patients are diminished, and that any lesion of the urethral canal or of the bladder is, almost invariably, followed by a reaction, which only tends to further sap the patient's vitality. It is a good rule to keep the catheter out of the patient's hands until this is no longer possible, unless he is a man of sufficient intelligence to fully appreciate the need for the greatest possible care.

In the choice of a catheter I am usually guided by the presence or absence of resistance in the posterior urethra. I prefer not to manipulate long with a soft rubber catheter, but usually at once pass to the flexible silk, or linen catheter, with the single Mercier beak. Care must be taken that the catheter has a smooth exterior, that it is sufficiently flexible, and that the catheter eye has no rough or sharp edges. It should invariably be boiled for at least two to three minutes before being used. Boiling in this way, in plain water, does not hurt catheters which are properly made. Many of mine have been boiled fifty to eighty times or more without injury. A catheter should never be inserted until after a preliminary irrigation of the anterior and posterior urethra, with 1 in 20,000 bichloride solution, and until the glans penis and prepuce have been thoroughly cleansed with 1 in 4,000 bichloride solution. The catheter should always be passed with the patient in a recumbent or semirecumbent position. The hands of the person handling the instrument should be thoroughly cleansed, and the catheter seized at a point close to the outer end, so that that part which is to enter the urethra and bladder may not become infected through handling. A sterilized lubricant is used to anoint the catheter, and it is a wise precaution to express and wipe away the most superficial layers of lubricant in the tube, and to cleanse the mouth of the tube containing the lubricant before applying it to the catheter. It is well, too, to pass the mouth of the container through an alcohol flame a few times. The catheter must now be gently inserted, the left hand of the operator steadying the penis, and the catheter gently pushed forward until the urine flows off, care being taken to keep the point of the beak directed upward. If, upon emptying the bladder, bleeding occurs toward the end of the act care should be taken not to let the bladder empty itself fully, but to replace some of the urine with sterilized boric acid solution, until the fluid flows off clear, and to allow about 50 to 100 c.c. of boric acid solution to remain in the bladder, according to the amount of residual urine it contained. The urine should never be withdrawn from the bladder without a subsequent irrigation with sterilized boric acid solution, no matter how frequently, during the course of the day, catheterization is resorted to. Where cystitis is present, the cleansing irrigation may be followed by the use of a solution of silver nitrate, beginning, usually, with 1 in 2,000 and increasing, gradually, to 1 in 1,000, or even 1 in 500. Although this may cause some tenesmus, it is usually of short duration, and is, in most instances, quickly followed by marked relief in the inflammatory symptoms. In addition, the hot sitz-

baths, previously mentioned, are of service. Internally, urotropin, helmitol, formin, or any other of the reliable formaldehyde combinations, should be employed, in order to diminish, as far as possible, the bacterial contents of the urine. Where tenesmus and rectal discomfort are pronounced, a rectal suppository of opium and belladonna, or a small enema of hot water is frequently of benefit. Frequently patients may be carried over years, in great comfort, by carefully carried out and consistent catheterization, with the accompanying measures of treatment. Particularly is this the case in those patients in whom some contraindication to operation exists, such as marked atheroma of the vessels.

The third stage is that of complete retention, with, in some cases, ischuria paradoxa. In this stage the desire to urinate reaches a frequency, in many instances, of five to ten minute intervals, both day and night. All the symptoms previously mentioned are increased in their severity, and the patient, in spite of persistent attempts to urinate, is unable to pass any urine whatsoever. It is during this stage that toxic symptoms are likely to develop, owing to resorption, and to involvement and dilatation of the ureters and kidneys. Polyuria is also pronounced during this stage of the illness, and five to six quarts of urine during the twenty-four hours may be passed. This is usually due to secondary degenerative changes in the kidneys. The gastrointestinal symptoms are increased, and febrile movement, accompanied by chills, is not of infrequent occurrence; cerebral symptoms pointing to a uræmic condition are not unusual, and hæmorrhages are frequent. Even here, in many cases, regular, carefully carried out catheterization, combined with proper general treatment, may serve to tide the patient over the grave condition and make him comparatively comfortable. Particularly is this true of the use of the *cathéter à demeure*.

In addition to the measures previously mentioned in the consideration of the different stages of prostatic hypertrophy, general tonic treatment is indicated during the entire course of the illness. The condition of the skin, also, must be kept good by regular bathing, such patients doing well to use warm body baths twice a week, followed by brisk friction over the entire body. These baths are best taken just before retiring at night. Attention must be paid to all intercurrent disturbances, particularly those of the digestive tract.

Of direct measures, not radically operative in character, numbers have been suggested. Direct electrolysis of the gland, the negative electrode being inserted, through the rectal wall, into the substance of the prostate gland, the positive pole being placed upon the abdomen, gave little, or no, benefit, and was, in a number of instances, followed by unpleasant complications. Injections of drugs, directly into the perenchyma of the gland, have been similarly unsatisfactory. Faradization has been tried without success. The x ray has also been employed without much benefit. Massage of the gland itself has been of little benefit, except in such cases as were due to chronic congestive causes. In several cases of this latter type, however, I have felt that my patients obtained much benefit therefrom.

Naturally, where we are dealing with a fibrous prostate, massage of the prostate can be of no value. General massage, however, particularly when applied to the lower abdomen, the thighs, and the pelvis, has been reported as being of distinct benefit in many instances. Organotherapy, which has been tried in a number of instances, has been without any benefit.

Where hæmorrhage results, as not infrequently happens in cases of prostatic hypertrophy, and where an acute retention develops, or where a pronounced cystitis, or a pyelitis, or pyelonephritis is present, the patient should at once be put to bed, and a permanent catheter inserted. This should be, preferably, a soft rubber catheter, and should be, approximately, of the largest size that the meatus will permit to pass. It should not, however, be below 18 French. If the meatus will not allow the passage of an instrument of this calibre, it should be enlarged sufficiently to permit such an instrument to pass. There are a number of appliances which enable us to fasten the catheter in place, but a very simple one can be made with a safety pin, which penetrates the upper wall of the catheter, just beyond the meatus, to which silk, or strong linen threads are attached, these threads passing back, along the sides of the penis, and being kept taut and in place by a zinc oxide plaster strip, encircling the organ, but making no pressure. Such a permanent catheter, which must, of course, be inserted under the strictest aseptic precautions, should be removed daily and resterilized, by boiling, care being taken, at such times, to thoroughly irrigate the urethra and bladder in the manner before mentioned. It is a surprising thing to note how well the permanent catheter is tolerated by the majority of patients, and how quickly the complications for the treatment of which it is used respond thereto.

A not infrequent complication, where the patients catheterize themselves, or where the catheter is carelessly used, is epididymitis, or orchitis, or a combination of both. Usually it is not severe in character, although it may go on to suppuration. Under such conditions the patient should at once be put to bed, and, where the vesical symptoms are at all pronounced, the permanent catheter be inserted, in order to avoid the danger of frequent catheterization. All patients suffering with prostatic hypertrophy should drink freely of water, and many are benefited, particularly in the presence of cystitis, by Wildungen, or some of the similar waters.

When the patient's local condition is such that it does not respond readily any more to palliative treatment, and when no complicating conditions exist which forbid operative procedure, then radical measures must be employed. I do not believe that any patient's chances of recovery are impaired by palliative treatment, so long as the symptoms respond thereto; but I do not believe that one is justified in delaying radical operation where palliative treatment fails to achieve tangible results. While our aim as physicians must be to save our patients any unnecessary risk, we should recognize the fact that when the risk must be taken, there must be no unnecessary delay.

# ATTEMPTS TO REPAIR THE EFFECTS OF GREAT DESTRUCTION OF THE LIDS AND ORBITAL TISSUES CAUSED BY DISEASE OF THE ANTRUM.\*

By BURTON CHANCE, M. D.,  
Philadelphia.

The early history of this case, without which I could not have understood the cause of the awful conditions present when I first saw the patient, was given me by Dr. Beaman Douglass, of New York, and I now express my obligation to him for the information. The young woman had had a disease of the left antrum which had been caused probably by infection from a decayed molar tooth. The disease spread into the orbit after necrosis of the roof of the antrum. Orbital cellulitis followed, and later the eyelids became the seat of numerous abscesses. In a short time panophthalmitis occurred, and the eyeball had to be removed.

Dr. Douglass opened the antrum, which he found filled with infected granulation tissue. After thoroughly curetting this cavity he removed all of the necrotic bone, thus enlarging the opening into the orbit and establishing communication into the middle nasal meatus. The abscesses in the lids were opened and drained; other incisions were made to ascertain the state of the frontal and the ethmoidal sinuses. Here all the osseous tissues and spaces were healthy, and they were left undisturbed. Drainage tubes were placed in the opening between the orbit and the antrum, and these cavities were drained. Further treatment consisted in frequent cleansing and of the removal of redundant granulations. Dr. Douglass viewed this as one of the most interesting accessory sinus cases he had ever had, and he could hardly believe it possible for so great destruction to follow disease of the antrum.

The patient was a well-developed young woman. Over her left orbit was a large, thick black silk patch. On the cheek were several scars, one as though it were the scar of an incision, others as though it were excoriations, while along the superior orbital ridge were those from the exploratory incisions near the frontal and ethmoidal regions. The globe had been removed. The orbit was partially filled in by the bones adjacent to the maxillary pyramid. There was sufficient movement of the mass to justify the assumption that the ocular muscles had not been entirely destroyed. The upper lid, which was greatly distorted and stretched, was firmly adherent to the roof of the orbit. The inner third was puckered, and from the edge projected distorted skin. The lower lid had become firmly adherent to the orbital border. Here, surrounded by numerous radiating cicatricial bands, was a sinus leading from the orbit into the cheek and discharging on the cheek. The antrum was filled with granulation tissue, and the sinus was the seat of a small opening into the nasal cavity, and through which air could be blown out of the mouth. Fetid pus exuded from all these sinuous tracts.

The patient was very grateful. The only reason brought me to try to repair the upper eyelid was the hope that some prosthetic effect might be obtained by repairs to the orbit.

My first efforts were directed towards thorough cleansing of the cavities and the maintenance of drainage. The patient was wearing the patch which created a broad oven out of the orbital cavity and excited irritation of the surrounding skin.

restorative plastic operations, but even these were experienced as he the conditions were formidable and discouraging. The patient was entirely willing to submit to a series of operations without demanding my assurance of definite results. Accordingly she was admitted to the Germantown Hospital. After complete ether anesthesia I examined the orbital cavity in a way in which I could not have done it before. The lids were not united to the floor and to the roof of the orbit throughout their whole extent, but only here and there, the contiguity being interrupted by sinuous tracts which led to the deeper conjunctival sacs, where the mucous membranes were apparently preserved. The tarsal cartilages had been damaged by the suppurative processes. Bands of adhesions had formed between the lid margins and the orbital tissues which had retracted so greatly as to draw the lids far into the orbit. The inner third of the lower tarsal border had been destroyed. There were no signs of the lacrimal punctum or caruncle, nor of the sac of the inner fornx. The apex of the orbit was filled with the remains of the extraocular tissues. The sinus opening into the cheek communicated with several pockets containing putrid secretion.

After this survey I determined on a plan providing for a series of operations, some of which had been suggested by my friend Dr. Roberts. In the performance of the operations I was given much help by Dr. Charles Plank, the senior resident of the hospital, and here I wish to express my obligation to him for his patient care of the woman while she remained in the wards.

The first operation consisted in carefully dissecting the lids free from all adhering bands so that they hung over the orbit like loose flaps. Greater mobility of the lids was gained by an external canthotomy, and more space was obtained in the orbit by the severance of the larger distorting bands. As the lacrimal punctum could not be found, a stout conical probe was forcibly pushed through the soft tissues and entered into the duct. A thick lead style was inserted afterwards and passed down into the floor of the meatus and left in the duct, the upper end of it bent and embedded in the soft tissues of the orbit. The sinus into the cheek was not disturbed, but was left to drain the excessive secretions from the orbit.

A piece of sheet lead was fashioned and placed over the base of the orbit. This plate fitted into the angles corresponding to the retrotarsal space. Then, with the hope of effecting an anchyloblepharon, the lids were drawn over the convex surface of the plate, and their edges freshened. They were united by interrupted sutures.

The reaction following these procedures was intense; great edema of the lids persisted and the patient complained greatly of pain. In a week, because the sutures broke loose, the lead plate was withdrawn and a ball of hard paraffin was inserted in the cavity. Simple dressings were used and firm pressure applied. The sinus in the lid was swabbed with pure carbolic acid. After a week the pus had ceased to flow, the discharge had lessened, and it was noticed that the orbital mass could be moved more freely than was the case before the operation. The skin on the cheek was beginning to heal. In general terms a distinct benefit had been gained.

At stake of going supernumerary and to a few days the patient asked to be allowed to go home. That was the way she applied for treatment of the antrum to Dr. Carl L. Felt to whom I had recommended her.

When the parts were examined three weeks later much of the raw surface was found to be healed, and there was considerable retraction and distention of the tissues. Again the adhesions were broken and another lead disk was inserted over which the eyelids were united by silk and catgut sutures. Only slight reaction ensued and in ten days the results were more satisfactory than at the earlier operation. The eyelids were not united in their entire extent, yet they covered the orbital outlet. The fistulous tract into the cheek was closed by a small flap of skin sutured to the inferior orbital margin.

The patient received a luetic infection two or three years previously. Because of this, and because of the great value I believe mercury has as an anti-plastic, applications of mercurial ointment were made to the raw surface. The result was a



repair the distorted upper lid. Adhesions were broken, and exuberant granulations were removed. An incision was made in the lid above the point in the border where the distorted portion joined the natural. Again a lead style was inserted into the lacrimal duct. An ordinary glass shell was placed in the orbit and the lids were sewed together over it. Iced bichloride compresses were applied without interruption for three days. But little swelling or discharge followed, though the parts were tender and the patient complained of considerable pain.

At the end of a week the sutures were removed. There was firm union in the inner third, but less firm in the outer. In spite of the great mutilation that had taken place in the tarsal cartilages there was a noticeable, indeed even marked, movement of the two lid flaps. The lower flap was composed of the cutaneous and subcutaneous tissues of the facial region, together with the inner fibers of the orbicular muscle. The upper flap included similar tissues in the inner portion and contained a very much distorted tarsal cartilage in the outer.

At the end of another week the tissues conformed quite regularly over the temporary glass shell. The tarsal border had become more extensive; the canthoplastics had increased the general dimensions of the fissures, and the dense cicatrization in the tissues at the lower border had favored the eversion of the lower flap.

One month later a gold sphere was inserted beneath the muscular cone of the orbital mass. The metal conformer excited pain and induced considerable discharge, so that by the end of a week it had to be removed, at which time the sutures were withdrawn.

The patient was discharged from the hospital on November 15, 1904. After another month of irregular attention, she disappeared and has not presented herself again. When I saw her the last time the lower lid had become adherent to the orbital mass, but the sphere had so molded it that the upper lid had become decidedly convex and overhung the lower lid. There was at that time a resemblance to a tarsal border along the upper lid. The cavity was drained perfectly by the nasal duct, and the antral discharge had ceased.

Mr. Joseph Ferguson contrived a pair of spectacles containing large periscopic lenses, the left having ground surfaces, which greatly obscured the disfigurement; but the lady discarded them for the black patch of earlier days.

235 SOUTH THIRTEENTH STREET.

## DISLOCATION OF THE NECK WITH RECOVERY.\*

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Traumatic injuries of the cervical vertebrae and spinal cord are declared by many able surgeons as being invariably grave; a majority of such conditions are said to be usually followed by an early death or permanently bad results. A few cases, however, are on record where a satisfactory recovery has been observed.

Boswell mentions a man of sixty whose fourth cervical vertebra was subluxated and who recovered within two weeks. Lazzaretto reports a case of a seaman whose atlas was dislocated and who made an uneventful, though somewhat tedious, recovery. Vanderpool describes a fracture of the odontoid process, but death ensued about six months after injury. Ashhurst, Phillips, the elder Cline, Willard Parker, Bayard, and Stephen Smith have reported partial and complete recoveries after fracture of the atlas and axis. Doyle in 1896 attended a woman patient with a dislocated neck who made a fairly good recovery within seven months, and who was enabled to follow her daily vocations around her farm.

Ashhurst especially refers to the condition of dislocated neck and says the mortality is always high. His experience with three hundred and ninety-four cases no doubt justifies this conclusion. Barney Baldwin, the erstwhile Louisville and Nashville railroad switchman, who exhibited himself throughout the country several years ago, suffered from a dislocation of the neck in the cervical portion of the spinal column. It is not generally known that the Earl of Minto, Viceroy of India, is one of the few notables who ever survived a broken neck. This accident befell the viceroy thirty-one years ago and was reported by the distinguished English surgeon, Sir James Paget. This famous physician declared after his patient recovered "that in the whole of his experience it was the only instance he knew of the vertebrae going back into the place after being stretched." A few other interesting examples of this character could be enumerated which have appeared in the medical journals of which every surgeon has easy access.

The case of dislocated neck the writer desires to report is that of William N., white, age twenty, of Emporia, who at the time of accident was employed as a daily laborer on the Tidewater Railroad.

The writer was summoned at 1 p. m. to attend this man in July, 1906, at Rural Bower, a distance of fourteen miles from Emporia. I reached the injured boy about three hours after the accident had taken place. Upon examining the condition of the patient complete motor and sensory nerve action were found to be absent from the chin downward, barring a slight movement from the right index finger, which could be feebly flexed.

Before proceeding further I desire to briefly describe the origin of the dislocation. The young man while assisting in adjusting an "idler" chain beneath a steam shovel was caught around the neck by this powerful linked rope and drawn up against the floor of the machine and securely held there for several seconds. The engineman above, mistaking the signal, started the machinery below, and thus was the unfortunate youth drawn near his doom. The left side of the boy's head was pressed directly against the under surface of the steam shovel, and when released the body fell limp and, to all eye witnesses, apparently lifeless to the ground. A number of intelligent observers, after removing the body, pronounced life extinct, but fortunately, within a few seconds signs of resuscitation were observed. When the young man awoke, as it were, he asked for water, which he could not then swallow after repeated attempts during a period of an hour.

At the time I reached the young man his condition was improved to such an extent that, upon offering a liquid, he could with great difficulty use some of the muscles of deglutition. Practically no pain was complained of other than that his "neck was sore." The respiration was fourteen to the minute, and the heart showed a count of fifty-eight beats. The paralysis mentioned was absolute; likewise necessarily complete loss of function of the bladder and bowels. The patient talked intelligently, would whistle, expectorate, protrude the tongue, and rendered any facial contortion requested of him.

A more minute examination of the boy's injury revealed the fact that his neck muscles and ligaments had stretched approximately one and one-half inches beyond normal conditions. Upon manipulation the ventral arch of the atlas was found resting upon the odontoid process of the axis. The man had been placed upon a flat ground surface where, in the following manner, I reduced the luxation. Summoning four men, I directed two to grasp a lower extremity, that the patient might be held evenly in proper position. The other two assistants rested their hands upon the thorax to steady the trunk. Then firmly grasping the occiput with my right hand, I placed the left under and around the chin, when by lifting the head backward, upward, and forward upon the chest the atlas was replaced to its normal position. Each step of the manipulation was deliberately and slowly accomplished, owing to the fact I did not know to what extent trauma had entered into the

\*Through members were welcomed, Medical Association of Virginia and North Carolina, at Norfolk, Va., December, 1907.

proposition. I felt reasonably certain that the cord or its meninges were in a measure lacerated. During the reduction of the dislocation no anæsthetic was used for fear of its painful results, and much pain was complained of by my patient, especially in the region of the throat, and as expressed by him "felt as if about to choke." No immediate sensory or motor improvement was noted upon reducing the displacement other than a desire to micturate.

With one inch surgeon's adhesive strip, I firmly fixed the neck and head in as normal position as possible. The man now requested that his bladder be relieved, which was done three times within three hours, voiding each time approximately from three to four gills, of deep amber color. In an improvised ambulance I moved the man to Emporia over one of the roughest public highways in the State. Upon arrival at destination the pulse was 76 and respiration 19. At no time did he become delirious after originally regaining consciousness. The patient arrived home in fairly good condition, about eleven hours after being hurt. He was placed in bed, with the head of bed elevated about eight inches. An additional bandaging of the neck and head reinforcing the adhesive strip was thought necessary. After a teaspoonful dose of a narcotic the boy fell into a restless sleep which lasted for three hours, at which time the narcotic was repeated and brought on the desired effect. The pulse and respiration continued practically normal for three weeks. At no time did the temperature rise above 99.6 from the traumatic condition.

On the fourth day the paralysis began to clear in the left lower extremity and in the right forearm. On the seventh day the right foot began to be used, provided the boy would direct and concentrate his mind upon this spot. Then followed gradually the use of the muscles of deglutition, the erector spinal muscles and the entire general muscular arrangement, including the bladder and bowels.

The patient did not at any time suffer any mental disturbance. He did not attempt to assume other than the dorsal decubital position for ten days, but after this time, when I began massage, hot sponging, and the faradic current from twice to five times daily, he would change his position with only partial assistance.

On the fifteenth day the boy contracted measles, which ran the usual course. The young man had tonics and alteratives for two months along with the treatment as described. A light but nutritious diet was given during his illness and confinement to bed, and was increased to a full diet upon leaving it.

On the twenty-ninth day after the injury the boy was able to sit up and walk a few steps, but it was sixty-three days before he ventured out of his chamber. The massage and electrical stimulation was conscientiously applied for five and a half months, with the result that the only evidence of the original injury is a partial atrophy of the deltoid muscles covering the shelf of the left shoulder. I have purposely avoided going into the minute of the nerve structure herein involved, for I feel assured the distribution is generally known and any attempt upon my part to describe the neural complications would prove unprofitable to the reader.

#### THE PRINCIPLES OF THE CLIMATIC TREATMENT OF CHILDREN.\*

By F. L. WACHENHEIM, M. D.,  
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Climatic treatment is often recommended for various subacute and chronic ailments of infancy and childhood, but few authors have cared to lay down the general principles which must be our guide in ordering a change of air for our young patients. As a rule, our recommendations have been largely empirical, with a resulting uncertainty as to what can actually be accomplished in applying climatic treatment to this or that group of cases. I may, therefore, be pardoned for taking up the time allotted to me with a brief outline of the underlying

principles of climatotherapy, particularly as applicable to early life.

The three most important climatic elements which we have to consider are the temperature, the various phases of atmospheric moisture, and the pressure of the air, the last chiefly as modified by the elevation above sea level. We may commence with a discussion of the general therapeutical principles applicable to all of these, and then take them up severally.

We have two methods of applying physical therapeutics of all kinds, including climate; one consists in training or developing the diseased body or organ by exercise, the other in aiding the restorative powers of nature through reduced functional activity, or what we may briefly call, in the German fashion, a rest cure. The former is indicated when the body or any of its organs suffers from imperfect development or functionate poorly from disuse. A course of training, likely to be ineffectual or even dangerous in advanced life, is almost certain to yield excellent results in childhood, if applied with judgment to patients affected with such diseases as, for example, rickets or scrofulosis; it is very generally agreed that removal to a stimulating climate is of the greatest benefit to these cases. When, however, the body or any of its parts is already overstrained and for that reason unable to cope with the work that normally falls to it, a rest cure is called for. Here, likewise, the indication is more urgent in childhood than later, for in the young subject overwork entails far more danger of permanent impairment than in the adult, and, on the other hand, there is a much better chance of complete, or at least satisfactory, restitution if appropriate measures of resting be applied, a sedative climate being one of the very best of these. Climatic rest cures are especially indicated in such affections as nephritis and uncompensated cardiac lesions.

In applying the diversities of temperature in accordance with the outline just given, our first object must be to ascertain that indifferent temperature which feels neither warm nor cool, and is therefore most restful. In the normal adult the indifferent temperature stands at about 75° F. in summer clothing and 65° F. in heavy winter garments, but is reduced about ten degrees by such moderate exercise as walking. In children the indifferent temperature ranges higher, only a few degrees toward puberty, five or more in early childhood, varying considerably according to individual robustness, rising rather rapidly to near the body temperature in earliest infancy. Thus the indifferent or restful temperature varies greatly according to age; the average July afternoon temperature at, for example, Atlantic City, namely, 78° F., is decidedly bracing for young infants, indifferent for children who are just able to run about, too warm for older and very active children. It must be remembered, in this connection, that temperatures above the indifferent point are not at all sedative, but involve a continuous stimulation that is most harmful if prolonged, leading to exhaustion of the type called enervation; in physical therapeutics in general, the belief in the sedative effect of warmth is a common error.

\*Read before the Section in Pediatrics of the New York Academy of Medicine, February 13, 1908.



It is evident, from what I have said, that we have within our reach some very delicate gradations in applying the climatic rest cure, if we balance carefully the factors of temperature, age, and exercise. When, on the other hand, we desire to employ measures of climatic training, the matter is extremely simple, as we need only recommend a climate averaging ten degrees or so below the indifferent point for subjects who should move about freely, and a somewhat milder region for children under three or four years of age, or such as suffer from a disabling disease of the lower extremities like chronic rheumatism, tuberculosis, or a traumatism.

The practitioner unfamiliar with climatic details will, of course, be obliged to look up climatic tables, besides sizing up his patients carefully. It is also well for the pædiatrician to remember that young children stand severe cold badly, so that a transfer to the very frigid winter climate of the Adirondacks, for example, is neither necessary nor even advisable before the age of ten or twelve years. Furthermore, it is evident that temperatures above the indifferent point are not to be employed under any circumstances; the stimulation of cold can readily be checked, if undesirable at any time, by resorting to extra clothing and artificial heat, but the effects of heat cannot be counteracted by any known method. In applying any course of physical training, the chief danger is from excess or undue prolongation of our treatment, with the resultant exhaustion which is invariably injurious.

As to the atmospheric moisture, I can speak more briefly. Rain is useful in moderation, especially if it falls in brief showers to lay the dust; a permanent winter snow sheet is of inestimable value for the same reason, but the alternation of frost and thaw, rain and snow, met with in our Eastern States from Massachusetts to New Jersey in ordinary winters, is objectionable as causing sloppiness underfoot and interfering with outdoor exercise. The proportion of aqueous vapor in the air, known as the relative humidity, is important in that it checks the evaporation of body moisture and consequent reduction of body temperature in proportion to its own percentage. A low relative humidity is extremely valuable in lowering the sensible temperature, or, what amounts to the same thing, raising the indifferent temperature. Thus the sensible temperature in summer is eight degrees lower at Denver than at Atlantic City, though the dry thermometer registers the same. The latter locality is somewhat enervating for older and fairly robust children, whereas the former is bracing, on the whole, in spite of pretty high afternoon temperatures. At temperatures below the indifferent point the relative humidity has no practical importance, not being physiologically perceptible; thus our northeastern hills are popularly credited with a dry winter, whereas observations show that it is damper there than on the coast; the truth of the matter is that we cannot feel any difference whatever. Clinically, the relative humidity at moderately high temperatures is important for such cases as call for tree transpiration, where we desire to relieve the kidneys by causing diaphoresis; here a warm and moist climate is indicated as being the

best mild diaphoretic known. Such localities as the middle Atlantic coast in summer, the south Atlantic coast in winter, and the southwest California coast at all seasons are sure to be of value in chronic nephritis or albuminuria.

As to great altitudes, we know that they cause a hypertrophy of the red blood cells in proportion to the elevation, and, as a necessary consequence, a general stimulation to metabolism; they are therefore admirable as a general tonic in torpid states, but contraindicated in severe organic disease, where rest is indicated. Elevations below 1,000 feet may be disregarded; those up to 3,000 feet are most generally useful where a moderate toning up is desired; the higher levels are only to be resorted to where a course of physical training is distinctly called for, as in older children who have become enervated from excessive warmth or lack of exercise. The anæmias of young subjects do best at the moderate elevations of our Eastern mountains, and the same is true of the victims of general malnutrition, rickets, scrofulosis, and chronic tuberculosis. Greatly debilitated children are indeed benefited most by elevations of 500 to 1,500 feet, and in their case some such alternation as New York or New England in summer and the Carolinas in winter will be found to produce the best results.

I regret that the time allotted has been sufficient only for a broad outline of a few generalities; on the other hand, I feel that a clear comprehension of the fundamental principles of the climatic treatment of children is calling for special consideration at the present time.

114 WEST EIGHTY-FIFTH STREET.

#### A RETROSPECT IN PHTHISIO THERAPY.

*Showing Some Curious Ideas as to the Treatment and the Development of the Modern Method.*

BY HENRY FARNUM STOLL, M. D.,  
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Since centuries tuberculosis has been recognized as the greatest scourge the human race has ever known. Described with great accuracy by the fathers of medicine, Hippocrates, Galen, Celsus, and others, each generation has brought forth physicians who have assiduously devoted themselves to conquering this disease, yet it is only within recent years that its cure has been thoroughly established. In ignorance of the ætiology, knowing but little of its pathology, yet eager to stay its ravages, it is not strange that many "cures" were announced from time to time which proved unworthy of the name. And it is the memory of these bitter disappointments that is responsible for the iconoclasm with which each new announcement in phthisiotherapy is received.

Many centuries ago the contagiousness of tuberculosis was attested to by Aristotle and Isokrates, and later Avicenna, the father of Arabian medicine, recognized its infectiousness. While its contagiousness was appreciated by "all the inhabitants over the levant" (1) as early as the eighteenth century, the Italians were the chief promulgators of this doctrine. It is said (2) that Valsalva, who had a consumptive tendency, would leave the autopsy whenever the lungs of a person dying from consumption were dis-



sected. In 1757 Cocchi furnished the Florentine authorities with certain directions to prevent its spread, which are surprisingly like the circulars issued by our boards of health to-day. Consumptives were urged to avoid living in small, stuffy rooms, choosing rather large, airy ones exposed to the sun's rays. The edict states (3) that "the sick should only spit into vessels of glass or dried porcelain, which should be frequently and thoroughly cleansed," and physicians who failed to report their cases were fined 300 ducats for the first offense and exiled for ten years for the second.

In the north of Europe, however, where superstition was rampant, where monarchs were "touching" for scrofula, where all sickness was either an evidence of divine displeasure or of evil spirits, this infectious theory was slow of adoption. Dr. Heberden considered his experience as hardly sufficient to justify an opinion, yet he had seen "too much appearance of it to be sure that it is not so." The things which we recognize as secondary or contributing causes—excesses, overwork, exposure, overcrowding—were considered by some as the primary or real causes. Then as now the dress of the gentler sex was severely criticised, one writer remarking that "the scant, light, and flimsy attire of our modish females very much increase the liability of the complaint," while another stated that "the nakedness of women is the clothing of the physician."

Laennec, the father of auscultation, observed the very high mortality from consumption in the religious orders of women. This Laennec accounted for by the depressing influence of the "ascetic spirit" which regulated their lives. During ten years he witnessed two or three renewals of the society by admission of new members to replace the loss of old ones, and that "the only ones who withstood its depressing influence were the superior, the gatekeeper, and the sisters who had charge of the kitchen, the garden, and the infirmary. These latter had occasionally to visit the city" (4). Could a clearer case of house infection and a more eloquent plea for the outdoor life be imagined? It would seem that Laennec would have been persuaded of the infectiousness of the disease from this example alone, but as Walsh truly remarks, "Even genius makes but one step into the unknown" (5).

Some idea of what the treatment was two hundred years ago is obtained from Robinson's *New Method of Treating Consumption*, published in 1720. It will be recalled that at that time the scientists were divided into two schools, the iatrophysicists and the iatrochemists, and to the former belonged Robinson. He tells us that this "new method" is based upon an endeavor "to account for all the phenomena's attending consumption, from the laws of attraction, motion, and division. These are the three grand principles on which the several springs of the constitution turn, and to which all the symptoms of health and disease are referable" (6). He gives a dozen propositions, which contain frequent reference to "solids," "fluids," "elastic spring," "balance of Nature," "tenacity of fluids," etc. It is explained that these propositions are founded upon "a kind of mathematical reasoning without numbers." He refused to accept the teaching of those who asserted that the disease was due to "acid, sharp corroding

humors; putrid, sharp blood; sharp saline, volatile lymph; worms or animalculæ's fretting or gnawing the vessels of the stomach, lungs, liver, etc." (7). It was much simpler to consider it occasioned by "obstructions and tumors in the viscera" which were caused by "a collection of juices" as the results of a "depression of the solids" (8). The symptoms were directly referable to "the force of the heart not decaying in a simple proportion to the resistance of the other parts" (9). Notwithstanding this remarkable theory as to the aetiology of consumption, Dr. Robinson appears to have been a rather close observer and a man possessed with a good bit of common sense. He speaks of the poor digestive powers of those who are "inclined to consumption," and gives some excellent advice concerning the "cough that paves the way to decay." "This, methinks, should make all people, but especially those of weakly constitution, exceedingly careful, that they suffer not a cough to continue; for it is a dangerous enemy to play with, and several—I speak it of my knowledge—have greatly endangered their lives by neglecting in the beginning an indisposition of such seeming slight consequence" (10). He considered "a light, thin, clear air, not too sharp," an easily digested diet, and proper exercise, with "a command of the passions," as the essentials in the treatment. Bleeding was not favored, but "gentle vomits" were advised and "cheerful and innocent recreations" were thought highly of. This treatment was augmented by "a few of the most choice and generous medicines." He prized the juice of turnips very greatly after seeing improvement follow its use in a certain case where "whole pailfuls of ass's milk and vipers' broth" have been unavailing. As a "constant drink" he recommended a preparation made from pure milk and egg albumen. Dr. Robinson shared the popular belief that the night air was harmful. In fact, he thought that night was "more than a privation of light, for it consists of particles (whatever they may be) that are capable of abating the air's spring" (11), and in substantiation of this he quotes, "and there was darkness in all the land of Egypt, even darkness that might be felt." Exercise he recognized as very important, but just why it was necessary he frankly states is "above his philosophy to determine," yet he thought that its necessity occurred coincident with the fall of man, "for they that will not labor, that is, exercise, seldom have an appetite to eat, or at least a true relish of the meats and drinks they take for the support of nature" (12).

Some rather startling therapeutic measures were advocated by one John Wesley, M. A. (13), who in the middle of the eighteenth century wrote a book which "was intended more especially to aid the clergy in meeting the frequent demands of their flock in cases where physicians were not easily accessible. The seeming ease with which he cured his patients with the simplest of remedies must have won for him great popularity:

One in a deep consumption was advised to drink nothing but water, and to eat nothing but continental's, such as salt or sugar. In three months, then, he was perfectly well. Or, take a quart of ale or a pint of light, pure or small beer. Boil in this three or four ounces of bay leaves, and two or three pieces of licopod. Drink over night half, the rest in the morning. Do this if needed not two months daily. This has cured a desperate

case. Tried. Or, take a cowheel from the tripe house ready dressed, two quarts of new milk, two ounces of isinglass, a quarter of a pound of sugar candy, and a trace of ginger. Put all these in a pot, and set them in an oven after the bread is drawn. Let it continue there till the oven is near cold, and let the patient live on this. I have known this to cure a deep consumption more than once. Or, every morning cut up a little turf of fresh earth, and lying down, breathe into the hole for a quarter of an hour. Tried. Mr. Masters, of Eversham, was so far gone that he could not stand alone. I advised him to lose six ounces of blood each day for a fortnight, if he lived so long, and then every other day, for the same time. In three months he was well.

The popular treatment at the beginning of the nineteenth century was the so called "antiphlogistic," which, as the name signifies, was directed against the inflammation rather than its cause. To this end emetics and cathartics were freely employed, bleeding was performed, and the diet was meagre. The introduction of bleeding in the treatment of this disease is attributed to Dr. Dover, whose name has been perpetuated by the well known "Dover's powder." He recommended that it be performed at first daily and in small amounts; after the second week it was to be done every second or third day for a considerable period of time. "Cases are on record in which before the disease proved fatal, blood letting had been performed upward of fifty times" (14).

The popularity of emetics is attested to by Richter (15), who tells of a woman aged forty years who took 600 emetics in ten years! And Dr. Witt, physician to the Infirmary of Bedford, said, concerning the treatment of incipient cases, "When I have been successful I have in my own mind attributed these successes mainly to the unsparing and persevering use of emetics" (16). "Could phthisis ever be cured," said Dr. Parr, "it would be by the joint action of emetics and blisters" (17). These latter were shifted hither and thither over the chest with the idea of "preventing the tubercles from proceeding to suppuration." Dr. Simmons, an Englishman, extolled the *baño de tierra*, or earth bath. His patients would spend considerable time in pits which had been freshly dug in the earth. The efficacy was supposed to be due to "the antiseptic powers of the exhalations from the earth," which were thought to be absorbed by the body.

In 1787 an extraordinary plan of treatment was published by Salvadori (18), who claimed to have evolved the treatment by combining the methods of Hippocrates, Bennett, and Sydenham. Discarding medicine and all exactness of regimen, he directed his patients to climb, in the morning, some high eminence as quickly as possible, till out of breath and bathed in sweat. He then was to place himself near a large fire in order to increase the perspiration. Afterward the linen was changed and the patient gradually withdrew from the fire to partake freely of salted meat and wine.

The demonstration of oxygen by Priestley about the middle of the eighteenth century was followed by an attempt to cure disease by this "vital air." Other gases were discovered, and these two were tried in the treatment of disease. Pearson, of Birmingham, administered ether for the relief of consumption in 1795 (19). Thomas Beddoes advocated the inhalation of oxygen, hydrogen, and other gas in the treatment of consumption, and in the latter part of the eighteenth century he founded a medical pneu-

matic institution at Bristol for the treatment of this disease (20).

While the treatment of tuberculosis was not advanced by this institution, it was here that Humphry Davy began and carried on his notable researches on nitrous oxide, and it was here that he inhaled that gas while suffering from a toothache, and discovered, to his great delight, that it relieved the pain. This led to his writing in 1800: "As nitrous oxide in its extensive operation seems capable of destroying physical pain, it may be used with advantage during surgical operations in which no great effusion of blood takes place" (21).

This same Thomas Beddoes was loud in his praise of digitalis as a cure for consumption. "I daily see many patients in pulmonary consumption," he says. "advancing toward recovery with so firm a face that I hope consumption will henceforward as regularly be cured by the foxglove as ague by the peruvian bark" (22). This worthy gentleman advocated one of the most unusual of the numerous methods of treatment. He believed that a steady warmth diminished one's chances of contracting the disease, and, if already its victim, would bring about a cure. Difficulty seems to have been experienced in obtaining what he describes as "an atmosphere permanently modified, of a regular temperature, and at all times likely to improve the conditions of pulmonary ulcers." After trying many plans he tells us that "residence in a cow house (as first recommended by Bergins) (23) seemed by far the simplest, safest, and least disagreeable." Strange as it may seem, the public did not take altogether kindly to the idea, for the doctor adds: "Nor is it without extreme regret that I now look back upon the number of instances in which my recommendations failed. Not infrequently did I forfeit the good opinion of my patients" (24).

The persuasion of the patient appears to have been but half the battle, judging from the account of the trials of a certain Irish lady. This estimable person "went to considerable expense in fitting up a cow apartment. But a mob of females who could by no means bring themselves to fancy the scheme, having unhappily got intelligence of the time when the cows were to be driven through a certain passage, assembled at its mouth and scared the animals so much that their passionate owner, notwithstanding the extravagant price for which he had bargained, refused the patient their use on any terms." As the cows' horns were apt to be noisy at night, young cows were desirable, and the use of halters rather than chains was advocated for a like reason. A patient of a Dr. Saiffert, who employed this same treatment in France, describes her experiences in a letter to a friend as follows: "My bed was placed upon planks about one foot from the ground. These planks were purposely ill joined, that the vapors might penetrate, and it was so strong that everything white which was brought in became reddish in a very short time." That she was a person of distinction is evinced by a reference she makes to a visit from the Duchess of Orleans, and by her stating that her physician forbade her playing on the harp because it caused shortness of breath (25).

In one case, where, we may presume, Dr. Beddoes's eloquence was not sufficient to carry out the

cow house treatment, he tells us that "double doors and double windows were added to a bedroom. The fireplace was bricked up round the flue of a cast iron stove for giving out heated air." And, almost incredulously, we read that the poor patient lived nearly a year and a half. Dr. Michael Peter describes such a room as a place "hideously fetid . . . where both air and hope are alike forbidden to enter" (26). The belief in the baneful effect of cold air was very generally shared by the physicians of those days. Andrew Duncan, physician extraordinary to the King, said that the consumptive should "confine himself to the house during the coldest months in the winter and never allow the atmosphere of his room to be under 48° F.," and another, writer explains that "tubercles are evidently induced and accelerated in winter and retarded in summer."

The treatment of Dr. Francis H. Ramadge (28) is of interest in connection with the inhalation mask recently devised by Kohn (27), which, by obstructing inspiration, increases the negative pressure within the thorax, causing air hyperæmia. Ramadge, who was a pupil of Laennec, practised medicine during the early part of the eighteenth century in England. One of his patients, who was a consumptive, was attacked with a swelling above the sternum and so situated that it made a great deal of pressure on the trachea, "almost causing suffocation." At the end of some weeks a marked improvement was apparent in the pulmonic condition, and by the time the swelling subsided, the consumptive appeared to be cured. In another case he placed a silver band about the patient's neck, to which was fastened an ivory ball which pressed firmly against the trachea. This case also showed improvement, and, acting on this principle, he had constructed an inhalation tube four feet long, whose calibre was many times smaller than that of the windpipe. Later he constructed a tube with a valve, so that expiration took place through a much smaller opening than inspiration. Fitch (29) in this country was an ardent advocate of this tube.

The prognosis of this malady at the beginning of the nineteenth century was distinctly bad. Dr. Young, of St. George's Hospital, saying: "It is probable that without assistance not one case in a thousand of the disease would recover, and, with the utmost power of art, perhaps not more than one in a hundred will be found curable" (30). "Fellow Laennec," said Dr. Davis: "I can give you no better guide, but do not go straight to the work with him and attempt to cure consumption. Stop short and be warned by me—for I have enjoyed a liberal allowance of failure—that it cannot be cured" (31). Less than a hundred years ago an eminent divine told Fitch that it was blasphemous to assert that the disease was curable, "for God Himself had made it incurable" (32).

There was, however, a smaller class of physicians who maintained that the malady was amenable to treatment, and, discarding the popular antiphlogistic regime, they strove to support the patient's strength by tonic, fresh air, and a liberal amount of food. "The stimulating plan of treatment," said Sir James Clark, consulting physician to the king and queen of the Belgians, and physician to the Duchess of Kent and the Princess Victoria "I do not consider

deserving of mention" (33). One of the pioneers to advocate this method was Benjamin Rush, who practised in and about Philadelphia during the latter part of the eighteenth and the beginning of the nineteenth centuries. Except for his use of the lancet, he treated his patients along much the same lines that we employ to-day (34). "It is vain," he asserted, "to depend upon internal or external medicines. The whole system must be strengthened or we do nothing" (35). He was a firm believer in exercise, but he urged that it be not prolonged to the point of fatigue. He sums up the treatment in this concise fashion: "If it were possible to graduate the tone of the system by a scale, I would add that, to cure consumption, the system should be raised to the highest point of the scale" (36).

The first physician to advocate sleeping out—which we are apt to fancy is quite a "new idea"—appears to have been Nicholas Way, of Quaker origin, who was born about 1750 and graduated from the University of Pennsylvania in 1771. He practised skilfully in Wilmington, Del., and took an active part in the yellow fever epidemic of 1793. After his removal to Philadelphia in 1796 he was appointed president of the mint. Concerning him Rush says: "Dr. Way, of Wilmington, informed me that a certain Abner Cloud, who was reduced so low by a pulmonary consumption as to be beyond all relief from medicine, was so much relieved by sleeping in the open air, and the usual toils of building a hut and improving a farm, in the unsettled parts of a new country in Pennsylvania, that he thought him in a fair way to perfect recovery" (37).

In England, Andrew Stewart seems to have been one of the first to see the fallacies in the popular antiphlogistic treatment, and interwoven with his practice is a very pretty romance. In 1796 he received his license to preach from the University of Edinburgh, and six years later his medical degree from the same institution. It was while attending the lecture of an eminent physician who was advocating the antiphlogistic treatment that he first questioned its validity. "Why," he reasoned, "should an entirely different method be adopted for treating ulcers of the lungs than for ulcers on the surface of the body?" His first charge was at East Lothian, where he established a reputation for curing consumption. In 1804 he was presented to the parish of Bolton, Haddingtonshire, by Lord Bantyre. Now, it so happened that his lordship had a daughter, Margaret Stuart by name, who was a consumptive, and it is possible that he had heard of this young medical preacher who cured tuberculosis, and desired that she be under his care. Be that as it may, we know that she became a patient of Dr. Stewart's, and the good doctor cured her. So grateful was she that she consented to become his wife, and "they lived happily for many years afterward." The only description we have of his method of treatment is contained in a letter (38) written by one of his patients. The writer first tells us that Dr. Stewart's treatment was "founded upon every principle of common sense," that he "supported the constitution and enabled it to throw off the disease by its own rallying powers," and that as "the climate cannot

Through the kindness of Mr. Geo. W. Stewart, of Philadelphia, I was enabled to obtain the following concerning Dr. Way.



be brought to suit the constitution, therefore the constitution must be hardened to bear the climate." He favored rubbing the body with cold water and vinegar, believing that it hardened one, and allowed a liberal diet, though he did not favor the "cramming method." "It is Dr. Stewart's urgent wish," the letter continues, "that the patients should be for many hours daily in the open air—cautiously, however, avoiding fatigue—either on horseback, or on foot, or in an open carriage, which last he relies more upon as least likely to tire the patient." Can one conceive of more sound advice?

As might be predicted, such views aroused a storm of protest. He was "keenly opposed by the leading practitioners, both in Scotland and England." The following, abstracted from the minutes of the meeting of the Glasgow Medical and Chirurgical Society of February 17, 1825, shows how bitter was the feeling. A Mr. Campbell read a paper advocating the tonic treatment, but the majority present favored the antiphlogistic. "The society, in discussing this subject, naturally adverted to the chief promulgator of this practice—a medicoclerical gentleman of consumptive notoriety—who, by means of nourishing diet of the most substantial kind, with occasional use of wine and ardent spirits, aided by cold and tepid sponging, with as much exercise as the patient can bear, has effected so many wonderful cures and rendered his name famous over three kingdoms. If his practice has been so strikingly successful, he ought long ago to have sacrificed every feeling of personal aggrandizement to the public good, and, by publishing an account of his experiences, illuminated the darkened intellect of his medical brethren, removed those prejudices which many of the best informed entertain against it" (39).

When we consider that Dr. Stewart was serving in the dual capacity of physician and parson, we do not wonder that he did not find the time to "publish an account of his experiences."

Stewart died in 1838, and two years later George Bodington, a country practitioner of Sutton Coldfield, Warwickshire, England, read a paper before a medical society which was entitled "The cure of pulmonary consumption on principles natural, rational, and successful," in which he extolled the value of fresh air, restricted exercise, and an abundant diet. Although he made no reference to Stewart, it is more than probable that he had heard of him; for, as we have seen, his name was "famous over three kingdoms." Their views in the main were in accord, although Bodington allowed sedatives, which Stewart withheld, while the latter favored the employment of cold sponging and the use of vinegar, which the younger man did not refer to. Dr. Bodington established a sanatorium at Sutton, and for several years he treated consumptives with apparently considerable success. But the publication of this paper proved his downfall, for so bitter was the ridicule and so high did public opinion run that his patients left, and Bodington turned his institution—the first of its kind in the world—into an academy of the humane opera. It would be of more than passing interest to know how many of his medical brethren had subsequently had his patients.

Although Bodington was forced to close his sanatorium, his efforts can scarcely be said to have re-

sulted in a complete failure, for a young German, Herman Brehmer, was much impressed with the paper and he determined to found a sanatorium in Germany where the new treatment could be carried out. He encountered stubborn resistance, but he triumphed, and in 1854 established a magnificent sanatorium at Görbersdorf. And, as a result of Brehmer's success, we have sanatoria to-day all over the world.

In Ireland Graves enjoined his patients not only to walk and ride, but to sit out of doors quietly for several hours each day, thereby inaugurating the rest cure years before Dettweiler advocated it (41). The importance of rest is at the present time quite generally appreciated, and such exercises as mountain climbing and horseback riding are only recommended to those patients in whom all signs of activity have subsided. But the time was, a few years ago, when the most common advice given to the consumptive, irrespective of his condition, was "go west and ride horseback." Sydenham was one of the strongest advocates of horseback riding. "I sincerely assert," he says, "mercury in the French pox and Jesuit's bark in ague are not more effectual than the exercise above mentioned in curing consumption, if the sick be careful and the sheets be well aired, and that his journeys are long enough" (42). Stoll, on the other hand, about the middle of the eighteenth century, solemnly stated: "If a consumptive patient mount his horse he will ride to the bank of the Styx" (43).

The only son of Louis XV died of tuberculosis in 1765, and shortly after his death his wife developed the same disease. Throughout the greater part of her illness she was closely housed in the palace at Versailles and treated along antiphlogistic lines. When the malady had reached an advanced state Tronchin, a pupil of Boerhaave, was called in, and his substitution of a régime of fresh air and bountiful diet brought about a temporary improvement in her condition. But, the disease being far advanced, she soon succumbed to it. Tronchin had made many enemies by his radical change in the treatment, and when his royal patient died he was called "the worst of charlatans," and his treatment was designated as being "as fantastic as murderous" (44).

This backward glance into the treatment of tuberculosis would be incomplete were no reference made to the man who is the father of the sanatorium movement in this country—Dr. Edward L. Trudeau. Broken in health, he went into the Adirondacks in 1874, and while "taking the cure" through the long winter days he conceived the idea of a sanatorium where those of limited means might regain their health. The story of his struggles, his sore disappointments, his perseverance, and at last his success, is familiar to the profession. It is a tale of rare interest, and therein is depicted a lifelong devotion to a noble case that is rarely equaled.

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After cleansing the parts, the urethra was flooded with normal salt solution, followed by an injection of four per cent. solution of cocaine. Finally an injection was given of olive oil. An attempt to dilate the urethra with sounds and to deliver the calculus by external expression failed; as did also attempts to withdraw or crush it by means of long armed nasal forceps introduced through the meatus.

The patient was given ether, and when fully anesthetized, a medium external urethrotomy was made directly over the foreign body. The stone was very irregular and jagged in shape, and was firmly imbedded in the urethral mucosa, forming a pouch from which it was extracted, piecemeal only, by much force and manipulation. Several smaller granules were found more deeply imbedded, and were also removed.

The wound was irrigated freely with boracic normal salt solution, and a metal catheter was then passed through the meatus into the bladder, which had in the meantime emptied itself through the wound. Using the catheter as a sound, it was impossible to detect other calculi in the bladder. The urethra was closed over the catheter by two fine silk sutures, prepared in the tincture of iodine. The outside wound, which passed partly through the raphe of the scrotum, was packed with gauze, soaked in alcohol, and a large gauze and cotton pad was applied.

Hexamethylenamine (urotropin), 65 centigrammes, was administered four times a day for a week. Magnesium sulphate was given several times to keep the bowels open. A light diet was maintained. The temperature was very irregular, being between normal and 101° F. for three days, when it finally became normal. The urine escaped in part through the wound until the eighth day. The presence of the catheter caused, at first, frequent emptying of the bladder. The fragments of the stone were very sharp, irregular, and were found to be phosphatic in character. Its full size, when impacted in the urethra, was about that of a very small hazel nut.

The patient made a steady and rapid recovery. The metal catheter was replaced by a soft rubber one, on November 10th, and the patient was discharged well on November 22d.

# EXTERNAL URETHROTOMY FOR ACUTE RETENTION OF URINE CAUSED BY IMPACTION OF A VESICAL CALCULUS IN THE PENILE PORTION OF THE URETHRA.

BY J. A. WOODBURY, M.D.

Assistant Surgeon, U.S. Army.

St. Louis, Mo., June 11, 1917.

A. M., a white, married, German, aged thirty-two years, was admitted to the St. Louis Marine Hospital, December 26, 1907, suffering with pain in the right side of chest. There had been no rise of temperature.

December 28. Pain in side improving. No fever. Patient well. He had been in Germany until 1905. Frequently ate fish from fresh water. He had been in the United States for three years. He had been in the United States for three years. He had been in the United States for three years.

At the time of admission, the patient was in good health. He had been in the United States for three years. He had been in the United States for three years. He had been in the United States for three years.

## A CASE OF MULTIPLE TAPEWORM INFESTATION.

BY R. E. WILSON, M.D.

New Orleans, La.

Received for publication, December 28, 1917.

Patient, male, age thirty-nine, was admitted to the United States Marine Hospital, New Orleans, La., December 26, 1907, suffering with pain in the right side of chest. There was no rise of temperature.

December 28. Pain in side improving. No fever. Patient well. He had been in Germany until 1905. Frequently ate fish from fresh water. He had been in the United States for three years. He had been in the United States for three years. He had been in the United States for three years.

At the time of admission, the patient was in good health. He had been in the United States for three years. He had been in the United States for three years. He had been in the United States for three years.

defecate into a vessel containing water at about body temperature. At 3 p. m. a large mass of worms passed.

December 31. Examination showed thirteen heads and 319 measured feet of worms. *Dibothriocephalus latus*. On account of the tangle in the worm mass and its having been immersed in water for several hours, no individual worm could be extricated complete. The longest unbroken length was seventeen feet.

January 2, 1908. Patient eating, sleeping, and feeling much better. Discharged, recovered.

The identification of the worms was based on the appearance of the heads, the size and shape of segments, the rosette uterus, and the appearance of the eggs. This finding has been corroborated by the pathological laboratory of the medical department, University of Texas, where specimens were deposited.

#### UNITED STATES MARINE HOSPITAL.

### Therapeutical Notes.

**Intramuscular Injections in Syphilis.**—After a trial of the soluble salts of mercury, J Ernest Lane (*The British Medical Journal*, March 21, 1908) has abandoned them for the insoluble preparations, using almost exclusively calomel. The dosage of the calomel is  $\frac{3}{8}$  grain of the sublimed powder suspended in 17 minims of sterilized olive oil, each injection being prepared separately and introduced into minute flasks hermetically sealed. The deposit of calomel seen in the small flasks at once disappears on heating them over a spirit lamp, when the powder assumes a milky appearance, and the powder is in a state of perfect suspension. He has also used gray oil, a term applied to a large number of preparations of different strengths and compositions, but consisting essentially of metallic mercury suspended in some fatty vehicle. He gives the following as the formula of a preparation which is employed by the army medical staff:

- R Mercury, ..... 3i;  
Wool fat, ..... 3iv;  
Liquid petrolatum (carbolized 2 per cent.), ..... ad 3x.

M.

One grain of metallic mercury is contained in 10 minims, and a suitable weekly dose for an adult is from 10 to 15 minims.

**The Purification of Drinking Water.**—Simple methods for the rapid purification of potable water continue to be published. French chemists have devoted much attention to the subject, and various means have been suggested of sterilizing the water of the Seine, which is greatly contaminated, being notable for the number of bacteria which it contains. Mention has been made in this column previously of a simple method, consisting of the addition to each quart of water of one grain of potassium permanganate, followed, after standing ten minutes, by the addition of two grains of manganous sulphate, which has the effect of precipitating all germs and impurities to the bottom of the vessel. Water treated in this way is freed from microbes and forms a limpid, colorless fluid of pleasant taste, which is richer in oxygen than ordinary water. A more efficient method of treating suspected water is described

by M. Célestin Hy in the *Union pharmaceutique*. The process is based upon the fact that potassium permanganate in an alkaline solution oxidizes organic matter and destroys microorganisms, just as in the preceding formula. The method is based on that originally devised by M. Girard and M. Bordas. The water to be purified is first treated with a powder consisting of one equivalent of potassium permanganate and sodium carbonate and slaked lime, of each seven equivalents. After an interval of five minutes eight equivalents of dried ferrous sulphate are added. Any calcium sulphate that may exist naturally in the water is precipitated by the sodium carbonate, while calcium bicarbonate is thrown down by the calcium hydroxide, the addition of ferrous sulphate removing any excess of permanganate in the form of a dense precipitate. Carefully decanted water treated in this way is said to be very pure and limpid and to contain a small amount only of the sulphates of potassium and sodium, the presence of which is not at all objectionable.

**Iodotannin Mixture for Tuberculosis.**—The following mixture is credited to Arthaud in *Journal de médecine de Paris* for February 22, 1908:

- R Tincture of iodine, ..... 3i;  
Tannic acid, ..... 3vi;  
Glycerin, ..... 3v;  
Alcohol, ..... 3x.

M. Sig.: One teaspoonful three times a day.

**Application for Neuralgic Headache and Inter-costal Neuralgia.**—An application used by Solis-Cohen, and which he has found of special value in neuralgic headache and intercostal neuralgia, is quoted by the *Journal of the American Medical Association* from *Merck's Archives*, as follows:

- R Oil of wintergreen, ..... aa 3i;  
Guaiaac, ..... aa 3v;  
Menthol, ..... gr. x;  
Hydrated wool fat, .....  
Cerate, ..... aa 3ii.

M. (Dispense in a tin tube.)

Sig.: A small quantity, about the size of a pea, to be well rubbed in over the seat of pain night and morning.

**Tonic Mixture for Phthisical Patients.**—To increase the appetite, control the fever, and overcome the cachexia, it is recommended in *Therapeutische Rundschau* for March 29, 1908, to administer the following mixture:

- R Quinine hydrochloride, ..... 3ss;  
Calcium hypophosphite, ..... 3i;  
Tincture of nux vomica, ..... 3iiss;  
Glycerin, ..... 3ii;  
Distilled water, ..... q. s. ad 3xvi.

M. Sig.: Two tablespoonfuls three times a day, half an hour before meals.

**The Administration of Calcium Lactate.**—According to *The Prescriber*, this salt should not be prescribed as powders or tablets, since, though soluble in water when freshly prepared, it rapidly becomes insoluble. The best method of administration is in solution as follows:

- R Precipitated calcium carbonate, ..... 3i;  
Lactic acid, ..... cxxx;  
Water, ..... enough to make 3vi

Solve. One tablespoonful contains fifteen grains of calcium lactate.



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## A PROPOSED INCREASE IN THE RANK AND PAY OF OFFICERS OF THE ARMY MEDICAL DEPARTMENT.

We print in our Miscellany department the text of a measure providing for the reorganization of the Medical Department of the United States Army which has been approved by a conference committee of the two houses of Congress, and which it therefore seems reasonable to suppose will become a law. The measure has been before two sessions of Congress, and was passed by the Senate at a previous session. The main features of the bill are an increase in the number of medical officers and the provision for a medical reserve corps. The bill is eminently conservative, and was evidently drawn with a careful view to avoidance of arousing antagonism by the introduction of radical changes.

Another measure now before Congress which is of material concern to the medical officers of the Army and likewise of the National Guard is the Army pay bill, which provides for an increase in the rate of pay, both for enlisted men and for officers. This measure is also in the hands of a conference committee, and, as the principal difference between the bills passed by the Senate and by the House is in the form in which the increase of pay of the officers is stated, it seems reasonable to hope that the conference committee will come to an agreement, and that the bill as agreed on in conference will become a law. The Senate measure

provides that the present pay of officers of the Army shall be increased as follows: "Of brigadier generals, 15 per centum; of colonels, lieutenant colonels, and majors, 20 per centum; of captains, first lieutenants, and second lieutenants, 25 per centum." The measure passed in the House of Representatives, known as the Nelson Amendment, has the advantage that it disposes of the controversy over mounted and dismounted pay, giving in each case the actual amount of pay to be given to the officer in each particular grade, instead of stating this by means of a percentage increase. In most of the grades named the pay provided is the same in both bills, and where any difference exists the difference is small.

It is much to be hoped that both the pay bill and the reorganization bill will become laws, as it may then become possible to secure something like an adequate number of medical officers for the Army. Even had the reorganization bill passed, we doubt whether it would have been possible to secure as many medical officers as are provided for in that measure without some increase in the rate of pay, and this increase is provided in the Army pay bill, which thus becomes a very important factor in the contemplated reorganization of the Medical Department. The combination of an increase in the number of commissions in the higher grades in the department, which is provided for in the reorganization bill, and of an increase in the pay of officers of all ranks, provided for in the Army pay measure, may prove sufficiently attractive to induce the right kind of men to enter the service in sufficient numbers to meet the requirements of the Army.

## THE FRENCH SPEAKING PHYSICIANS OF NORTH AMERICA.

We long ago expressed our satisfaction at the establishment of the *Association des médecins de langue française de l'Amérique du Nord*. It is an organization that has a very legitimate place, and we are sure that it is doing good work. It is to be supposed that the French language is more extensively employed in the ordinary affairs of life in the Province of Quebec than elsewhere in North America, and in Quebec there are published several very creditable medical journals printed in French. The tercentennial of the founding of the city of Quebec is to be marked by a series of festivals beginning on the 20th of July. It is fitting, therefore, that the association is to hold its meeting at the same time in that old and picturesque city. The sessions will be held in the buildings of Laval University on the 20th, 21st, and 22d of the month mentioned.

There is a goodly number of French physicians in the United States—French by descent if not by birth—and they are among the most respected of our profession. Many of them will doubtless deem it almost a pious duty to betake themselves to Quebec on the occasion of the celebration, and not a few of our physicians who are not of the French race are sure to be attracted to the romantic city at the same time. Those of us who have ever visited Quebec preserve the memory of the geniality of our confrères resident in that region, and we always feel tempted to renew our acquaintance with them. It is not mere fondness for sight seeing that draws so many American visitors to Quebec; it is a genuine interest in the affairs of the people of the province and sympathy in their aspirations. All these things taken into consideration, we cannot doubt that the association's meeting this year will be a notable event.

#### NEW YORK'S TRIBUTE TO ROBERT KOCH.

It is granted, but seldom to a man to "read his history in a nation's eyes." Too often those who have given their lives in some work of humanity have known only a few friendly words among the jibes of many, and it has been reserved for another generation to honor their tombs. Again, those who have won the acclamation of the crowd, riding victorious from the fields of battle, have been followed by the lamentations of the conquered, the requiem of the slain. We can conceive of no honor greater or more soul satisfying than that which was brought to Dr. Robert Koch at this first public appearance in New York, though under the conventional tribute of a dinner given by the German Medical Society. From the head of the German nation and the leader of American industry, down to the humblest laborer who had suffered and been saved by some one of the 500 physicians present, there was a tribute of more than admiration, something very like worship, for the modest man of genius.

The abstract scientist, who follows the call of inquiry, is led into fascinating by paths, that may or may not lead to practical results. But Dr. Koch has had the genius of a philanthropist as well as a scientist. He has applied himself to the scourges of man and of animals that man depends upon. Humanity recognizes vaguely the value of thought, but thought that begets action, science that culminates in deeds—this they know to be the flower of civilization.

As Dr. Koch himself said, in answer to the words of praise and thanks that made the tribute

of our nation as represented by its physicians, he has never done anything more than all the doctors present were doing every day. He did his duty, they did theirs. That was all there was to it. And yet all the doctors present, cheering him, in their hearts knew the general who had led them, knew better far than the masses who have been brought back to health the infinite patience and courage necessary to surmount the difficulties that stand between a scientific discovery and its practical application. The appreciation of the scope of Dr. Koch's work, as shown in the speeches of such men as Dr. Welch, who studied under Cohnheim in the early days when Dr. Koch was working upon his germ theory, and of Dr. Jacobi, brought out the facts that Dr. Koch had shown the mind of a genius in his youth, and has unwaveringly devoted this genius to science on behalf of civilization. He has had a heaven born quality that is not always combined with genius, that of inspiring other men to work with him. Many of the most distinguished bacteriologists of our country have been students of Dr. Koch's in bacteriology, and there is not a laboratory the world over that does not owe some of its enthusiasm and power to men who have been guided by him.

From the days of miracles, how few the years, how great the progress! When plagues raged, a pilgrimage with a saint's relics at its head marched to a shrine, sowing disease through the country as it went. To-day, holy men—for the primitive form of the word holy meant bringing health, safety, happiness—men consecrated to a life of work, withdraw from the diversions and gratifications of life, and after years of labor, endeavoring to penetrate the mystery, their high priest steps forth, and reads a riddle of the ages, not in oracular words, but in the plain language of the people. In the emotional period of civilization's development, the masses would have rushed forth with huzzas, to greet the savior who healed them. None the less are they now saved, and none the less are they grateful, though to the high priest of science in this more moderate age no further demonstration is made than the hearty hand clasp and the word of thanks from the men who know

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#### NEW ENGLAND AND THE SOUTH SHOULDER TO SHOULDER.

The president of the Society for the Protection of New Hampshire Forests, in a communication which he has had the courtesy to send us, asks us to help in securing national legislation for the preservation of some of our forests by calling at-

tention to the apparent unwillingness of Congress to act upon House bill No. 10457, entitled the White Mountain and Appalachian Forest Reserve Bill. He incloses a circular addressed to the members of Congress from the New England States, signed by the representatives of twelve great manufacturing concerns having their headquarters in or near Boston, in which we find this passage: "We beg to say that we believe the future welfare and prosperity of the eastern part of the United States, and especially of New England, to be dependent upon the adoption of the policy set forth in this bill, and that, if such policy is not adopted now, it will be necessary to adopt it at a future time and at vastly increased expense, and that in the mean time great injury will be done New England."

President Rollins reminds us that the bill has been endorsed by the entire country, and been urged for five years by lumbermen, paper makers, farmers, business men, and the press. He adds that at a recent hearing before the present Committee on Agriculture the governors of Georgia and New Hampshire, together with official delegates from the governors of twelve other States and a group of two hundred business men and citizens from all but four of the States that lie east of the Mississippi River, presented evidence that the timber supply was disappearing, that water powers were affected, that navigation was crippled, and that agriculture in the low lands, particularly in the South, was in many cases being ruined by floods. "When," says Mr. Rollins, "six New England States and eight Southern States unite in asking prompt action by Congress, do the men who guide that body propose to turn the matter calmly down? What do the representatives from the South and from New England intend to do about it?"

We believe that Mr. Rollins is quite warranted in using this strong language. We have always advocated legislative measures for the protection of our forests, and we now again adjure Congress not to disregard further the necessity of enacting House bill No. 10457. The sanitary advantages of the primeval forest are appreciated by the medical profession, and its necessity to great industrial enterprises is clearly understood. We cannot conceive of any good reason that can be entertained by Congress or its committees for standing in the way of such conservative and beneficent measures as this one for which the people of New England and the South are urgent. It is easy to destroy a forest, but it is a difficult and protracted task to restore one. Let not Congress delude itself with the notion that the advocates of the bill are actuated solely or even chiefly by æsthetic considerations, powerful as such considerations are and ought to

be. The reasons which impel them are practical and vital. Surely Congress should not adjourn without enacting the bill.

#### THE SIGNIFICANCE OF INTRACELLULAR TUBERCLE BACILLI IN THE SPUTUM.

Since the publication of Lowenstein's observations on the occurrence of tubercle bacilli in the pus cells of certain specimens of sputum (*Zeitschrift für Tuberkulose*, x, p. 47), this phenomenon has been generally regarded as a sign of favorable prognostic portent, as it was supposed to indicate phagocytic activity. A recent report by Pfeiffer and Adler (*Zeitschrift für Tuberkulose*, xii, p. 89), however, tends to discredit this supposition. In an examination of 844 specimens of sputum these authors found intracellular bacilli in forty-eight, from forty patients. The great majority of these patients were in an advanced stage of the disease, thirty-two presenting evidences of cavity formation, and in most of them the disease progressed rapidly to a fatal issue. All the sputa in which were found intracellular bacteria contained very numerous extracellular organisms, and Pfeiffer and Adler came to the conclusion that no more could be inferred from the presence of tubercle bacilli within the pus cells than from a great abundance of these organisms in the sputum.

#### THE OCULAR SYMPTOMS OF SCLERODERMIA.

Observations of abnormalities of the muscles of the eye associated with generalized scleroderma seem to have been recorded in but few instances, for M. Raymond and M. Guillaïn (*Bulletins et mémoires de la Société médicale des hôpitaux de Paris*, March 12th) declare that they have found parietic eye symptoms mentioned by Logetchnikov alone among recent dermatological writers. They themselves have observed two instances. They describe the paresis (sometimes amounting to absolute paralysis) as affecting the extrinsic muscles of the eye indiscriminately, but as being most decided in the external recti. Efforts to move the eyeballs are apt to be associated with oscillatory movements resembling those of nystagmus.

It is well known, the authors remark, that muscles are prone to become parietic as the result of scleroderma, and it is not those muscles alone that underlie the sclerotic skin, but others also that are situated at some distance. The trouble they think is in the muscles themselves rather than in the central nervous system. The paresis has been observed to disappear in cases of recovery from the scleroderma.



## A DINNER TO DR. ROBERT KOCH.

Robert Koch received a rousing welcome at a banquet arranged in his honor by the Deutsche medizinische Gesellschaft der Stadt New York at the Waldorf-Astoria on Saturday evening, April 11, 1908. Dr. Carl Beck, as president of the German Medical Society, presided at the dinner, in which about 450 admirers of the German savant took part. On the right of the guest of honor sat Mr. Andrew Carnegie.

Robert Koch's career is too well known to be mentioned in detail. Born at Clausthal on December 11, 1843, he received the usual medical education, and was county physician at Wollstein from 1872 to 1880. In his little town, removed from all the centres of medical science, he became interested in bacteriological studies, and discovered the anthrax bacillus in 1876. Thus, without a university career, he became soon a prominent figure in the medical profession. In 1880 he was called to Berlin as a member of the Imperial Department of Health. Two years later he published his discovery of the tubercle

bacillus, and in 1883 that of the comma bacillus, while he was chairman of the German Cholera Commission in Egypt. At the same time he found also the bacillus of Egyptian trachoma. In 1885 he was appointed professor and director of the Hygienic Institution at the University of Berlin, and in 1891 director of the Institution for Infectious Diseases. In the same year he published his first report on tuberculin. In 1896 the Cape Colony called him to southern Africa, where the rinderpest was threatening to destroy the cattle. He devised a virus suitable for protective inoculation. From there he went to Bombay to investigate the plague, and again to Africa, studying the cattle plague in German East Africa. He also began there his researches on malaria, which he continued in Italy, the Dutch East Indies, and New Guinea. Returning to Berlin, he took up the typhoid fever question, and was called back to Africa in 1903, and again in 1906, to study the sleeping sickness, which he definitely attributed to a trypanosoma. From that expedition he returned only a short time ago. He is now enjoying a long deserved rest, making a tour around the world. Such are the labors of Robert Koch! Modestly he said in his speech at the dinner:

Wenn ich Alles zusammenfasse, was zu meinem Lode heute gesagt worden ist, und die grosse Auszeich-

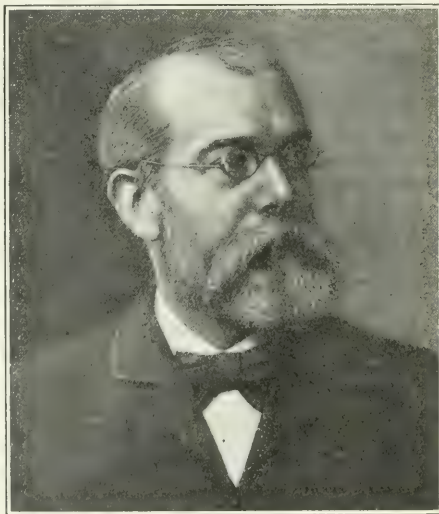
nung, die Sie mir zu Teil werden lassen, in Betracht ziehe, so entsteht in mir das Bedenken, ob ich auch wirklich berechtigt bin, mich so feiern zu lassen. Manches von dem, was mir Rühmliches nachgesagt wird, kann ich, wie ich glaube, mit gutem Gewissen acceptieren. Aber ich habe nichts Anderes gethan, als was Sie jeden Tag thun, nämlich ich habe gearbeitet was ich konnte, und meine Pflicht und Schuldigkeit gethan. Wenn etwas mehr dabei herausgekommen ist, so liegt das daran, dass ich auf meinen Wanderungen durch das medizinische Gebiet auf Strecken stiess, wo das Gold noch auf dem Wege liegt. Es gehört allerdings Glück dazu, das Gold von dem Unedlen scheiden zu können, das ist aber kein besonderer Verdienst.

But to come back to the banquet. Professor Beck, as president, speaking in German, introduced Professor Koch. Among other things he said: "What your achievements in science have been, men who are capable of judging will tell us tonight. It will not be an easy undertaking, for what you have accomplished will hardly find its equal in medical history. With admiration and deep wonder we ask ourselves: How could one human brain succeed in creating so much? We stand before a building firmly erected and resting upon a solid foundation, an immense monument in its simplicity and greatness, so similar to your own character. The tempest of time will sweep over it and may leave here and there superficial scars, but its foundation is unassailable, and will never be shaken." . . .

A "hoch" to Professor Koch concluded the chairman's address, and he then introduced Professor W. H. Welch, of Baltimore, who spoke of Koch as investigator and teacher. "His work," he said, "is a combination of discovery for science and comfort for mankind. While Dr. Koch has always shown the stamp of a scientist in his work, he has never allowed his view to wander from what would be most practical for the benefit of men. His work has been a triumph for the experimental method in science." . . .

Dr. Beck then read a letter of regret from Dr.

great distinction conferred by you upon me, I must necessarily ask myself, Am I really entitled to such homage? I believe that I can accept, indeed, with a clear conscience many of the laudatory things said about me. But I have done nothing else than what you are doing every day. I have worked as hard as I could and have fulfilled my duty and obligation. If the success really was greater than is usually the case, the reason for it is to be found in the circumstance that I came in my wanderings through the medical field upon regions where the gold was still lying by the wayside. For time is necessary to be able to distinguish gold from the base metals, but that is no great merit.



DR. ROBERT KOCH.

Trudeau, and upon motion of Dr. Koch, seconded by Mr. Carnegie, a telegram was sent to Dr. Trudeau.

Professor Abraham Jacobi was the next speaker. "The nineteenth century," he said, "gave to medicine four epoch making men—Bichat, Virchow, Pasteur, and Koch; three for its clinical department: Virchow, Pasteur, and Koch; two for the modern knowledge of serum theory and prophylaxis: Pasteur and Koch. . . . We have the honor of having with us the only survivor of these four great men. . . ."

Professor Beck then read a letter from the German Ambassador in Washington to Andrew Carnegie, who was the next speaker. Mr. Carnegie said: "In viewing the progress of the world in its various phases, no profession has made and is making greater progress to-day than the art of healing. . . . In the list of the heroes of civilization our honored guest occupies a high position. The world has always been devoted to hero worship, ever prone to worship physical force as displayed in its heroes. These heroes, from the days of Homer, have been men who had become celebrated for the number of their fellow men they had butchered. . . . Our true hero of to-day is he who can count the number of men, women, and children he has saved. Jenner, Lister, Pasteur, Reid, Carroll, Lazear, Agramonte, and Koch are such heroes. . . ."

The last speaker of the evening was the guest of honor. His speech culminated in the following very interesting remark: "We have achieved all we could in our fight against tuberculosis. We have come to a point where we can hardly hope for more success. The idea of building sanatoria will not accomplish much; such sanatoria will only benefit certain localities. We must make new researches. Such researches will become possible in the Robert Koch Institute for Tuberculosis in Berlin, a foundation which Andrew Carnegie has so munificently endowed. In this institution investigations will be made which will open new fields, new theories, new modes and possibilities of fighting the old enemy, tuberculosis. It will be an international affair, benefiting all mankind. And we have to thank Mr. Carnegie for placing this institution upon a sound financial basis. *Herr Carnegie lebe hoch!*"

Professor Beck then closed the proceedings by proposing the health of Mrs. Koch, who had accompanied her illustrious husband to Africa, and is now with him on his trip around the world.

The company included between four and five hundred persons, of whom the following had been assigned to seats at the main table:

Professor Dr. Robert Koch, Exchelon, Berlin, guest of honor.

The President, Dr. Carl Beck.

Dr. I. George Adams, Montreal; Dr. Isaac Adler; Dr. Hermann M. Biggs; Mr. George Blumenthal; Dr. Vincent Y. Bowditch, of Boston; Consul General Bünz; Professor J. W. Burgess; Mr. Andrew Carnegie; Dr. Thomas Darlington; Dr. Francis Delafield; Dr. Simon Flexner; Dr. Lawrence F. Flick, Philadelphia; Dr. Frank P. Foster; Dr. William S. Halsted, Baltimore; Mr. R. W. Hoar; Dr. Abraham Jacobi; Dr. Edward G. Janeway; Dr. Howard A. Kelly, Baltimore; Dr. S. Adolphus Knopf; Geheimrat A. Martin, Berlin; Dr. Alfred Meyer; Mr. Henry Phipps, Philadelphia; Dr. William M. Polk; Dr. Eugene H. Porter, Albany; Dr. Theobald Smith, Boston; General George M. Sternberg, of the Army; Dr. Victor C. Vaughan, Ann Ar-

bor, Mich.; Dr. Leonard Weber; Dr. William H. Welch, Baltimore; Dr. John A. Wyeth; General Walter Wyman, of the Public Health and Marine Hospital Service.

## News Items.

**Changes of Address.**—Dr. S. A. Bienenstock, to 1542 Madison avenue, New York; Dr. J. E. Cannaday, from Wheeling, W. Va., to 1012 Virginia street, Charleston, W. Va.

**Medical Society of New Jersey.**—The annual meeting of this society will be held in Cape May on June 18th, 19th, and 20th, instead of June 23d, 24th, and 25th, as originally announced.

**Society of Physicians of the Village of Canandaigua, N. Y.**—At a meeting of this society which was held on Thursday evening, April 9th, Dr. H. I. Davenport read a paper entitled Pathological Physiology.

**Richmond, Va., Academy of Medicine and Surgery.**—At a regular meeting, held on Tuesday evening, April 14th, Dr. Karl von Ruck, of Asheville, N. C., read a paper entitled General and Specific Resistance to Tuberculous Infection.

**The Middlesex County, Conn., Medical Association** held its annual meeting on Thursday, April 9th, and elected the following officers for the ensuing year: President, Dr. James Murphy; vice president, Dr. M. D. Murphy; clerk, Dr. Arthur B. Coleburn.

**Hudson County, N. J., Medical Society.**—At the annual meeting of the society, which was held recently, the following officers were elected for the ensuing year: President, Dr. John J. Mooney; vice president, Dr. Arthur Haskins; treasurer, Dr. H. Brinkerhoff.

**Emanuel County, Ga., Medical Association.**—At the annual meeting of this association, which was held in Swainsboro on April 8th, the following officers were elected: President, Dr. J. W. Bowie, of Summit; secretary and treasurer, Dr. J. H. Chandler, of Swainsboro.

**The Society of Medical Jurisprudence, New York.**—At a meeting of this society, held on Monday evening, April 13th, Dr. Daniel Lewis, former Commissioner of Health of the State of New York, delivered an address on The Sanitary Protection of New York Bay.

**Buffalo, N. Y., Academy of Medicine.**—A meeting of the Section in Medicine was held on Tuesday evening, April 14th. Dr. John D. Bonnar read a paper on Apoplexy, and Dr. Julius Ullman read a paper on Psychotherapy. Dr. James W. Putnam, of Boston, opened the discussion.

**The Philadelphia Medical Club** held its regular quarterly reception on the evening of April 10th. Dr. Samuel G. Dixon, Commissioner of Health for the State of Pennsylvania, and Dr. Louis G. Filcher, of New York, were the guests of honor. About three hundred members were in attendance.

**The Pennsylvania Society for the Prevention of Tuberculosis** held its annual meeting on Wednesday, April 8th. Dr. Charles J. Hatfield was elected president of the society, Dr. James M. Anders, first vice president, and Dr. Ward Brinton, secretary. During the year contributions amounting to \$4,505.86 were received.

**The Harvey Society Lectures.**—The ninth lecture in the Harvey Society course will be given at the New York Academy of Medicine on Saturday evening, April 18th, at 8:30 o'clock, by Professor Alonzo E. Taylor, of the University of California. The subject will be The Role of Reversed Ferment Reactions in Metabolism.

**Windham County, Conn., Medical Association.**—The one hundred and thirty-third annual meeting of this society will be held in Putnam, Conn., on Thursday, April 23d, at 10 o'clock. The program includes the following papers: Diagnosis of Impetigo Contagiosa, by Dr. J. L. Gardner, of Central Village; an address on Bacteriology, by Professor H. W. Conn, of Middletown University; The Present Status of Serum Therapy, with Special Reference to Typhoid and Diphtheria, by Dr. John B. E. Smith, of Hartford. The officers of the society are: President, Dr. C. J. Le Claire, of Danielson; vice president, Dr. Robert C. Paine, of Thompson; secretary, Dr. James L. Gardner, of Central Village.

**Rochester, N. Y., Academy of Medicine.**—The regular monthly meeting of Section III, which embraces obstetrics, gynecology, and pediatrics, was held on Wednesday evening, April 15th. The principal paper on the programme was read by Dr. William M. Brown on Obstetrical Hemorrhages; Causative Factors and Methods of Control.

**Philadelphia Pædiatric Society.**—At a meeting of this society, which was held on Tuesday, April 14th, Dr. A. Parker Hitchens read, by invitation, a paper on Anaphylaxis; Dr. B. F. Boyer read a paper on Hypersusceptibility to Horse Serum in Man; and Dr. F. C. Knowles read a paper entitled Syphilis Extragenitally Acquired in Childhood.

**Hornell, N. Y., Medical and Surgical Association.**—At the nineteenth annual meeting of this Association, which was held on the evening of April 6th, the following officers were elected: President, Dr. Leon M. Kysor; vice president, Dr. J. G. Kelly; secretary, Dr. B. R. Wakeman. At the close of the meeting the members adjourned to the Hotel Sherwood, where the annual banquet was served.

**Physicians Wanted for State Hospitals and Institutions.**—The New York State Civil Service Commission will hold an examination on May 9th for the position of physician to State hospitals and institutions, with a salary of \$900 and maintenance. Applications must be filed on or before May 2d. Full information and application forms may be obtained by addressing Mr. Charles S. Fowler, chief examiner of the commission, Albany, N. Y.

**A New Laboratory for Clinical Pathology.**—The Saxe Laboratory was opened recently at 72 West Forty-fifth street, New York, under a charter granted by the State of New York. The object of this laboratory is to aid physicians in the diagnosis of disease. A course in clinical microscopy will be given to practitioners, and special research work in clinical pathology will be carried on under the supervision of the director, Dr. De Santos Saxe.

**Contagious Diseases in Chicago.**—During the week ending April 4, 1908, there were 57 cases of diphtheria reported to the Department of Health, a decrease of 48 cases from the preceding week. Scarlet fever cases showed a slight increase, 98 cases having been reported, as compared with 84 for the preceding week. There were 309 cases of measles reported during the week, and 80 cases of tuberculosis. Only one case of smallpox was reported.

**The Medicolegal Society of New York** will meet in joint session with the Psychological Section of the society at the Waldorf Astoria on Wednesday, April 22d, at 8:30 p. m. Mr. Andrew McConnell will read a paper on The Electrical Action of the Organs of the Human Body. Margaret Higgins, of New York, will read a paper on Psychotherapeutics in European Capitals. There will be a general discussion on Alcohol as a Diet or a Medicine, and Medical Expert Testimony.

**Medical Society of the County of Kings.**—A meeting of the Section in Pediatrics was held on Friday evening, April 17th. The programme included the following: Report of a case of hereditary syphilis treated with intramuscular injections of mercury, by Dr. F. B. Van Wart; a paper entitled Results of the Use of Antistreptococcus Serum in Scarlatina, by Dr. Henry T. Robinson, of Manhattan; A review of German pediatric literature for the year 1908, by Dr. Alexander Spingarn.

**Prize for Essay on Occupational Diseases.**—Dr. Lewis Livingston Seaman has offered a prize of \$100 for the best essay on The Economic Waste Due to Occupational Diseases. In the original announcement the time limit was specified as April 1st, but we are informed that the time has been extended to June 15th. Each essay should be submitted on one side of the paper, and should be enclosed in a sealed envelope to the Director of the American Medical Association, 535 North Dearborn Street, Chicago, Ill., and addressed to the West Thirty-ninth street, New York.

**Philadelphia County Medical Society.** The Central Branch of this society held a meeting on Wednesday evening, April 8th. The general subject for consideration was life insurance and medical practitioners, and papers were read as follows: The Various Forms of Life Insurance and Their Relation to the Medical Profession, by Dr. Charles M. ... The ... in the ... of New York ... the Medical ... of Man

ance Applicants, by Mr. J. Burnett Gibb, of the American Society of Actuaries; The Five Dollar Minimum Fee for the Medical Examination of a Life Insurance Applicant, by Dr. J. Norman Henry; Honor Roll of Life Insurance Companies Paying the Five Dollar Minimum Fee for Medical Examinations, by Dr. Ernest W. Kelsey. Among those who took part in the discussion were Dr. William Howard King and Dr. J. Allison Scott.

**Medical Society of the County of St. Lawrence, N. Y.**—The semiannual meeting of this society was held in Gouverneur, N. Y., on the evening of April 7th. At the close of the meeting a banquet was given by the members. Dr. Grant C. Madill, of Ogdensburg, presided as toastmaster, and among those who responded to toasts were Dr. E. A. Nevin, Dr. H. J. Morgan, and Dr. S. W. Close. The officers of the society are: President, Dr. James Wiltse, of Benson Mines; vice president, Dr. E. A. Nevin, of Ogdensburg; secretary, Dr. S. W. Close, of Gouverneur; treasurer, Dr. A. H. Allen, of Gouverneur.

**Charitable Bequests.**—By the will of Benjamin Whitman, of Erie, Pa., who died in Mexico City, recently, the Home for the Friendless and St. Joseph's Orphan Asylum, Philadelphia, receive \$1,000 each.

By the will of Miss Laura P. Willard, who died recently in Prescott, Canada, the Brockville General Hospital and the Toronto Hospital for Sick Children will each receive \$1,000.

By the will of Mr. William Wheeler Smith, who died recently in New York, St. Luke's Hospital receives the income from nearly \$3,000,000 worth of property in New York. On the death of Mrs. Smith the entire property reverts to the hospital.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending April 4, 1908, there were during the week 637 deaths from all causes, as compared with 686 during the corresponding week in 1907. The annual death rate in 1,000 of population was 15.33. Of the total number of deaths 364 were of males and 273 of females. The principal causes of death were: Apoplexy, 19; Bright's disease, 51; bronchitis, 29; consumption, 59; cancer, 30; convulsions, 7; diphtheria, 7; heart diseases, 43; influenza, 8; intestinal diseases, acute, 32; measles, 3; nervous diseases, 24; pneumonia, 99; scarlet fever, 8; suicide, 13; typhoid fever, 7; violence (other than suicide), 31; whooping cough, 4; all other causes, 163.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending April 11, 1908:

	April 4-11		April 11-18	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis, pulmonary	531	17	57	11
Epidemic	360	14	368	65
Measles	1,728	37	1,877	48
Scarlet fever	997	27	984	24
Smallpox	106	8	166	1
Varicella	28	8	23	4
Typhoid fever	28	8	23	4
Whooping cough	9	1	1	1
Cerebrospinal meningitis	9	12	14	1
Totals	3,728	129	4,005	109

**The Health of the Canal Zone.**—The report of the Department of Sanitation of the Isthmian Canal Commission for the month of February, 1908, is at hand. During the month the population of the Canal Zone, including the cities of Colon and Panama, was 113,260, among whom there were 202 deaths, corresponding to an annual death rate of 21.40 in 1,000 of population. There were 2 deaths from typhoid fever, 10 from restivoautumnal malaria, 20 from clinical malaria, 1 from hemoglobinuric fever, 6 from clinical dysentery, 4 from beriberi, 2 from septicemia, 18 from pulmonary tuberculosis, 2 from other forms of tuberculosis, 1 from syphilis, 3 from cancer, 5 from tetanus, 4 from bronchopneumonia, 18 from pneumonia, 1 from other forms of pneumococcus infection, and 14 from diarrhea and enteritis, under two years of age. The death rate among the white employees was 7.12 in 1,000, and among the negroes it was 14.88 in 1,000. The morbidity rate among the employees was 17.86 in 1,000; in February, 1907, it was 24.73 in 1,000. Dr. Gorgas says at the end of his letter of transmittal: "Taken as a whole, this is the most favorable health report that the Sanitary Department has heretofore been able to give, and it has been on the Isthmus."



**Personal.** Dr. Stephen J. Maher has been appointed president of the board of health of New Haven, Conn.

Dr. Richard Mills Pearce, Jr., of Albany, N. Y., has been appointed professor of pathology and director of the laboratory of pathology at the University and Bellevue Hospital Medical College, New York.

Dr. William H. Davis has been appointed a general medical inspector of the board of health of Boston. He will devote most of his time to infectious diseases.

**Vital Statistics of New York.**—During the week ending April 4, 1908, there were reported to the Department of Health of the City of New York 1,497 deaths from all causes, corresponding to an annual death rate of 17.66 in 1,000 of population. Of the total number of deaths 830 were in the borough of Manhattan, 132 in the Bronx, 448 in Brooklyn, 69 in Queens, and 18 in Richmond. The principal causes of death were: Contagious diseases, 142; pulmonary tuberculosis, 171; pneumonia, 117; bronchopneumonia, 109; diarrheal diseases, 94; Bright's disease and nephritis, 115; organic heart diseases, 151; cancer, 63; apoplexy. There were 76 deaths from accidents, 4 from homicide, and 18 from suicide. There were 743 marriages recorded during the month, 2,724 births, and 143 stillbirths.

**Medical Society of the County of Suffolk, N. Y.**  
The semiannual meeting of this society will be held in Brentwood, N. Y., on Thursday, April 30th, at 11 o'clock. The programme includes the following papers: Conduction Aphasia, with the exhibition of the patient, by Dr. M. B. Heyman, of Central Islip State Hospital; Measurement of Blood Pressure, with demonstration of the apparatus, by Dr. Roland Hazen, of Brentwood; Methods of Gastric Diagnosis, with demonstrations of physical diagnosis and laboratory examinations, by Dr. Dudley D. Roberts, of Brooklyn. The officers of the society are: President, Dr. Arthur H. Terry, of Patchogue; vice president, Dr. Marcus B. Heyman, of Central Islip; secretary, Dr. Frank Overton, of Patchogue; and treasurer, Dr. Barton D. Skinner, of Greenpoint.

**New York Pathological Society.**—A regular meeting of this society was held at the New York Academy of Medicine on Wednesday evening, April 8th. Dr. G. B. Satterlee and Dr. S. O. Sabel reported a case of pernicious anemia with "hour glass" stomach treated by colon irrigation. Dr. O. H. Schultze reported cases of septic thrombophlebitis of the longitudinal sinus and impetigo contagiosa with septicæmia. Dr. H. Zinsser reported the following cases: Arteriosclerosis of the pulmonary arteries; metastatic sarcoma of the lungs with bone formation, and typhoid infection of the gallbladder. Miss A. Oppenheimer read a paper on Radial Fibres in Blood Vessels. Dr. James Ewing read a paper on Myxoma of the Full Term Placenta. Dr. E. Moschocowitz read a paper on Typhoid Fever with Mixed Infection: Unusual Intestinal Lesions. Dr. H. L. Celler read a paper on Lesions in a Case of Myxæmia Gravis.

**A Dinner to Dr. Wiley.**—The twenty-fifth anniversary of the service of Dr. Harvey W. Wiley as chief chemist of the United States Department of Agriculture was celebrated by a dinner given in his honor at the Hotel Astor on Thursday evening, April 9th, by some two hundred chemists of New York and vicinity. Dr. William Jay Scheffelin presided at the dinner. Congratulatory addresses were made by Professor W. D. Bancroft, of Cornell University; Professor Joseph P. Remington, of Philadelphia, chairman of the Committee of Revision of the United States Pharmacopœia; Professor M. T. Bogert, of Columbia University; Mr. C. F. Cox, president of the New York Academy of Sciences; Mr. Herman A. Mott, comptroller of the city of New York; Mr. Walter H. Page, editor of the *World's Work*; and others. The speakers lauded Dr. Wiley for his work in the national administration of the national food and drugs act. He was referred to as standing for the ideal of pure, unadulterated truth, and as being therefore naturally a student of science, mainly from the following evening, April 10th, the chemists of the city of Washington also honored Dr. Wiley, a banquet in their city in commemoration of his services to chemistry during the period of his study and practice.

**American Paediatric Society.** The twentieth annual meeting of the society will be held at the Waterbury Hotel, Delaware Water Gap, Pa., on May 14th, 15th, 16th, and 17th. The committee arranging to make this meeting one of unusual interest. On occasion will be depicted as follows:

ussion of the serum treatment of epidemic cerebrospinal meningitis. Dr. Simon Flexner will open the discussion, and Dr. Dunn will give a résumé of the results of this treatment as observed in the Children's Hospital in Boston. Another session will be devoted to the subject of the influence of cold air in the treatment of disease, the disease to which it is applicable, and the degrees of temperature which should be used in the different types of disease. Dr. Northrup and Dr. Graham will take part in the discussion. Sufficient time will be devoted to poliomyelitis anterior, especially as an epidemic, and Dr. Koplik and Dr. Le Fetra have consented to discuss the subject. Dr. Holt has promised a paper on Recent Diagnostic Methods in Tuberculosis in Children. With four such interesting subjects for discussion, the committee feels warranted in asking the members to attend papers on the different phases of the question. The committee is desirous of issuing the preliminary programme as soon as possible, and members are therefore requested to send the titles of their papers, at their earliest convenience, to Dr. Samuel S. Adams, 1 Dupont Circle, Washington, D. C.

### Society Meetings for the Coming Week:

MONDAY, April 10th. -New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Hartford, Conn., Medical Society.

1953-54, April 1955: New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Pathology); Tri-Professional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Binghamton, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital; Syracuse, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, April 2d—New York Academy of Medicine  
(Section in Laryngology and Rhinology); New York  
Surgical Society.

THURSDAY, April 23d.—New York Academy of Medicine (Section in Obstetrics and Gynaecology); Brooklyn Pathological Society; Hospital Graduates' Club, New York; New York Celtic Medical Society.

Friday, April 5th. New York Clinical Society, New York Society of German Physicians; Academy of Pathological Sciences, New York.

SATURDAY, April 25th.—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society, New York; Lenox Medical and Surgical Society, New York.

**Meetings of Sections of the New York Academy of Medicine.**—The Section in Ophthalmology will meet on Monday evening, April 24th, at 8 15 o'clock, in the Academy. Knapp will present a specimen of melanosarcoma of the conjunctiva. Dr. E. B. Cohn will exhibit an apparatus to measure ocular tension, and Dr. Arnold Knapp will exhibit an apparatus to determine the color of the fundus of the eye. Dr. J. E. Weeks will demonstrate the method of testing the field of vision. The paper of the evening will be read by Dr. John E. Weeks on Plastic Operations on the Lids by Means of Flaps without Pedicle.

The following program has been arranged for the meeting of the Section on Medicine, to be held at the Hotel Marlborough, April 1st-3rd, 1907. The Association will meet at 10:30 a. m. on April 1st, at 10:00 a. m. on April 2nd, and at 9:30 a. m. on April 3rd. The following papers will be read:

**10:30 a. m., April 1st.**—**Diabetes Mellitus.** Dr. Henry L. Shively; **Neuralgia: Its Specific Treatment with Chloroform Subcutaneously.** Dr. S. O. Goldan. **Reports of Cases.** Pulmonary Artery Lesions with Hemoptysis. Dr. Haelew Brooks; **Pulmonary Emphysema, operative treatment.** Dr. Charles Goodhue.

**10:00 a. m., April 2nd.**—**Diabetes Mellitus.** Dr. F. R. McCreery.

[illegible]

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

April 9, 1908.

1. On the Significance of Clinical Histories Before and After Operative Demonstration of the Real Lesion,  
By MAURICE H. RICHARDSON.
2. Observation Hospital or Wards for Early Cases of Mental Disturbance,  
By L. VERNON BRIGGS.
3. A Case of Infantile Pyloric Stenosis with Autopsy Six and One Half Months After Successful Gastroenterostomy,  
By JOHN LOVETT MORSE, FRED T. MURPHY, and S. B. WOLBACH.
4. A Case of Congenital Stenosis of the Pylorus,  
By CHARLES W. TOWNSEND.
5. The Scope of Therapeutic Inoculation,  
By G. P. SANBORN.

3. **A Case of Infantile Pyloric Stenosis.**—Morse, Murphy, and Wolbach describe such a case. The cause of death was a general peritonitis without demonstrable anatomical cause. Special attention was given to the tissues about the gastroenterostomy, both at the autopsy and afterward in going over the hardened specimen. The condition of the gallbladder, appendix, and gastrointestinal tract ruled out infection from these sources. The negative findings in the dissection of the spermatic cords and seminal vesicles made an infection from the penis very improbable. Normal pleural and pericardial cavities excluded these as sources of infection. Finally, the absence of any older localized process, and the diffuse, even distribution of the exudate forced the authors to the conclusion that the infection took place through a vascular route. The infecting organism, judging from the morphology in sections, could be either the pneumococcus or the streptococcus, probably the former. The microscopical findings in the pylorus were surprising, because of absence of degenerative changes in the smooth muscle, either in the form of atrophy or in connective tissue overgrowth. The closed state of the pylorus was proved by the mechanical tests applied and by the rigidity and thickness of the walls, which were in striking contrast to the usual post mortem condition of the pylorus in infants. The flattening of the mucosa could hardly be considered as an evidence of permanent closure. The cystic dilations of the glands were probably mechanical in origin, though a few similar cysts have been seen in the mucosa of the normal pylorus of infants. In the case of an infant a few weeks old, operated upon for pyloric stenosis and which died a few days later, only slightly dilated pyloric glands were found. This fact supports the belief that in the case our authors reported the long continued closure of the pylorus was the cause of the glandular dilatation. The case is in so far interesting as it is the first one reported where any one had had the opportunity of studying the anatomical conditions in a case of infantile pyloric stenosis at so long a time as six and one half months after a successful gastroenterostomy. This case, the authors conclude, proves that, in some instances, at least, the stenosis is not due to spasm, that medical treatment cannot be of any avail, and that the only hope for relief and life lies in surgical intervention. It also proves that an infant can live and thrive for many months, although all the food passes through the gastroenterostomy opening and none through the pylorus. It suggests

that the condition of organic infantile pyloric stenosis is a permanent one, that there is no tendency toward a restoration of normal conditions, and that there is little hope of the pylorus ever resuming its functions. It is not safe to draw conclusions from these suggestions, remark the authors, as it is possible that, with the lapse of time and the growth of the parts, changes may occur which will result in the restoration of normal conditions and function. These points can only be decided by the actual observation of the anatomical conditions in cases dead at longer intervals after successful operations.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 11, 1908.

1. Pancreatitis Resulting from Gallstone Disease,  
By WILLIAM J. MAYO.
2. Detection of the Emotions by the Galvanometer,  
By E. W. SCRIPTURE.
3. Plague Among Rats in San Francisco,  
By WILLIAM B. WHERRY, AGNES WALKER, and EDGAR H. HOWELL.
4. Ocular Rotations in Paresis,  
By FRANCIS VALK.
5. The Treatment of Interstitial Keratitis,  
By H. H. MARTIN.
6. Disturbance of Nitrogenous Metabolism in Epilepsy,  
By A. J. ROSANOFF.
7. Intussusception and Its Cause,  
By W. L. WALLACE.
8. Passive Hyperemia of the Lungs and Tuberculosis,  
By WILDER TILESTON.

3. **Plague Among Rats in San Francisco.**—Wherry, Walker, and Howell agree with the last Indian Commission that, with experience, the chances of missing a plague infected rat by the naked eye method of examination alone are extremely small. Recently the authors have abandoned the wholesale preliminary microscopical examinations and substituted the anatomical dissections, followed by the bacteriological and animal tests of anatomically suspicious rats. Of 14,184 rodents examined, 98.97 per cent. were *M. decumanus*; 0.73 per cent. *M. rattus*; 0.35 per cent. *M. rattus alexandrinus*, and 0.11 per cent. *M. musculus*. By far the greater number found infected were *M. decumanus*. The results of animal inoculation experiments show that the bacillus of natural rat plague in San Francisco is quite as virulent as the strains tested in Bombay by the last Indian Commission. Complete post mortem notes on eighty-eight "positive" rats showed that seventy-four of these had enlarged and congested glands; thirteen of the seventy-four showed a typical primary bubo (six inguinal, one submaxillary, one axillary). Only twenty-eight presented the characteristic anatomical picture of general subcutaneous congestion, enlarged and congested glands, splenic tumor, and hydrothorax or hemothorax. The inguinal glands, either alone or along with other glands, were enlarged and congested in forty-seven, the axillary glands in thirty, and the submaxillary glands in thirty-three instances. No single characteristic abnormality invariably occurred in the rats of this series. Most of the eighty-eight rats were fresh; only seven showed much post mortem decomposition, and in these typical bacilli were fairly numerous, either in the spleen or in a gland.

4. **Ocular Rotations in Paresis.**—Valk concludes that all tests for paresis must be made with the look in complete infinity and with full acuity of vision. We must have a standard of the field of vision for comparison of any deficiency of rotation.

The straight muscles are capable of moving the eyes in any part of the field of vision and from one part of the field to another; in other words, in no part of the field will the straight muscles fail to act according to their usual function. The obliques take no part or action in the rotation of the eyes in the field of version; in other words, the oblique muscles do not elevate or depress the visual line. A distinct line must be drawn between paresis and heterophoria as shown by the diplopia; in the first by diplopia in infinity and in the second by the possible diplopia with reduced vision. In the consideration and diagnosis of paresis we may exclude the condition of crossed or homonymous images and also the tipping, except in a pathological condition of the obliques. The individual muscles of the eyes are not endowed with two distinct functions, as they have but one nerve supply, except possibly in the action of convergence and inward rotation due to two distinct nerve centres. The points of action of the straight muscles of the eyes are the insertions and the sheaths of the tendons as they are situated in the orbit just behind the globe.

**7. Intussusception and Its Cause.**—Wallace states that the typical symptoms of intussusception are pain, shock, small, bloody mucous stools, with tenesmus and characteristic tumor. In his case pain was not a prominent symptom, and there was no discharge from the bowels, no inclination to move the bowels, and no tumor could be felt, even under an anæsthetic. A child may have bloody mucous stools without intussusception, and, on the other hand, an intussusception may slough away without the appearance of bloody stools. The usual ileocecal intussusception forms a palpable tumor, but an enteric intussusception may be so small or high that a tumor cannot be appreciated. In his case an unusual symptom was present—frequent bloody vomiting. In regard to the cause of intussusception, observation and experiment show that invagination is of frequent occurrence and is easily produced by slight irritation of the normal intestine, the bowel above rolling into the segment below and emptying itself as in a movement of the bowels. Treves goes so far as to hold that many attacks of indigestion may be due to a temporary invagination of the bowel, in which case the circular fibres below rapidly contract and reduce the intussusception before adhesions form between the layers. Whatever would prevent the reduction of this physiological invagination would produce a true pathological intussusception. There are two theories of the cause of intussusception: spasm and paralysis. The first theory holds that, for some reason, a local spasm is set up in the bowel and a violent contraction takes place, and this point is made the apex of an intussusception by passing into the intestine below or having the bowel below drawn up outside. The other theory is that of paralysis. A certain section of bowel is paralyzed by interference with its nerve or blood supply. It, therefore, becomes distended and the bowel above is pushed into it.

**8. Passive Hyperæmia of the Lungs and Tuberculosis.**—Lileston states that one hundred and twenty eight cases of mitral stenosis at autopsy showed a much lower percentage of pulmonary tuberculosis than the material from which they were

drawn. Those cases with a high degree of stenosis were more free from tuberculosis than those with a moderate stenosis, and were entirely exempt from active tuberculosis. A person with mitral disease is less liable than others to acquire tuberculosis of the lungs, and if he does, the pulmonary disease usually runs a mild course, with a strong tendency toward cure. This relative immunity is to be ascribed to passive hyperæmia of the lungs consequent on the mitral lesion. There is a possibility that artificially induced hyperæmia of the lungs may be a valuable adjunct in the treatment of pulmonary tuberculosis.

#### MEDICAL RECORD.

April 11, 1908.

1. Diabetes and the Food Factor, By HENRY S. STARK.
2. Spontaneous Gangrene of the Foot Due to Enderteritis Obliterans, By ISAAC LEVIN.
3. The Relation of Appendicitis to Gynecological Pelvic Diseases, By SAMUEL WYLLIS BANDLER.
4. Blood Pressure in the Practice of Medicine, By W. FOREST DUTTON.
5. Health of Our High School Children, By ELIZABETH JARRETT.
6. The Solution of the Lodge and Society Problem of the East Side, By JULIUS WEISS.
7. A Case of Cut Throat, By CHARLES I. PAGE.

**1. Diabetes and the Food Factor.**—Stark states that as far as the dietetic treatment of diabetes is concerned, we should not lose sight of the one cardinal fact, that total or partial failure to assimilate carbohydrates is the salient phenomenon of the disease. The principle involved in the treatment, then, must be to lessen the carbohydrates in the food, until the sugar disappears, if that is possible, and afterwards tentatively to replace them, noting the effects of each addition on the urine, as a guide to future dietary measures. In order to carry this principle into effect it is necessary to ascertain experimentally the patient's ability to assimilate carbohydrates. For purposes of estimating, approximately, of course, this tolerance, several methods are employed, the most familiar of which is that known as von Noorden's standard test diet. This diet consists of three meals, carried out for one or two days, of articles free from carbohydrates, except that a measured quantity of bread is allowed for breakfast and lunch. The urine of the next twenty-four hours is collected, that of the day in a separate vessel from that of the night, and examined quantitatively for glucose, acetone, urea, and other ingredients. Both the percentage of sugar and the amount daily excreted are noted, and cases classified as slight, moderately severe, and grave, according to their degree of toleration. To the first class belong to those diabetics in whom the excretion of glucose is arrested on a starch free diet. To the second class, the moderately severe, belong those diabetics in whom the excretion of sugar is not completely arrested, but markedly diminished on a rigid starch free diet. To the third class, the grave cases, belong those diabetics in whom the excretion of glucose is not even diminished on a rigid starch free diet. In this last group of cases sugar is formed from the proteid food elements. The method used by the author for the toleration test is the following: On the first day three meals consisting entirely of proteids, fats, and water are given, but between breakfast and the



midday meal the patient is told to drink a mixture of 50 c.c. of glucose dissolved in 250 c.c. of water. The urine of the next twenty-four hours is examined quantitatively.

**3. The Relation of Appendicitis to Gynecological Pelvic Diseases.**—Bandler concludes that appendicitis in the form of an inflammation of the mucous membrane does not result from inflammatory diseases originating in the uterus or annexa. Involvement of the appendix viewed as a peritoneally covered organ may take place as part of a peritonitis, more or less localized or more or less extensive, which has its origin in inflammatory diseases of the annexa. Severe inflammations of the appendix, in so far as they cause a pelvic peritonitis or in so far as the accumulation of pus is located in the pelvis, naturally involve the uterus and annexa in adhesions, do not cause pyosalpinx, but may cause tuboovarian cysts. A distinctive diagnosis as to original site of the infection, when the appendix and right annexa are involved, is often impossible except from the operative clinical standpoint, and even then is not always certain. Mild attacks of appendicitis, without the production of well defined peritonitis, may involve the annexa without adhesions, but especially by infection of the Graffian follicles, alterations of the stroma and the production of varicocele of the broad ligament. Such alterations in the annexa generally result from processes extending from the cervix and uterus into the broad ligaments, and a definite decision as to the source of the trouble may be often impossible.

**4. Blood Pressure in the Practice of Medicine.**—Dutton says that in the study of abnormal blood pressure we have the underlying cause or sequence of over half the human ills, which makes it one of the most profound subjects known to the science of medicine. Much is understood and much is misunderstood. He thinks he has proved by his own experiments and observations that the life of the human organism, whether through heredity or other causes prone to be aberrated blood pressure, may be prolonged ten to twenty years. So long as normal blood pressure can be maintained, the life of the organism will be sustained until the natural sequences of decay result in death.

**6. The Solution of the Lodge and Society Problem of the East Side.**—Weiss speaks of the so called east side of New York City. He observes that the practice of medicine on the east side of New York is unique. Seventy-five per cent. is lodge and society practice. Three fourths of the physicians on the east side accept this kind of practice. The laity is organized, the physicians are disorganized. To gain contracts, physicians have to go through elections. To insure being elected, physicians make the worst concessions and lower their professional dignity. It is necessary for the physicians to cooperate to establish a uniform contract, and to raise the professional standard on the east side. To accomplish these reforms it is necessary to abolish the system of election and to establish the system of selection. To gain the good will and cooperation of the new and less successful practitioners, it is necessary that the old and more successful practitioners allow the

former to examine candidates of the various lodges and societies. There should be established offices where the examining physicians should be assigned in routine for the examination of candidates. The income from these candidates should be divided in equal shares quarterly among the examining physicians.

#### BRITISH MEDICAL JOURNAL

March 28, 1908.

1. New Ideas on Fractures of the Utmost Importance to the Medical Profession and to the Lay Public in Connection with Their Responsibilities and Possible Legal Liabilities, By LUCAS-CHAMPIONNIÈRE.
2. Arthrodesis and Tendon Transplantation, By R. JONES.
3. The Most Ancient Splints, By G. E. SMITH.
4. The Post Mortem Staining of Bone Produced by the Ante Mortem Shedding of Blood, By F. W. JONES.
5. Examination of the Bodies of One Hundred Men Executed in Nubia in Roman Times, By F. W. JONES.
6. Remarks Upon Excision of the Body of the Scapula, with an Illustrative Case, By R. P. ROWLANDS.
7. Punch Fractures, By H. BURROWS.

**1. Fractures.**—Lucas-Championnière for thirty years has impressed the following precepts upon his students: 1. The accurate juxtaposition of the fractured extremities of bones, in order to reproduce the normal arrangement, is a laudable object. It is only achieved in a minimal number of cases. 2. Never tell a patient that you are going to obtain and that you have obtained this exact result. 3. The books teach you that this is the case, but clinically the statement is false, and it will turn against you in several ways. 4. The conditions that are necessary in order that a limb should again become functionally perfect are far from demanding this exact juxtaposition. There are a large number of conditions which are more essential, and which you should be more sure of satisfying. 5. Do not insist upon this claim. 6. Give no credence whatever to the statement that absolute lack of movement is the most favorable condition for the repair of bone and for the formation of callus. A certain amount of movement favors and accelerates bone formation. 7. Do not proclaim from the housetop that radiography gives you an exact picture of the fragments. But on the other hand never try to prevent the use of radiography for a bony lesion. Whenever it is materially possible to employ it, have it employed; but never allow it to be interpreted in your absence, and make a special point of explaining to the patient or his friends in the clearest possible way the interpretation of the photograph. The medical profession should make the lay public understand the difficulties involved in a study of fractures. They must know that (a) radiographs have to be interpreted; (b) the reduction of fractures is not an absolute rule and is often not indispensable; (c) absolute rest is not the necessary test of every sound treatment for fractures; (d) a fracture is not a simple lesion, but includes complications owing to displacement, and owing to rupture of tendons and muscles; and (e) there is no mathematical solution for the repair of fractures. It is always difficult to put the public on its guard against the rooted belief that it knows and can understand everything relating to medicine. But in the case of fractures the doctor must be especially on his guard, because nothing will uproot the conviction of the public that it can understand every

secret in connection with the treatment and repair of bones.

## 2. Arthrodesis and Tendon Transplantation.

—Jones points out the causes of failure and the essentials of success in the operations of arthrodesis and tendon transplantation. By arthrodesis we endeavor to ankylose a joint with the least possible sacrifice of bone. The joint thus fixed is usually perfectly healthy, but preternaturally mobile, and the muscles which should govern it are either wholly or partly paralyzed. The operation should be limited to those joints which are wholly dependent for their usefulness on outside appliances and which offer no opportunity for a successful tendon operation. The ankle joint is the one usually operated on, but it is of the utmost importance that it should not be fixed until we know: (a) That the paralysis is complete, and depends on the destruction and not on the temporary disorganization of motor cells. (b) That at least two years have elapsed in the case of muscles suspected to be completely paralyzed. (c) That apparently paralyzed but really over-stretched muscles have first undergone appropriate treatment. Failure of the operation is generally due to neglect of general principles. The operation should not be performed on children under eight years of age. It should not be performed until the surgeon is satisfied that the muscles are paralyzed beyond all hope. The preliminary preparation of the foot by wrench and tenotome must correct all deformity. The operation must be so planned that at its completion the bones lie in opposition to the foot, which should be placed in an overcorrected position. This is effected by the excision of skin flaps, by the shortening of lengthened tendons, and by the removal of graduated wedges of bone. The wedge should never be taken from the tibia lest the tibial epiphysis be injured. Splints should be applied and retained until union is complete. Tendon transplantation is indicated: (a) To fortify a weakened group of muscles. (b) To supplant a completely paralyzed muscle or group of muscles. (c) To obstruct an overacting spastic group. (d) To deviate tendon action when perverted—as in transference of the tendo Achillis to the outer side of the os calcis in congenital clubfoot to prevent inversion of the ankle. (e) As a help in partial arthrodesis. In tendon transplantation one must insist on: 1. The overcorrection of deformity as a preliminary act. 2. The removal of skin flaps to secure the uninterrupted continuity of the overcorrection. 3. The direct and not angular deflection of the tendon. 4. The free tunneling in one plane through the soft tissues. 5. The firm suturing into periosteum or bony groove. 6. The careful choice, tension, and nursing of the transplanted tendon. 7. The maintenance of a hypercorrected position until voluntary power is assumed to the tendon. 8. The deflection of body weight during walking from the remaining tendon.

6. **Excision of the Scapula.** Rowland's conclusions regarding excision of the body of the scapula are as follows: 1. For suitable cases excision of the body of the scapula, with preservation of the process and glenoid socket, is a much better operation than excision of the whole bone, because it leaves a fifth or more perfect from the functional

and the artistic points of view. 2. The operation is especially suitable for innocent growths, which fortunately and frequently leave the processes and the shoulder joint unaffected. 3. It may be adopted in preference to complete excision of the scapula for some small and slowly growing malignant growths without increasing the immediate risk of death, and probably without increasing the danger of either local or general recurrence. 4. It may be occasionally suitable for inflammatory diseases of the scapula when the shoulder joint is unaffected. 5. It is wise to tie the three main vessels as early as possible in the operation, and this can be easily done through a suitably arranged posterior T shaped incision. 6. The success of the operation largely depends upon careful asepsis, the sewing of some of the divided muscles together, and the early adoption of systematic active and passive movements of the shoulder.

## LANCET

March 28, 1908

1. The Pathology of Acid Intoxication (Arris and Gale Lecture). By F. A. BAINBRIDGE.
2. Tuberculosis of the Kidney and Malignant Disease of the Cæcum (Lettsomian Lectures, III). By C. J. SYMONDS.
3. Observations on the Opsonins, with Special Regard to Lupus Vulgaris. By A. REYER and R. KJER-PETERSEN.
4. Modern Methods of Treating Infective Conditions of the Throat. By M. YOUNG.
5. Acquired Diverticula of the Sigmoid Flexure, Considered Especially in Relation to Secondary Pathological Processes and Their Clinical Symptoms (Part II). By W. H. M. TELLING.
6. A Case of Diaphragmatic Hernia. By H. O. WILLIAMS.
7. A Case of Metralgia Paræsthetica Successfully Treated with the Constant Current. By E. R. MORTON.
8. Perforation of the Oesophagus by a Rabbit Bone: Septic Inflammation of the Mediastinum; Ulceration into the Aorta; Death from Hemorrhage. By R. L. KNAGGS.
9. The Method of Preparing "New Tuberculin" (Tuberculin T. R.) A Correction. By W. G. ROBERTS.

1. **Acid Intoxication.**—Bainbridge, in his Arris and Gale lecture on acid intoxication, draws at the outset a distinction between acidosis and acid intoxication. The essential feature of acidosis is the occurrence of certain abnormal acids in abnormal amount in the blood and the urine; the most important of these acids are lactic and betaoxybutyric acids, and their estimation in the urine furnishes the most accurate means of measuring the intensity of the acidosis. The term acid intoxication should be limited to conditions in which, in addition to acidosis, toxic symptoms referable to the organic acids make their appearance. Acidosis may be accompanied by diminution of the alkalinity of the blood, and the urinary excretion of ammonia is usually increased. Even in acidosis, however, the alkalinity of the blood remains remarkably constant, though it may be temporarily disturbed by a sudden production of acid, and a normal alkalinity of the blood may coexist with a considerable degree of acidosis. And neither the total excretion of ammonia in the urine nor the ammonia coefficient (i. e., the proportion of the total nitrogen excreted as ammonia) necessarily or even usually corresponds to the degree of the acidosis. Lactic acid is never the cause of acid intoxication in man, and

its appearance in the urine is either the result of excessive production by the muscles or is secondary to the failure of the liver to convert ammonia into urea; its occurrence is not due to deficient oxidation of lactic acid by the liver. It seems probable that in diabetes there is a gradual depletion of the alkalies in the tissues, and that a point is ultimately reached when the alkali content of the tissues is insufficient for normal metabolism and symptoms of intoxication occur. It is possible, of course, that the gradual loss of alkali simply lessens the amount of base available for the neutralization of acid, and that the ultimate result is an acid intoxication due to the diminished alkalinity of the tissues. It is also extremely probable that the lack of some or all of the inorganic bases may primarily disturb the course of the metabolism, quite independently of the alkalinity of the tissues, which last does not depend solely upon their inorganic constituents, since the proteins can apparently act either as weak acids or bases. On this view even the diminished alkalinity of the blood in coma may be interpreted as due to a final effort on the part of the tissues to satisfy their need for base. It is not sufficient to supply the body with sodium carbonate; the alkali treatment of diabetes might be of much greater value if all the bases required by the body were administered. Postanæsthetic acetoneuria is the common form in children. In most cases acetoneuria is the only symptom, but occasionally toxic symptoms develop, and death may ensue. The most characteristic symptoms are intense thirst, vomiting, restlessness, and finally coma; air hunger has been observed in some cases. Post mortem the liver shows constantly intense fatty infiltration, with patches of necrosis. The interest of postanæsthetic acetoneuria lies in the appearance of symptoms of acute intoxication in certain cases and in its relation to other forms of acetoneuria. The power of anæsthetics to interfere with metabolism as a whole and their toxic action upon protoplasm are well known. The metabolic disturbance is usually trivial, because the anæsthetic speedily leaves the tissue when the anæsthesia comes to an end. The severe toxic symptoms can only be explained by assuming that the anæsthetic remains in combination with certain tissues. If this be admitted, then the occurrence of acetoneuria is the inevitable outcome of the lessened oxidative capacity of the tissues. Postanæsthetic acetoneuria is closely analogous to phosphorus poisoning, in which the oxidative capacity of the tissues is primarily damaged. The inhibition of metabolism by anæsthetics results in the incomplete combustion of fat, and betaoxybutyric acid and its products appear in the urine, and the failure of the muscles to burn up fat leads to its accumulation in both the muscles and the liver. Fatty infiltration of the liver can occur with remarkable rapidity, and there seems to be no reason to believe that when symptoms of intoxication occur after anæsthesia the liver was previously diseased. Patients who take carbohydrate freely both before and after operation seem less liable to acetoneuria, and it is probable that postanæsthetic acetoneuria may sometimes arise solely from carbohydrate starvation, especially in those cases in which, owing to vomiting, but little food has been taken previous to operation.

## LA PRESSE MEDICALE

March 21, 1908.

1. Anaphylaxia, By Professor CH. RICHET.
2. Appendicitis and Chronic Ulcer of the Stomach, By R. ROMME.

1. **Anaphylaxia.**—Richtet applied this term in 1902 to a phenomenon he had discovered while studying the action of certain poisons, namely, the sensibility of the organism to a second injection of a poison after recovery from the effects of the first injection and apparently total elimination of the toxic substance. The sensibility of the organism to the second dose as compared with its sensibility to the first may be either less, equal, or greater. The author considers that anaphylaxia merits careful study from the point of view of pathology and general therapeutics, because he believes that through it may be found an explanation of the peculiar phenomenon called idiosyncrasy, which is the difference of reaction in different individuals.

March 25, 1908.

1. The Course to Be Pursued in the Treatment of a Complicated Fracture, By P. HARDOUIN.
2. Disassociation and Antagonism of the Cutaneous and Tendonous Reflexes, By NOICA.

1. **Treatment of Complicated Fractures.**—Hardouin gives, as the proper course to be pursued in the treatment of a complicated fracture, cleansing of the skin, an incision, or an enlargement of the external wound sufficient to obtain enough space for the necessary manipulation, usually from four to six centimetres long, resection of the parts of the bone that should be removed, cleansing of the wound, drainage, and the application of a dressing.

## LA SEMAINE MEDICALE

March 25, 1908.

Periphere Rheumatismal Arteritis,

By M. ROCH and R. BURNAND.

**Periphere Rheumatismal Arteritis.**—Roch and Burnand report a case of rheumatism followed by pain in certain parts of the limbs associated with loss of pulse, which they are inclined to ascribe to a local arteritis for the following reasons: 1, The progressive onset of the pain, which was preceded by tingling and a feeling of weight in the limb, that required two days to reach its maximum. 2, The attacks of fever, which each time preceded the appearance of the arterial pains, which can be explained by nothing else than an infection. 3, The nodulæ of early periarteritis with painful oedematous infiltration along the course of the artery for a considerable extent seems to accord with the idea of an arteritis involving all the coats of the vessel rather than with the idea of a mechanical obstruction by means of an embolus. 4, The transitory character of the obliteration on the part of the artery most affected. 5, The fact that the radial pulse was at first wholly suppressed and that when pulsation returned it was manifest during compression of the artery above the pulse showed a temporary obliteration of the vessel throughout its length and not merely an obliteration limited to a segment at its upper extremity. 6, It has been noted that in the phase just before obliteration in endarteritis the pulse of the affected artery is stronger than that of the corresponding artery. In this case it was noted just before the onset of the symptoms that the pulse of the left radial artery, which later was obliterated,



was stronger than that of the right. The only objections are that there was a cardiac lesion present which might account for embolism, and that the infection must be ascribed to the rheumatismal virus.

#### BERLINER KLINISCHE WOCHENSCHRIFT

March 16, 1908.

1. Concerning the Indications for Radical Operation in Inflammatory Diseases of the Accessory Sinuses of the Nose, By A. KUTTNER.
2. Operation for Acute Hæmorrhage from the Pancreas, By F. BREWITT.
3. The Wave of the Phlebogram, By D. PLETNEW.
4. The After Treatment of Carcinoma that Had Been Operated on with Homogeneous Irradiation, By FRIEDRICH DESSAUER and MAX KRÜGER.
5. Concerning the Infectious Origin of Chronic Pancreatitis and Diabetes, By FELIX HIRSCHFELD.
6. Studies of the Secretion of Pepsin in Healthy and Diseased Infants, By J. ROSENSTERN.
7. The Cutaneous and Conjunctival Reaction to Tuberculin in Animals, By HANS WILDBOLZ.
8. Concerning the Value of Pirquet's and Wolff-Calmette's Reactions in Childhood, By ROBERT BING.
9. The Therapeutic Use of Radium Emanations, By FRANZ NAGELSCHMIDT.
10. Concerning Puerperal Fever, By ERNST RUNGE.

1. **Radical Operation in Diseases of the Accessory Sinuses of the Nose.**—Kuttner protests against too ready adoption of surgical measures in diseases of the accessory sinuses, because daily experience shows that the chances of recovery without such intervention are much greater in both acute and chronic forms than could theoretically be expected. Intranasal treatment should be adopted in all cases in which serious complications are wanting.

2. **Operation for Acute Hæmorrhage from the Pancreas.**—Brewitt reports a case of hæmorrhage from the pancreas in a boy, sixteen years old. He was seized twice within twenty-four hours with severe abdominal pain, nausea, and vomiting. The localization of the first appearance of the pain could not be determined. Laparotomy was performed, the pancreas found to be enlarged with a swelling as large as an apple in its middle, that was found to contain a bloody serous fluid. This was incised and drained, the abdomen washed out with salt solution, and the patient made a good recovery. But for the operation the condition would in all probability have proved fatal.

4. **After Treatment of Carcinoma that Had Been Operated on by Irradiation.**—Dessauer and Krüger say they obtain a deep reaction in inoperable carcinomata treated with homogeneous irradiation for a long time, but do not go so far as to say that the x rays can destroy all large tumors in the body without injury to the organism. They fear not burns of the skin, but a weakening of the body by the formation of toxins as the result of the breaking down of tissue. As much as possible of the malignant tumor should be removed by the hand of the surgeon. As an after treatment directly following the operation the use of the x rays is of great value and makes it possible to prevent a recurrence.

8. **Value of Pirquet's and Wolff-Calmette's Reactions in Childhood.**—Bing reviews these tests and concludes that Pirquet's cutaneous test is absolutely without danger, while the same can-

not be said of the conjunctival reaction. Pirquet's test also reveals latent tuberculosis, while a negative conjunctival reaction does not exclude it.

9. **Therapeutic Use of Radium Emanations.**—Nagelschmidt reports ten cases in which he has successfully employed radioactive water. The diseases thus treated include articular rheumatism, ozæna, crepitation of the scapula, muscular rheumatism, and chronic catarrh of the bladder.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

March 24, 1908.

1. A Theory of the Natural Immunity of the Living Tissue, By HOLZINGER.
2. Concerning Wassermann's Serum Diagnosis in Syphilis, By FRANKEL and MUCH.
3. The Actual Changes in Operative Obstetrics, By BAISCH.
4. Concerning Localization and Clinical Symptoms of Intracranial Extravasations of Blood in the Newly Born, By SEITZ.
5. Stasis Hyperæmia in Acute Inflammatory Diseases, By COSTE.
6. Concerning the Connection Between Diseases of the Stomach and of the Nose, By HECHT.
7. The Treatment of Malaria with Atoxyl, By GEORGOPULOS.
8. Concerning Three Rare Forms of Hæmorrhage During Delivery, together with Some Remarks on the Preparation of Students for the Treatment of Puerperal Hæmorrhages, By SELLEIM.
9. Temperatures of Opposite Sides of the Body in Appendicitis, By WIDMER.
10. Concerning Diabetes and Psychosis, By KAUFMANN.
11. Concerning the Life Saving Action of Infusions of Adrenalin and Salt Solution in a Case of Peritoneal Sepsis, By ROTHSCILD.
12. A Case of True Cholesteatoma of the Ear, By HANSEN.
13. Concerning a Phlegmon of the Neck of Dental Origin Which Presented the Clinical Picture of Angina Ludovici and was Associated with a Retropharyngeal Abscess, By TRAUTMANN.
14. The Postoperative Tetanus Cases of Zacharias, Cases of Catgut Tetanus, By KUHN.
15. The Genesis of Gallstones, By LICHTWITZ.
16. Obituary of Nicholas Senn, By ALLEMAN.

1. **Theory of the Natural Immunity of Living Tissue.**—Holzinger declares that a certain weak degree of osmotic movement in a nutritive solution restricts the growth of microorganisms, which grow luxuriously in the same solutions when at rest, and that with a greater degree of intensity of the osmotic movement of a nutritive solution, which in a state of rest furnishes good material for the proliferation of microorganisms, will completely check such proliferation. Hence he advances the theory that the living tissue is immune because the osmotic processes in the tissue prevent the development of microorganisms that penetrate into it. It is only when there is a marked slackening of these processes and a relative rest of the tissue fluids that these become favorable nutritive material and render infection possible.

4. **Localization and Clinical Symptoms of Intracranial Extravasations of Blood in the Newly Born.**—Seitz has observed twenty-three cases of intracranial hæmorrhage in the newly born, eighteen of which were fatal. These he examined pathologically by means of frozen sections, and found that these hæmorrhages, instead of being arterial as is usual in adults, were venous almost without exception, that they were almost always subdural between

the dura and the pia, almost never in the brain substance, and rarely in the ventricles. Hematomata between the dura and the bone are rare, not extensive because of the firm adherence of the dura to the bone, and never cause symptoms of pressure on the brain. The point of greatest clinical importance is whether the hemorrhages are infratentorial, over the cerebellum and medulla, or supratentorial, over the cerebrum. The infratentorial hemorrhages are particularly dangerous, and, so far as his observation goes, are always fatal. They come from small lacerated veins which open into the transverse or neighboring sinuses. The amount of blood is usually slight, little if any over a teaspoonful. When the transverse itself is lacerated the hemorrhage is much greater and death is immediate. The danger from these little hemorrhages in this place is due to the pressure on the medulla oblongata and the centre of respiration. Only blood stained fluid, no pure blood, can be obtained by lumbar puncture. The symptoms of an infratentorial hemorrhage are said to be typical, so that a diagnosis may be made with tolerable certainty during life. The children are born either slightly or not at all asphyxiated, cry strongly and give the impression at first of perfectly healthy children. After some hours symptoms referable to the medulla oblongata appear, irregular, choppy, accelerated respiration, occasionally marked respiratory spasms with deep cyanosis. In the meantime the skin has assumed a bluish yellow pallor, and the tension of the large fontanelle is greatly increased. The breathing grows worse or the respiratory spasms become more frequent, until death occurs from twenty-four to forty-eight hours after birth. When death is somewhat longer delayed some cerebral symptoms may develop from the setting back of the blood, and if the hemorrhage takes place more in the spinal canal certain spinal symptoms will be present. Supratentorial hemorrhages are almost always unilateral and situated over the convexity of the brain. The quantity of blood is usually greater, so that more pressure is exerted upon the neighboring parts of the brain. The blood comes from lacerated veins that empty into the longitudinal sinus. The children may be born spontaneously, easily, and quickly of multipara, or they may be forceps cases. They are not asphyxiated, or revive with little difficulty and cry well. During the first day nothing wrong is to be noted; on the second day they become very restless, cry continually, and refuse to nurse. This hard crying apparently without reason is a very characteristic symptom, and in the author's experience is always present. It is caused by the painful tearing of the dura. The great fontanelle shows about this time a somewhat increased tension, and the following symptoms gradually develop, dependent on the pressure on the brain: Disturbances of respiration, especially spasms during inspiration, increase of the blood pressure, unconsciousness, and sometimes, though not as commonly as in adults, slowing of the pulse, from irritation of the vagus. The chalky white appearance of the children is very marked. In addition to these general symptoms there are local symptoms from which the seat of the hemorrhage can be determined in some cases. In all cases with marked progressive symptoms of intracranial pressure, operative inter-

vention is indicated, which has been practised sometimes with success. The five children that recovered were cases of cerebral hemorrhage. Three recovered fully and later showed no trace of mental or nervous disturbance. The fourth had nystagmus, strabismus, and athetosis of the left hand. He died when nine months old of gastroenteritis. Of the fifth nothing certain could be learned.

## Proceedings of Societies.

### AMERICAN SOCIETY OF TROPICAL MEDICINE.

*Fifth Annual Meeting, Held in Baltimore on March 28, 1908.*

The President, Dr. JAMES M. ANDERS, of Philadelphia, in the Chair.

**A Review of the Year's Progress in Tropical Medicine** was the title of the president's address. He referred to the work of the Indian Plague Commission, which has resulted in the confirmation of the suspicion that plague was transmitted from rat to rat and from rat to man by the rat flea (*Pulex cheopis*). He referred to the results of the use of Haffkine's prophylactic in reducing the mortality by about eighty-five per cent. He mentioned the work of Strong in his attempt to produce artificial immunity by the injection of attenuated living cultures of *Bacillus pestis*. He spoke of the work of Ashburn and Craig on the relation of *Culex fatigans* to the distribution of *Filaria philippinensis*, and on the development of the embryos of this nematode worm in the mosquito in question. He also referred to the work of the same authors on the transmission of dengue by the same mosquito, *Culex fatigans*. The paper by Musgrave on paragonimus infection, the discovery of a body resembling a spirochæta in a kidney from a case of yellow fever, the theory of the ætiology of beriberi advanced by Hewlett and DeKorte, with the description of a protozoon parasite; the treatment of Malta fever with a bacterial vaccine prepared from pure cultures of *Micrococcus melitensis*; the occurrence of *Entamaba coli* in the stools of apparently healthy men; the comparative study of dysenterylike bacilli by Fisher; the reports of cases of gangosa by Stitt and by Musgrave and Marshall in the Philippines; the work on human myiasis; the work of the Puerto Rico anemia commission on uncinariasis and their good results during 1906, when they treated more than 89,000 cases; the International Conference on Sleeping Sickness and Koch's suggestion that the disease might be transmitted by coitus; the formation of the International Society of Tropical Medicine at the Fourteenth International Congress of Hygiene and Demography; the establishment of the *Annals of Tropical Medicine and Parasitology* and of the *United States Naval Medical Bulletin*, were all referred to.

Dr. JOHN M. SWAN, of Philadelphia, read the report of the secretary and the report of the treasurer.

**A Memoir of the Late Dr. James Carroll** was

read by Dr. JOSEPH MCFARLAND, of Philadelphia, an honorary member of the society.

Dr. WILLIAM S. THAYER, of Baltimore, described the last illness of Dr. Carroll.

**Soil Pollution in Hookworm Disease** was the title of a paper by Dr. CHARLES WARDELL STILES, of the United States Public Health and Marine Hospital Service. Dry skin, dry hair, winged scapulæ, and tibial ulcers were constant phenomena in cases of hookworm infection. Dr. Stiles was of the opinion that the worm was a blood sucker, and said that if the worm was examined as soon as it was expelled, blood would be found in its gastrointestinal tract. Hookworm disease was more frequent in a country in which there was sandy soil than in one in which the soil was composed of clay, as illustrated in some of the southern United States. The number of cases of infection rose in districts in which there was a sandy soil, and fell in districts in which there was a clay soil. Soil pollution was the great cause for the spread of the disease. The small farms were not provided with proper privies, so that the result was a large amount of soil pollution. Dr. Stiles was of the opinion that the poor white in the South was the product of hookworm disease to a great extent. He showed a plan for a hygienic privy for small farms.

Dr. WILLIAM S. THAYER, of Baltimore, asked what could be accomplished by having the people wear shoes.

Dr. STILES said that many of the people in the rural districts of the South could not afford to buy shoes. Eighty per cent. of the cases were preceded by ground itch, but he was of the opinion that the educated people were infected through the mouth.

Dr. BAILEY K. ASHFORD, of the army, said that, so far as Puerto Rico was concerned, there was no distinction of frequency of infection as regarded the soil. In that island the infection was so prevalent and the conditions were so favorable for the development of the embryos that the character of the soil made no difference. He had seen cases of tibial ulcers which recovered following the use of thymol. He gave it as his opinion that the symptoms of uncinariasis were due to the liberation of a hæmolytic toxine. Dr. STILES said that the population of Puerto Rico was seven times as dense as that of North Carolina, for example, and that the chance for soil pollution and infection was much greater.

**Rat Extermination** was the title of a paper by Mr. D. E. LANSZ, of the United States Department of Agriculture. He said there were some 300 species of rats in the world, but there were only four species which were cosmopolitan—*Mus rattus*, the black rat; *Mus decumanus*, the gray rat; *Mus alexandrinus*, the roof rat; and *Mus musculus*, the mouse. Ninety-eight per cent. of the rats in the United States were of the species *Mus decumanus*, and about two per cent. were of *Mus rattus*. *Mus decumanus* was adaptable to all kinds of temperatures; it even lived in cold storage plants; the female had from three to five pregnancies a year, with an average of ten young at each pregnancy in the latitude of Baltimore; in the South the number in

each litter was less; in India there was an average of 8.1 to each litter. The fecundity of the rat was increased by a plentiful supply of food. *Mus decumanus* was the most destructive rodent in the world. If each farmer in the United States had one rat for every head of live stock on his place, the grain bill would be \$100,000,000 yearly. *Mus decumanus* was omnivorous; it carried plague, and disseminated trichiniasis and septic pneumonia. The latter disease he believed was often due to drinking water in which a rat had died and in which its body had decomposed. In San Francisco the sanitary authorities were catching 10,000 rats a week and expending about \$42,000 a week. About one per cent. of these rats were infected with *Bacillus pestis*. In order to exterminate rats their natural enemies must be spared—hawks, owls, and skunks. The injury done by these animals to game was not nearly so great as that done by the rats. Buildings might be kept free from rats by employing rat proof construction and by screening low windows. The guillotine trap was the best device for the destruction of the animals; the best bait was "wienerwurst." Poisons could not be placed about inhabited buildings.

**Puerto Rico as a Field for Research in Tropical Medicine.**—Dr. ASHFORD read a paper on this subject. He had seen about 15,000 patients in hospitals and dispensaries while on duty in the island, and he supposed that at least 20,000 others had been seen by his colleagues. Uncinariasis was by far the most important disease. Seven per cent. of the strength of one battalion harbored *Filaria nocturna*. Chyluria, varicose groin glands, and other filarial diseases were common. Erysipelas bore a relation to filarial disease, particularly when in the lower limb; it was sometimes confounded with malarial disease. Bilharziosis was fairly common; in one district five per cent. of the rural population were infected with *Schistosomum Mansoni*. This infection was not attended by eosinophilia. The ova were never found in the urine. The infection seemed to be on the increase, and in places it was epidemic. The most common symptoms were bloody and mucous stools with pain. Ascariis and oxyuris infections were common. In one case of the latter infection 418 worms were expelled after two doses of beta naphthol of two drachms each. Strongyloides and *Trichocephalus trichiuris* infections were common; cestodes were rare; trematodes offered a fertile field for original work. Abscess of the liver was very rare; amœbic dysentery was, consequently, not common; there was no kala azar and no trypanosomiasis. *Treponema pertenue* must exist, although the speaker had seen no cases of yaws. Malaria was common in certain valleys and coast districts. Typhoid fever was very fatal and was becoming a cause for alarm. Puerto Rico offered a favorable opportunity for the use of anti-plasmodium. Bacillary dysentery was not common at present, although it might be epidemic at times. There was no plague, no cholera, no yellow fever, and no Malta fever. There was some typhus, an occasional case of glanders, tetanus in infancy, and sprue occasionally. Trichinosis was met in the towns, but not in the mountains; beriberi might be confirmed with accuracy. There had been a great change in the



attitude of the people toward hygienic methods since the successful work of the anæmia commission.

Dr. STILES said that he had seen endemic cases of bilharziosis in Florida. He was of the opinion that the disease was much more common in this country than was usually thought to be the case. He was coming to believe that the separation of *Schistosomum Mansoni* from *Schistosomum hæmatobium* was justifiable. The fasciola found in Puerto Rico was a new species. He said that the ordinary treatment of oxyuris infection was wrong. The adult worms lived in the small intestine and should be driven into the large intestine by an anthelmintic before local injections were given.

Dr. JOHN M. SWAN, of Philadelphia, said that within the last month, through the kindness of Dr. A. A. Eshner, he had had the opportunity of examining the blood of a stout African negro in whom there was an infection with *Schistosomum Mansoni*. The blood had shown only 4.2 per cent. of eosinophile cells. He said that he had succeeded on one occasion in expelling four adult specimens of *Trichocephalus trichiuris*, two males and two females, with thymol, used as advised by the Puerto Rico anæmia commission.

Dr. JUDSON DALAND, of Philadelphia, said that kala azar might in the future be imported into the West Indies by the coolie laborers from India.

**Vaccination Against Plague.**—Dr. C. P. EMERSON, of Baltimore, read this paper, by Dr. RICHARD P. STRONG, of Manila. He described the treatment of persons exposed to plague by the injection of attenuated living cultures of the *Bacillus pestis*. He had vaccinated 200 persons. There was no severe reaction. There was a little induration and redness, with soreness on pressure, at the point of inoculation. There had been no serious results so far. The examination of tissues from apes after the inoculations showed the presence of the organisms in the tissues. The bacilli evidently reproduced for a time and then died off. Vaccination should be done only when the operator could guarantee the organism to have lost all virulence. The stability of the virulence of the *Bacillus pestis* necessitated the greatest precautions and repeated testing on guinea pigs. A higher degree of immunity was obtained by this method than by any other.

Dr. WILLIAM H. WELCH, of Baltimore, said that there was no instance of substantial protection from disease by the injection of killed organisms. It was only by the injection of living cultures that we could expect to get the best results in protective vaccination. The vaccination against smallpox, anthrax, rinderpest, and tuberculosis in cattle was all done with living organisms. There seemed to be little hope in the direction of vaccination with killed organisms.

**Quinine Prophylaxis and Mechanical Prophylaxis of Malaria.**—Dr. WILLIAM S. THAYER, of Baltimore, read this paper. Malarial prophylaxis by mechanical appliances included the protection of human beings from the bites of mosquitoes by screening, burning pyrethrum powder in the houses daily, and wearing protective articles of clothing on the head and hands while out of doors. These methods had been carried out best by the Italians, both officially and through the efforts of private corpora-

tions. On the railways which ran through very malarial districts, and on which these methods had been employed, the incidence of the disease had been much reduced. The method was expensive, troublesome, and often impracticable. The Italians had done much work in the destruction of the malarial parasite within the human host by the prophylactic use of quinine. The spring relapses initiated the regular malarial season. In every relapse, according to certain methods of treatment, the patient received one or two grammes of quinine daily until the infection was eradicated. Then he received one gramme every eighth or ninth day for two months.

There were many objections to this method of treatment—that the patient forgot it was not the least of these. Consequently, instead of this routine the patients were treated vigorously until the infection was conquered, and then small doses of quinine, six grains daily, were given for a prolonged period. Also all the inhabitants of a malarial district received this prophylactic dose of quinine, two grains three times a day, throughout the malarial season. The results of continuous treatment were much better than those of intermittent treatment. The difficulties in the way of the general adoption of this form of treatment were the expense of the method and the lack of appreciation of its value on the part of the public. In order to adopt a system of quinine prophylaxis, furthermore, it was necessary to furnish the drug in a form not too unpleasant for both adults and children. In Italy the government sold quinine bisulphate or quinine dihydrochloride in sugar coated tablets for adults, and as quinine tannate made into a confection with chocolate for children. These forms were readily absorbed, and the children took the latter form of the drug readily. The tannate confections were supplied by a private corporation, because there is a member of the Italian government who believes that quinine tannate was not readily absorbed. Dr. Thayer exhibited tables which showed that under this system of quinine prophylaxis there was less malarial disease in Italy than formerly, even in intensely malarial districts, and which also showed that the death rate was much less. The state made a profit on the sale of the quinine. If the state would take up the sale of quinine tannate for the children, the results would be better than they were now. In the malarial districts of the United States there was need of cooperation of the municipal, county, State, and national governments to establish some such system. In addition, the cooperation of local boards of health and medical societies was required to educate the public to the necessity for the adoption and continuation of such a measure. The physician should be educated in the modern methods of combating and recognizing the disease, and an efficient and agreeable form of quinine should be offered for sale at a low rate.

**Mosquito Extermination.**—Dr. L. O. HOWARD, of the Department of Agriculture, read a paper on this subject. He said that the Italian method of prophylaxis was by giving quinine; the German method was to prevent the mosquito from biting the infected individual; but the American method was to destroy the breeding places of the mosquitoes. He pointed out some of the fallacies that had so far been discovered in the methods of working out the

problem, and showed the necessity for studying the habits of the insects and for discovering the varieties of mosquitoes that were able to transmit the disease. He said that mosquitoes would breed in salt water, in the bilge water in vessels, in holes in the trunks of trees, and in other out of the way places. He exhibited a number of lantern slides showing mosquito breeding places and the methods adopted in various parts of the United States to destroy these breeding places.

**A Tank in which Live Mosquito Larvæ and Pupæ Might be Exhibited**, by being thrown on the screen by an ordinary projection apparatus, was shown by Dr. WILLIAM N. HILL, of Baltimore.

Dr. EDWARD R. STITT, of the navy, called attention to the difficulties of drainage in the tropics, and to the difficulties in inducing persons to use mosquito net constantly, on account of the climatic peculiarities. In places in the Philippines it was necessary to use oil after burning off the tropical undergrowth. Tadpoles were of use in destroying larvæ, and their development should be encouraged in places in which mosquitoes bred. When he was serving as the medical officer of the Nicaragua Canal Commission, he was told by a physician who had had much experience in the tropics that quinine prophylaxis was unsatisfactory, and that when persons who had taken prophylactic doses of quinine became infected their attacks were harder to cure, and that relapses were more common and were difficult to cure. He spoke of two instances which seemed to show that the malarial parasite could acquire a resistance to quinine.

Dr. W. E. ROBERTSON, of Philadelphia, said that he had seen twenty cases of malarial disease which were contracted in Colon, in which the patients had received quinine prophylactically. In these cases it was difficult to demonstrate the organism, and it was only after the use of quinine hypodermatically that a cure was obtained. One of the patients had gangrene of the skin after this form of treatment, and another had a severe attack of multiple neuritis.

Dr. STILES said that we ought to say protection against mosquitoes and not mosquito extermination in speaking of malaria prophylaxis. The doctrine of mosquito extermination was doing harm, because it was such an expensive procedure that communities were staggered when they considered the necessary outlay. Mosquito extermination, for this reason, was not practicable in many districts in the South. In these districts, however, it was possible to protect against mosquitoes.

Dr. HILL said that it was practicable to eradicate mosquitoes. It was an economic question. Drainage of land worth little increased its value several hundred times. It required the cooperation of the town, county, State, and national governments.

Dr. WILLEN thought that probably the chances of infection might be diminished by taking quinine.

Dr. HAMILTON WRIGHT, of Washington, said that he had been in charge of sanitary measures for the eradication of malaria at Port Swettenham, Federated Malay States. Every form of prophylaxis known was adopted, and in six weeks there was no malaria in the port. This result was accomplished at a cost of \$50,000.

Dr. THAYER said that it was advisable to employ

every prophylactic measure. Quinine should be used for at least a month after the malarial paroxysms had ceased. It was well known that relapses were less tractable than the original attacks. He did not think that the previous administration of prophylactic doses of quinine lessened the number of parasites in the peripheral blood in cases of fresh infection.

**Strongyloides Intestinalis in Philadelphia.**—Dr. DALAND read this paper. He reported a case of infection originating in a Philadelphian who had spent six days in Mexico six years before. The history of the case seemed to exclude water infection. The blood of this patient contained from 38.2 to 27 per cent. of eosinophile cells. The reduction in the number of eosinophile cells was coincident with improvement in the symptoms of the infection. The author described experiments made with the feces of the patient, in which he succeeded in developing both male and female adults from proper culture materials, and from which he succeeded in infecting guinea pigs by the application of the feces to a shaved area of the abdomen. The tail of the male worm was supplied with a bursa, and there were some other anatomical features which seemed to show that the parasite was a new species.

Dr. STILES brought some theoretical objections to the acceptance of this as a new parasite, the chief of which was that the earth and water used in making the cultures had not been sterilized.

Dr. THAYER said that the frequency of the occurrence of ova in the stools of the patient and the presence of such a high eosinophilia seemed to show some differences from the ordinary strongyloides infection.

Dr. DALAND said that ova in which embryos were about to escape were common in the stools at the present time.

Dr. ALLEN J. SMITH had reported to Dr. Daland that the parasite seemed to be a new species.

**The Comparative Morphology of the Spirochætæ of Syphilis and Yaws.**—Dr. F. F. RUSSELL, of the army, read a paper thus entitled. The author said that there appeared to be differences in morphology which were regular and constant, and that the species were distinct.

The society then adjourned to the Laboratory of Chemical Pathology, where Dr. TERRY, of New York, gave a demonstration of living spirochætæ and trypanosomes.

The following papers were read by title: Report of the Society's Representative at the Third International Sanitary Convention of American Republics, Dr. R. H. von Ezdorf, of the Public Health and Marine Hospital Service; Twenty Years' Experience with the Hypodermic Use of Quinine and Urea Hydrochloride in Malarial Infection, with Remarks on the Thirteen to Fourteen Days' Cycle of Freedom Produced by a Single Injection, by Dr. S. Solis Cohen, of Philadelphia; A Biographical Note of Dr. Louis Eschscholtz, by Dr. Aristides Agramonte, of Havana; Some Notes on a Collection of Larvæ Made by Dr. F. C. Reddick, Wellman in Portuguese West Africa, by Dr. Henry B. Ward, of Lincoln, Nebraska; The Pathogenesis of Pernicious Malaria, by Dr. William H. Deader-

ick, of Marianna, Arkansas; Clinical Charts of Quartan Malarial Fever Observed in the West Africa, with Commentary, by Dr. F. Creighton Wellman, of Benguella, Angola, West Africa; History of a Case of Malarial Fever, Algid Form, Choleraic Type, by Dr. R. H. von Ezdorf; The Prevention of Tropical Abscess of the Liver by the Early Diagnosis and Treatment of the Presuppurative Stage of Amœbic Hepatitis, by Dr. Leonard Rogers, of Bombay; and A Review of the Recent Work on Spirillar Fevers, by Dr. F. Percival Mackie, of Bombay.

Officers for the Ensuing Year were elected as follows: President, Dr. James M. Anders, of Philadelphia; vice presidents, Dr. William S. Thayer, of Baltimore, and Dr. Rudolph Matas, of New Orleans; treasurer, Dr. Wharton Sinkler, of Philadelphia; secretary, Dr. John M. Swan, of Philadelphia; assistant secretary, Dr. Edward R. Stitt, of the navy; councillors, to serve for two years, Dr. George Dock, of Ann Arbor, Mich., and Dr. Joseph McFarland and Dr. Judson Daland, of Philadelphia.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Production and Handling of Clean Milk.* By KENELM WINSLOW, M. D., M. D. V., B. A. S. (Harv.), Formerly Instructor in Bussey Agricultural Institute and Assistant Professor in the Veterinary School of Harvard University, etc. New York: William R. Jenkins Company, 1907. Pp. 207. (Price, \$2.50.)

A glance at the title page indicates clearly the author's qualifications for the work he has undertaken, and the finished product of his mind often bears ample testimony to Dr. Winslow's fitness for the task. There are three introductory chapters devoted to Germs in their General Relation to Milk; Composition of Milk and Cream and Their Products; and Milk Products; then four—Feeding for Milk; Housing and Care of Cows; Handling of Milk and Cream; Cost of Producing and Distributing Clean Milk. Chapters viii and ix are devoted to milk distribution and inspection. These are followed by an appendix relating to the construction of barns and milk houses and their proper maintenance and care; and lastly we find a general outline of a scheme for the control, supervision, and inspection of a city milk supply.

We have rarely laid down a book the perusal of which has given us so much pleasure. It is simple, instructive, and practical, and the physician who masters its contents will be in a position to influence the dairy farmer in his rural surroundings greatly and aid the general present movement in the effort to secure clean milk at its point of production. The work is well illustrated with cuts of improved dairy apparatus, etc.

We have but one fault to find—the price seems too high. Two dollars would have been ample, and would, we think, lead to a much larger sale, and correspondingly increase its influence in the community.

*Medical Lectures and Aphorisms.* By SAMUEL GEE, M. D., Fellow of the Royal College of Physicians, Honorary Physician to H. R. H. the Prince of Wales, and Consulting Physician to St. Bartholomew's Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1908. Pp. viii-308.

"Samuel Gee" we read on the title page, and "S. J. Gee" and "Samuel Jones Gee" on the cover. Dr. Gee, whatever his full name may be, has given us a charming little book. It is not one to which the practitioner will resort to "read up," but it is one which the scholarly physician may pick up at any time, and, opening it at almost any page, find profitable and entertaining reading.

Our author is evidently a man of erudition, and his style is somewhat suggestive of the late Sir Thomas Watson's, though he has not Watson's elegance of diction. He is inclined to be aphoristic, and this tendency occasionally leads him to make statements that it might be difficult to prove. For example (on page 15) he says: "Apoplexy signifies deep coma coming on suddenly and lasting till death." Of course, the coma does not last till death in cases of recovery, however temporary and incomplete, from an apoplectic stroke.

Dr. Gee's reasoning is always consonant with plausibility, though it is not invariably convincing. One of the best examples in the book is to be found in his lecture on the nature of asthma (page 129). Almost the whole of the book is good, and we advise our readers to obtain it. If they once begin to read it they will hardly let it alone till they have finished it. The present edition is the third, though it is not so stated on the title page.

*The Semiinsane and the Semiresponsible* (Demifous et Demiresponsables). By JOSEPH GRASSET, Professor of Clinical Medicine at the University of Montpellier, etc. Authorized American Edition, Translated by SMITH ELY JELLIFFE, M. D., Ph. D., Clinical Professor of Mental Diseases Fordham University, New York. New York and London: Funk & Wagnalls Company, 1907. Pp. xxv-415.

Dr. Grasset remarks in his preface: "Society knows to-day that, if it has any rights in connection with criminals, it has also duties toward the diseased. And, further, in the presence of a misdemeanor or a crime it ought to put the question, Should the accused be punished or should he be treated?" To this the author gives his answer, which he demonstrates in his book thus: The accused may be entirely responsible, and ought to be punished; or he is entirely irresponsible, and ought to be treated; or he has an attenuated responsibility, and ought to be first placed in prison and later in a hospital.

This third group, that of the borderland type, is the main subject of the book, and the author comes to the conclusion that the semiinsane and the semiresponsible have rights which should be taken into consideration, legally as well as scientifically. They are described as they appear in literature, on the stage, and in history, and as they are met in daily practice by the specialist. We find among them persons of genius who have been of great benefit to mankind, and, again, persons whose actions have been of great detriment and danger to their fellow men.

The book has been well translated and will certainly find a ready audience among physicians, jurists, and laymen.





grade of first lieutenant in said corps shall be subject to examination as hereinafter provided: Provided, That the increase in grades of colonel, lieutenant colonel, and major provided for in this act shall be filled by promotion each calendar year of not exceeding two lieutenant colonels to be colonels, three majors to be lieutenant colonels, fourteen captains to be majors, and of the increase in the grade of first lieutenant of not more than twenty-five per centum of the total of such increase shall be appointed in any one calendar year: Provided further, That those assistant surgeons who at the time of the approval of this act shall have attained their captaincy by reason of service in the volunteer forces under the provisions of the Act of February 2, 1901, Section 18, or who will receive their captaincy upon the approval of this act by virtue of such service, shall take rank among the officers in or subsequently promoted to that grade, according to date of entrance into the Medical department of the Army as commissioned officers.

Section 4. That no person shall receive an appointment as first lieutenant in the Medical Corps unless he shall have been examined and approved by an Army medical board consisting of not less than three officers of the Medical Corps, designated by the Secretary of War.

Section 5. That no officers of the Medical Corps below the rank of lieutenant colonel shall be promoted therein until he shall have successfully passed an examination before an Army medical board consisting of not less than three officers of the Medical Corps, to be designated by the Secretary of War and to be held at such time anterior to the accruing of the right to promotion as may be for the best interest of the Service: Provided, That should any officer of the Medical Corps fail in his physical examination and be found incapacitated for service by reason of physical disability contracted in the line of duty, he shall be retired with the rank to which his seniority entitled him to be promoted; but if he should be found disqualified for promotion for any other reason, a second examination shall not be allowed, but the Secretary of War shall appoint a board of review to consist of three officers of the Medical Corps superior in rank to the officer examined, none of whom shall have served as a member of the board which examined him. If the unfavorable finding of the examining board is concurred in by the board of review, the officer reported disqualified for promotion shall, if a first lieutenant or captain, be honorably discharged from the Service with one year's pay; and, if a major or lieutenant colonel, shall be debarrd from promotion and the officer next in rank found qualified shall be promoted to the vacancy. If the action of the examining board is disapproved by the board of review, the officer shall be considered qualified and shall be promoted.

Section 6. That nothing in this act shall be construed to legislate out of the Service any officer now in the Medical Department of the Army, nor to affect the relative rank on promotion of any medical officer now in the Service, or who may hereafter be appointed therein, as determined by the date of his appointment or commission, except as herein otherwise provided in Section 3.

Section 7. That for the purpose of securing a reserve corps of medical officers available for military service, the President of the United States is authorized to issue commissions as first lieutenants therein to such graduates of reputable schools of medicine, citizens of the United States as shall from time to time, upon examination to be prescribed by the Secretary of War, be found physically, mentally and morally qualified to hold such commissions, the persons so commissioned to constitute and be known as the Medical Reserve Corps. The commissions so given shall confer upon the holders all the authority, rights, and privileges of commissioned officers of the like grade in the Medical Corps of the U. S. Army, except promotions, but only when called into active duty, as hereinafter provided, and during the period of such active duty. Officers of the Medical Reserve Corps shall have rank in said corps according to date of their commissions therein, and when employed on active duty, as hereinafter provided, shall rank next below all other officers of like grade in the U. S. Army: Provided, That contract surgeons now in the military service, who, upon the favorable recommendation of the Surgeon General of the Army shall be eligible for appointment in the Medical Reserve Corps, without further examination, provided that they are not less than twenty-seven

may order officers of the Medical Reserve Corps to active duty in the service of the United States in such numbers as the public interests may require, and may relieve them from such duty when their services are no longer necessary: Provided, That nothing in this act shall be construed as authorizing an officer of the Medical Reserve Corps to be ordered upon active duty as herein provided who is unwilling to accept such service, nor to prohibit an officer of the Medical Reserve Corps not designated for active duty from service with the militia, or with the volunteer troops of the United States, or in the service of the United States in any other capacity, but when so serving with the militia or with volunteer troops, or when employed in the service of the United States in any other capacity, an officer of the Medical Reserve Corps shall not be subject to call for duty under the terms of this section: And provided further, That the President is authorized to honorably discharge from the Medical Reserve Corps any officer thereof whose services are no longer required: And provided further, that officers of the Medical Reserve Corps who apply for appointment in the Medical Corps of the Army may, upon the recommendation of the Surgeon General, be placed on active duty by the Secretary of War and ordered to the Army Medical School for instruction and further examination to determine their fitness for commission in the Medical Corps.

Section 8. That officers of the Medical Reserve Corps when called upon active duty in the service of the United States, as provided in Section 8 of this act, shall be subject to the laws, regulations, and orders for the government of the Regular Army, and during the period of such service shall be entitled to the pay and allowances of first lieutenants of the Medical Corps with increase for length of service now allowed by law, said increase to be computed only for time of active duty: Provided, That no officer of the Medical Reserve Corps shall be entitled to retirement or retirement pay, nor shall he be entitled to pension except for physical disability incurred in the line of duty while in active duty: And provided further, That nothing in this act shall be construed to prevent the appointment in time of war of medical officers of volunteers in such numbers and with such rank and pay as may be provided by law.

Section 10. That all acts and parts of acts in conflict with the provisions of this act are hereby repealed.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

*The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending April 10, 1908:*

Smallpox United States.			
Places.	Date.	Cases.	Deaths.
California—Los Angeles.....	March 14-21.....	9	
California—San Bernardino County.....	March 19-20.....	6	
California—San Francisco.....	March 19-20.....	18	
District of Columbia—Washington.....	March 14-28.....	23	
Florida—Jacksonville.....	March 21-28.....	1	
Illinois—Rockford.....	March 21-28.....	1	
Illinois—Springfield.....	March 19-26.....	4	
Indiana—Elkhart.....	March 21-28.....	1	
Indiana—Evansville.....	April 1.....	1	
Indiana—Indianapolis.....	March 22-29.....	4	
Iowa—Ottumwa.....	March 21-28.....	2	
Iowa—Sioux City.....	March 13-1.....	16	
Kansas—Kansas City.....	March 21-28.....	18	
Louisiana—New Orleans.....	March 21-28.....	10	
Michigan—Detroit.....	March 21-28.....	2	
Michigan—Grand Rapids.....	March 21-28.....	4	
Michigan—Kalamazoo.....	March 21-28.....	2	
Minnesota—Winnipeg.....	March 21-28.....	2	
Missouri—Kansas City.....	March 14-28.....	16	
Missouri—St. Louis.....	March 11-21.....	30	
Missouri—St. Louis.....	March 21-28.....	2	
Montana—St. Louis.....	March 11-21.....	58	
Nebraska—Nebraska City.....	March 11-21.....	4	
Ohio—Cincinnati.....	Feb. 22-March 19.....	15	
Ohio—Toledo.....	March 11-21.....	2	
Texas—San Antonio.....	March 26-28.....	11	
Washington—Seattle.....	March 22-21.....	13	
Washington—Tacoma.....	March 11-21.....	1	
Washington—Medford.....	March 21-28.....	1	
Wisconsin—Racine.....	March 21-28.....	5	
West Virginia—Martinsburg.....	March 11-21.....	2	

## Smallpox—Foreign.

Brazil—Paraná.....	Feb. 29-March 7.....	1	
Canada—Toronto.....	March 14-20.....	7	
China—Amoy (Kiamoo).....	Jan. 23-Feb. 15.....		Present
China—Fuschow.....	Feb. 20-29.....		Present
China—Shanghai.....	Feb. 9-16.....	4	7
Ecuador—Guayaquil.....	Feb. 29-March 14.....	5	
France—Paris.....	March 8-14.....	3	
India—Bombay.....	Feb. 26-March 3.....	50	
India—Calcutta.....	Feb. 8-15.....	2	
Italy—Genoa.....	March 5-12.....	2	
Java—Batavia.....	Feb. 8-15.....	2	
Mexico—Veracruz Calientes.....	March 8-15.....	1	
Portugal—Lisbon.....	March 7-14.....	1	
Spain—Denia.....	Feb. 29-March 14.....	10	
Spain—Valencia.....	March 8-15.....	27	
Turkey—Bagdad.....	Feb. 14-21.....	20	

## Typhoid Fever—Foreign.

Barbadoes—Bridgetown.....	March 7-14.....	1	
Brazil—Rio de Janeiro.....	Feb. 2-March 13.....	7	
Ecuador—Guayaquil.....	Feb. 29-March 14.....	11	

## Typhoid Fever—Foreign.

India—Bombay.....	Feb. 6-March 3.....	1	
India—Calcutta.....	Feb. 8-15.....	129	
India—Madras.....	Feb. 23-29.....	9	
India—Rangoon.....	Feb. 13-20.....	1	

## Plague—Foreign.

Brazil—Paraná.....	Feb. 29-March 7.....	1	
India—Bombay.....	Feb. 26-March 3.....	183	
India—Calcutta.....	Feb. 8-15.....	13	
India—Rangoon.....	Feb. 13-20.....	27	

## Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and non-commissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending April 8, 1908:*

**BLUE, RUPERT**, Passed Assistant Surgeon. Detailed to attend the meetings of the State Health Officers of California, at Coronado, Cal., April 20, 1908, and of the State Medical Society, at the same place, April 21, 1908, and to attend the meeting of the City Board of Health at San Diego, Cal.

**BRYAN, W. M.**, Assistant Surgeon. Bureau orders of March 25, 1908, assigning to temporary duty at the quarantine station, Quarantine, La., amended to read "for duty and assignment to quarters."

**CARMICHAEL, D. A.**, Surgeon. Leave of absence granted for ten days from March 25, 1908, on account of sickness, amended to read for six days.

**DELGADO, J. M.**, Acting Assistant Surgeon. Granted leave of absence for twenty-three days from March 3, 1908, on account of sickness.

**FAUNTLEROY, CHARLES M.**, Assistant Surgeon. Directed to report to the medical officer in command, New Orleans, La., for duty and assignment to quarters.

**GOLDBERGER, JOSEPH**, Passed Assistant Surgeon. Granted leave of absence for five days from March 3, 1908, under provisions of paragraph 191, Service Regulations.

**HAMILTON, JAMIN H.**, Acting Assistant Surgeon. Granted leave of absence for thirty days from February 22, 1908, on account of sickness.

**HART, LASHER**, Assistant Surgeon. Directed to proceed to Stapleton, N. Y., reporting to the medical officer in command at that port for duty and assignment to quarters.

**HOLT, E. M.**, Pharmacist. Directed to proceed to New Orleans, La., for special temporary duty, upon completion of which to rejoin his station.

**KEEN, W. H.**, Pharmacist. Granted leave of absence for two days from March 30, 1908, under paragraph 210, Service Regulations.

**KRULISH, E.**, Assistant Surgeon. Granted leave of absence for two days from March 24, 1908, under paragraph 191, Service Regulations.

**LANZA, A. J.**, Assistant Surgeon. Relieved from duty at the Marine Hospital at San Francisco, Cal., and directed to report April 15, 1908, to the commanding officer of the revenue cutter *Manning*.

**McCONNON, GEORGE H.**, Assistant Surgeon. Directed to proceed to Port Townsend, Wash., reporting to the commanding officer of the U. S. revenue cutter *Rush* for duty.

**MATTHEWS, H. S.**, Passed Assistant Surgeon. Directed to report to the medical officer in command at the quarantine station, Quarantine, La., from time to time, for the purpose of examining aliens reported to be public charges.

**OAKLEY, J. H.**, Passed Assistant Surgeon. Directed to assume temporary charge of the Marine Hospital at Port Townsend, Wash., during the absence of Surgeon Stimpson on leave.

**OLESEN, ROBERT**, Assistant Surgeon. Directed to proceed to San Francisco, Cal., reporting to the medical officer in command for duty and assignment to quarters.

**ROBERTS, NORMAN**, Assistant Surgeon. Directed to proceed to Baltimore, Md., from time to time, for special temporary duty, upon completion of which to rejoin his station.

**RUCKER, W. C.**, Passed Assistant Surgeon. Detailed to attend the meetings of the State Health Officers of California, at Coronado, Cal., April 20, 1908, and of the State Medical Society, at the same place, April 21, 1908, and to attend the meeting of the City Board of Health at San Diego, Cal.

**RYDER, L. W.**, Pharmacist. Granted leave of absence for three days from April 6, 1908, under paragraph 210, Service Regulations.

**SIMONSON, G. T.**, Acting Assistant Surgeon. Leave of absence granted for two days from March 31, 1908, revoked.

**STEARNS, H. H.**, Acting Assistant Surgeon. Granted leave of absence for one day, March 27, 1908, under paragraph 210, Service Regulations.

**STIMPSON, W. G.**, Surgeon. Bureau order of March 11, 1908, directing to report to the commanding officer of the revenue cutter *Thetis* for temporary duty, revoked; granted leave of absence for six days from April 7, 1908.

**STONER, G. W.**, Surgeon. Granted leave of absence for five days from March 30, 1908, under paragraph 189, Service Regulations.

**THOMAS, J. M.**, Acting Assistant Surgeon. Directed to make inspection of certain stations in Cuba, returning to New Orleans upon completion thereof.

**VAN NISS, GEORGE I.**, Pharmacist. Granted leave of absence for thirty days from April 3, 1908.

**WALKER, R. T.**, Acting Assistant Surgeon. Granted leave of absence for twenty days from April 27, 1908.

**WARNER, H. J.**, Assistant Surgeon. Directed to proceed to Baltimore, Md., reporting to the medical officer in command at that port for duty and assignment to quarters.

**WERTENBAKER, C. P.**, Surgeon. Directed to proceed to Cape Charles quarantine station for special temporary duty, upon completion of which to rejoin his station at Norfolk, Va.

**WETMORE, W. C.**, Acting Assistant Surgeon. Granted leave of absence for one day from March 31, 1908, under paragraph 210, Service Regulations.

**WIGHTMAN, WILLIAM M.**, Assistant Surgeon. Relieved from duty at Callao, Peru, and directed to proceed to Guayaquil, reporting to Passed Assistant Surgeon Lloyd for duty.

**WILSON, J. G.**, Acting Assistant Surgeon. Granted leave of absence for two days from March 21, 1908, under paragraph 210, Service Regulations.

**WOOD, CHARLES A.**, Assistant Surgeon. Directed to proceed to Baltimore, Md., reporting to the medical officer in command at that port for duty and assignment to quarters.

## Appointments.

Dr. H. J. Warner commissioned as Assistant Surgeon in the Public Health and Marine Hospital Service, April 3, 1908.

Dr. Charles T. Wood commissioned as Assistant Surgeon in the Public Health and Marine Hospital Service, April 3, 1908.

Dr. Charles M. Fauntleroy commissioned as Assistant Surgeon in the Public Health and Marine Hospital Service, April 3, 1908.

Dr. Robert Olesen commissioned as Assistant Surgeon in the Public Health and Marine Hospital Service, April 4, 1908.

Dr. George H. McConnon commissioned as Assistant Surgeon in the Public Health and Marine Hospital Service, April 6, 1908.

Dr. Lasher Hart commissioned as Assistant Surgeon in the Public Health and Marine Hospital Service, April 6, 1908.



*Resignations.*

Passed Assistant Surgeon H. A. Stansfield; resignation accepted by direction of the President, to take effect March 23, 1908.

Acting Assistant Surgeon W. J. Linley resigned, to take effect April 1, 1908.

*Boards Convened.*

Boards of medical officers were convened to meet on April 9, 1908, for the purpose of making physical examination of such officers of the U. S. Revenue Cutter Service as should present themselves for that purpose, as follows: New York, N. Y.: Passed Assistant Surgeon H. W. Wickes, chairman; Acting Assistant Surgeon, T. Mahoney, recorder.

San Francisco, Cal.: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon C. H. Gardner, recorder.

Baltimore, Md.: Surgeon L. L. Williams, chairman; Passed Assistant Surgeon J. T. Burkhalter, recorder.

Wilmington, N. C.: Passed Assistant Surgeon C. H. Lavinder, chairman; Acting Assistant Surgeon \_\_\_\_\_, recorder.

Key West, Fla.: Surgeon C. E. Banks, chairman; Acting Assistant Surgeon S. W. Light, recorder.

Mobile, Ala.: Surgeon G. M. Guiteras, chairman; Acting Assistant Surgeon J. O. Rush, recorder.

Port Townsend, Wash.: Passed Assistant Surgeon J. H. Oakley, chairman; Acting Assistant Surgeon Robert Lyall, recorder.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending April 11, 1908:*

CARTER, W. F., Major and Surgeon. Appointed a member of an examining board to meet at Fort Monroe, Va., for the examination of officers of the Coast Artillery Corps for promotion.

DAVIS, W. R., Captain and Assistant Surgeon. Appointed a member of an examining board to meet at Fort Baker, Cal., for the examination of applicants for commission in volunteer forces.

JUENEMANN, G. F., First Lieutenant and Assistant Surgeon. Appointed a member of an examining board to meet at Fort Baker, Cal., for the examination of applicants for commission in volunteer forces.

LAGARDE, L. A., Lieutenant Colonel and Deputy Surgeon General. Arrived at Denver, Col., for duty as Chief Surgeon, Department of Colorado.

RAGAN, C. A., First Lieutenant and Assistant Surgeon. Appointed a member of an examining board to meet at Fort Monroe, Va., for the examination of officers of the Coast Artillery Corps for promotion.

**Navy Intelligence:**

*Official list of changes in the medical corps of the United States Navy for the week ending March 14, 1908:*

ABEKEN, G. F., Passed Assistant Surgeon. Detached from the naval training station, San Francisco, Cal., and ordered to the *West Virginia*.

BACON, S., Acting Assistant Surgeon. Ordered to duty at the Naval Hospital, New Fort Lyon, Col.

BIELLO, J. A., Acting Assistant Surgeon. Ordered to duty at the Naval Hospital, Portsmouth, N. H.

BISHOP, L. W., Passed Assistant Surgeon. Detached from the naval training station, Newport, R. I., and ordered to the *Hancock*.

GREEN, E. H., Medical Inspector. Detached from the Navy Yard, New York, and ordered to command the Naval Hospital, New York, N. Y.

HARMON, G. E. H., Medical Director. Detached from command of the Naval Hospital, New York, N. Y., and ordered home to await orders.

HOUGH, F. P. W., Acting Assistant Surgeon. Ordered to the naval proving ground, Indian Head, Md.

LUNG, G. A., Surgeon. Detached from the *Hancock* and ordered to the Navy Yard, New York, N. Y.

MCGUIRE, L. W., Acting Assistant Surgeon. Ordered to duty at the Naval Hospital, Charleston, S. C.

MELBORN, K. C., Acting Assistant Surgeon. Ordered to the *Wabash*.

MORGAN, C. R., Acting Assistant Surgeon. Resignation accepted, to take effect April 8, 1908.

PAGE, J. E., Surgeon. Retired from active service from April 3, 1908, under the provisions of section 1453, Revised Statutes.

PLUMMER, R. W., Passed Assistant Surgeon. Ordered to the *Idaho*.

RHOADES, G. C., Acting Assistant Surgeon. Ordered to the *Franklin*.

RICHARDS, T. W., Surgeon. Ordered to the *Kansas* when discharged from treatment at the Naval Hospital, Mare Island, Cal.

STALNAKER, P. R., Assistant Surgeon. Detached from the *West Virginia* and ordered to instruction at the Naval Medical School, Washington, D. C.

STEARNE, Assistant Surgeon. Appointed assistant surgeon from March 19, 1908.

WICKES, G. L., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 12, 1908.

ZIEGLER, J. Z., Acting Assistant Surgeon. Appointed an acting assistant surgeon from April 6, 1908.

**Births, Marriages, and Deaths.***Married.*

BROPHY—STRAWBRIDGE.—In Moorestown, New Jersey, on Tuesday, March 31st, Dr. Thomas W. Brophy, of Chicago, and Mrs. Esther W. Strawbridge.

DOUGLASS—ELLIS.—In Rome, New York, on Saturday, April 4th, Dr. Adelbert C. Douglass, of Ilion, and Miss Frances H. Ellis.

HAYDEN—HOWARD.—In Washington, D. C., on Thursday, April 2d, Dr. Reynolds Hayden, United States Navy, and Miss Belle Howard.

WETZEL—WHALEY.—In Covington, Ohio, on Friday, April 3d, Dr. Henry S. Wetzel, of Dayton, and Miss Mary Whaley, of Osborne.

*Died.*

BENNETT.—In Battle Creek, Michigan, on Wednesday, April 1st, Dr. C. T. Bennett, aged sixty-three years.

BLACK.—In Louisville, Kentucky, on Sunday, April 5th, Dr. Edward Henry Black, aged eighty-eight years.

CABANNE.—In St. Louis, Missouri, on Tuesday, April 7th, Dr. James Shepard Cabanne, aged sixty-nine years.

CLAGETT.—In Baltimore, Maryland, on Saturday, April 4th, Dr. Joseph E. Clagett, aged seventy-seven years.

CLAPP.—In Geneva, New York, on Saturday, April 28th, Dr. Henry D. Clapp, aged thirty-four years.

EGERT.—In Holland Patent, New York, on Wednesday, April 1st, Dr. Philip Merriman Egert, aged forty-four years.

GRIFFITHS.—In Louisville, Kentucky, on Friday, April 10th, Dr. George W. Griffiths, aged fifty years.

HARWOOD.—In Sandwich, Ontario, Canada, on Monday, April 6th, Dr. Charles Harwood, aged sixty-three years.

HIGBEE.—In St. Paul, Minnesota, on Friday, April 3d, Dr. Chester Goss Higbee, aged seventy-three years.

LOWENGRUND.—In Philadelphia, on Wednesday, April 1st, Dr. Lee Lowengrund, aged fifty-five years.

MARTIN.—In Mendota, Washington County, Virginia, on Friday, April 3d, Dr. J. T. Martin, aged sixty-three years.

MOLYNEAUX.—In Woodland, Illinois, on Friday, April 3d, Dr. James C. Molyneaux, aged fifty years.

O'CONNELL.—In Montclair, New Jersey, on Saturday, April 4th, Dr. Joseph Francis O'Connell, aged fifty years.

PEAKER.—In Toronto, Canada, on Sunday, April 5th, Dr. J. W. Peaker, aged forty-three years.

ROUSE.—In York, Pennsylvania, on Friday, April 10th, Dr. Samuel J. Rouse, aged eighty years.

SELDEN.—In Hampton, Virginia, on Saturday, April 4th, Dr. Charles Selden, aged seventy years.

STEBBINS.—In Geneva, New York, on Wednesday, April 8th, Dr. James H. Stebbins, aged seventy-four years.

THOMSON.—In Belchertown, Massachusetts, on Sunday, March 20th, Dr. Edmond Fanford Thomson, aged forty years.

WESTLAKE.—In Elizabeth, New Jersey, on Tuesday, April 7th, Dr. Warren Carter Westlake, aged fifty-eight years.

# New York Medical Journal

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WHOLE NO. 1534.

### AN ORIGINAL METHOD OF OPERATING FOR CONGENITAL DISLOCATION OF THE HIP.\*

#### *A Preliminary Report of Cases.*

By RUSSELL A. HIBBS, M. D.,

New York,

*Surgeon-in-Chief of the New York Orthopaedic Dispensary and Hospital, etc.*

Without an anæsthetic in the average uncomplicated case of congenital dislocation of the hip in a child up to the fourth year (Fig. 4), and under an anæsthetic in those older, it is possible by flexing and adducting the thigh on the abdomen, and extending the leg on the thigh to force the head down, below, and behind the acetabulum. The route which the head follows in its course downward is behind the acetabulum.

It seemed to me possible, therefore, that if in extending and abducting the thigh in an attempt to bring the leg back to its former position, parallel to its fellow, some means could be devised by which the head could be forced to travel upwards by a more anterior route, a reduction of the dislocation could be secured, as the acetabulum would be directly in the way of the anterior route. Assuming, of course, that the acetabulum was large enough to receive the head, both of approximately normal shape and size. Two things appeared indispensable to the accomplishment of this result: first, absolute control of the pelvis, and, second, an immovable trochanteric pad so shaped and held against the trochanter as to direct the head upward and forward. Such resistance as the capsule or the Y ligament might offer to the reduction would certainly not be increased by such a method and might be diminished, while the muscular resistance, so serious an obstruction to reduction by the Lorenz method, would be entirely avoided, with the injuries not only to the muscles themselves, but often to other important structures, consequent upon the application of a force necessary to overcome that resistance.

Figs. 1 and 2 show an instrument which I have devised and used for this purpose. This consists of a board two inches thick, six feet long, and two feet wide, with two windlass pulleys on the under surface. In the board there are two openings made (Fig. 2), A and B, for the trochanteric pad. At points C and D are attachments for the pelvic straps, and at E is a roller over which the straps run. The child is placed on the board with its sacrum resting on the solid board between the two openings, A and B. The two pelvic straps are at

tached at points C and D, which are widely enough separated for the straps to pass just internal to the crest of the ilium, down over the ramus of the pubis running over the roller just in front of the perinæum, E, on the under surface of the board, to be attached to the two windlass pulleys.

By means of the windlass sufficient pressure may be made on these straps to hold the pelvis in an absolutely immovable position, without the slightest damage to the skin or any other part. The force is exerted laterally against the sides of the pelvis, as well as backward. In locating C and D, the points of attachment for these straps, it is important to have them separated sufficiently to insure this lateral direction of the force, and the distance will vary with the size of the pelvis. The openings, A and B, in the board are sufficiently large to allow the trochanteric pad, which is five inches by one and one-half inches in size, triangular in shape, and hollow, to pass through, upwards. This pad is attached to the under surface of the board by an adjustment which makes it easy to apply it to either side, and by means of a worm screw mechanism it can be forced up by the operator with ease against the trochanter to any point where it remains immovable. The direction of the pad in its immediate relation to the trochanter is determined and fixed by a ball and socket adjustment. This pad is made of highly polished steel, as such a surface slides over the skin with the least possible friction. This instrument may be attached to any plain wooden table, and is simple and inexpensive in construction.

With this instrument, in its more or less incomplete form, I have operated on fourteen hips—in thirteen patients with absolute success in placing the head in the acetabulum in each without traumatism. In regard to the stability of the reduction, since the integrity of all the muscles and structures about the joint is not impaired, may they not furnish such stability to the reduction as will make a redislocation less likely to occur? The greater tension placed upon them by the increase in the length of the limb would seem a distinct advantage. This same fact would shorten the duration of the after treatment and the wearing of a fixed dressing, and enable an early resumption of the normal function of the limb. Such has been the experience in the cases herein reported.

May it not be possible that some of the failures by the Lorenz method, which we have considered as due to the shallowness of the acetabulum, were really due to the destruction of the resistance of those structures which hold the head in its proper relation to the socket, done by the stretching neces-

\*Presented at the Section on Orthopaedics, at the Academy of Medicine, April 1, 1908.

sary by that operation to secure a reduction? In operating with this instrument there is no traumatism of any consequence. These children have all walked, several the next day after the operation,

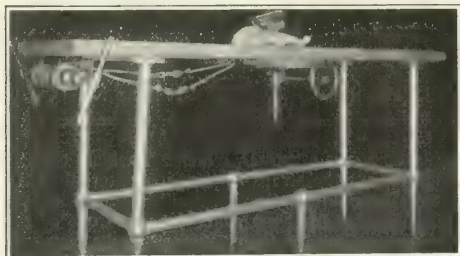


FIG. 1.—Showing complete instrument used in operation for congenital dislocation of the hip.

and all within three days. The older cases have complained of slight pain at first. The only traumatism that suggests itself as possible, in the use of such force as is here used, is a fracture of the neck of the femur. This has not occurred in any of the cases, and with ordinary judgment I think the possibility remote, because the force exerted upon the femur at all times is in two directions, namely, abduction and extension, and by the operator's hand.

It would seem possible to secure a reduction by forcing the trochanteric pad upwards, but here you have a force which cannot be measured by the operator so accurately.

CASE I.—M. R., age three years. Both hips dislocated. The right dislocation reduced April 30, 1907. Left dislocation reduced June 3, 1907. Right hip in plaster nineteen weeks. Left hip in plaster fourteen weeks. Re-

duction December 10, 1907. Plaster applied with leg in 65° abduction and 50° flexion, changed every three weeks, leg being gradually brought to straight line. On March 20, 1908, the plaster removed, limbs were equal, motion free, head in the acetabulum. Leg brace with a hip band applied as a precaution. April 17, 1908, the reduction seems secure. Limbs equal, head in acetabulum, motion free.

CASE IV.—E. M., age three years, male. Left hip one inch shortening. Operation August 13, 1907. In plaster thirteen weeks. Four months since removal of plaster. On April 17th the limbs were equal, motion free, head in the acetabulum, and result perfect.

CASE V.—M. O'F., age two years six months. Left hip one half inch shortening. Operation September 10, 1907. In plaster thirteen weeks. Four months since removal of plaster. Limbs equal, motion free, head in the acetabulum, and result perfect.

CASE VI.—M. McP., age two years. Both hips dislocated. Operation September 13, 1907, on right hip only. Died on November 1, 1907, of empyema, following pneumonia. Reduction remained secure to time of death.

CASE VII.—S. H., age five years nine months. Left hip one and one half inches shortening. Operation November 14, 1907. In plaster eight weeks. Nearly three months since removal of plaster. Limbs are equal, motion free, head in the acetabulum, and result perfect. April 17, 1908.

CASE VIII.—K. S., age eleven years. Right hip two inches shortening. Operation December 12, 1907. Plaster removed February 19, 1908. In plaster ten weeks. Walks with limb slightly abducted, with slight flexion at the knee. Reduction seems perfectly stable. April 17, 1908: Head in the acetabulum, motion free, limbs equal.

CASE IX.—F. R., age six and one half years. Left hip one and one eighth inches shortening. Operation February 11, 1908. Plaster removed April 4, 1908. In plaster seven weeks. April 17, 1908: Head in the acetabulum, limbs equal, motion free. Reduction seems secure.

CASE X.—M. M., age nine years nine months. Left hip one and one half inches shortening. Operation February 18, 1908. Plaster removed March 28, 1908. In plaster a little over five weeks. February 17, 1908: Limbs equal, head in acetabulum, joint motion free, 10° flexion of knee, and slight abduction of thigh. It may be of interest to add that in this case the Lorenz method was attempted unsuccessfully in another hospital.

CASE XI.—H. F., age eleven years. Left hip one and one

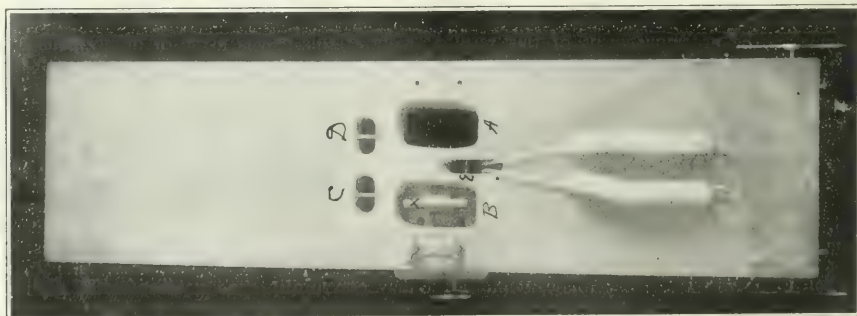


FIG. 2.—Upper surface of instrument, showing pelvic straps, openings for trochanteric pad, etc.

sult on April 17, 1908: Head of femur in the acetabulum in each hip, limbs parallel and equal, motion free, result perfect.

CASE II.—A. M., twenty-one months old. Left hip dislocated, three quarter inch shortening. Operation July 5, 1907. In plaster fourteen weeks. Head in the acetabulum, limbs equal, motion free, and result perfect, April 17, 1908.

CASE III.—M. W., age two years. Left hip dislocated, one half inch shortening. Operation July 5, 1907. In plaster thirteen weeks. Taken from hospital by mother aged two years and four months, immediately after the removal of the plaster. Was again admitted with redislocation. Sec-

ond operation December 10, 1907. Plaster applied with leg in 65° abduction and 50° flexion, changed every three weeks, leg being gradually brought to straight line. On March 20, 1908, the plaster removed, limbs were equal, motion free, head in the acetabulum. Leg brace with a hip band applied as a precaution. April 17, 1908, the reduction seems secure. Limbs equal, head in acetabulum, motion free.

CASE XII.—Jennie D., age four years and six months. Right hip one and one quarter inches shortening. Operation March 6, 1908, before the Interurban Orthopedic Club. Plaster removed April 13, 1908. Head in acetabulum, limbs equal, reduction seems secure. April 17th





FIG. 3, A.—First step of operation.

CASE XIII.—Jennie R., age eleven years. Left hip one and seven eighths inches shortening. Operation March 17th. Limb put in plaster parallel with its fellow, including knee. April 2, 1908: Knee freed. Plaster removed April



FIG. 3, B.—Second step of operation.

13th. Head in acetabulum, limbs equal, reduction secure April 17th.

In each instance the reduction has been confirmed by an x ray taken immediately after the



FIG. 3, C.—Third step of operation.

operation with the limb in plaster, and in every case after its removal.

Thus we have fourteen hips in thirteen children which we may consider as having the head in the acetabulum, and in most cases a sufficient time has elapsed to make it safe to say that the reduction is stable. In one, Case III, the dislocation recurred;

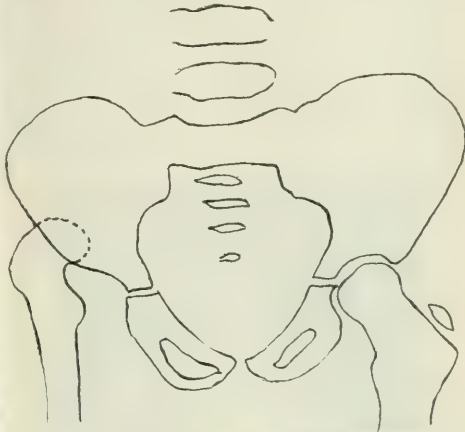


FIG. 4, A.—X ray of Case XII. Shows dislocation.

the limb now seems stable. In Case VI the patient died while in plaster. In Case XI the shallow acetabulum makes it doubtful that reduction will be secure. However, it is so now.

The steps of this operation are shown in the illus-

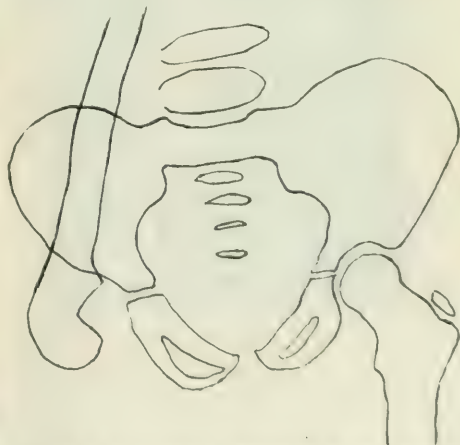


FIG. 4, B.—X ray of Case XII. Shows the position in which the limb was placed, without any plaster, just before operation.

trations (Fig 3, A, B, C) and are: First, the child is placed upon the table, and the pelvic straps attached, then the leg to be operated on is flexed on the abdomen. At this point, by the windlass, the pelvis is made immovable by tightening the straps.

Second, the leg is extended on the thigh, with the thigh held in adduction and flexion on the ab-

domen, thus forcing the head below the acetabulum. At this point the operator, by means of the wheel and worm screw mechanism, forces the trochanteric pad, it being so set by the ball and socket adjustment as to direct the head upward and forward, firmly against the trochanter, and then the thigh is extended and abducted, forcing the head to travel upward, anteriorly, into the acetabulum. The degree of extension of the thigh necessary before the head reaches the acetabulum in its course upward will depend upon the distance below the acetabulum at which it rests when the thigh is in flexion and adduction on the abdomen and the leg extended, and will be less in the older cases. The lower the

will vary with the age of the patient, being greater in those with most shortening. However, in some cases, as in Case XIII, age eleven, the leg was brought to a position of  $10^{\circ}$  abduction and  $180^{\circ}$



FIG. 5.—Case XIII, first plaster

head is gotten the easier will be the reduction, as when it is well below the acetabulum it is forced into the anterior route more gradually. The angle of departure from the posterior route, traveled in its descent, is more acute. The sensation when the reduction is accomplished can hardly be mistaken, and the snap can often be heard. The muscles become taut, and the leg flexed.

Third, plaster is then applied with the thigh in abduction and flexion, so as to put considerable tension on the muscles, and the knee is included in the plaster with the leg extended so the ham strings are tense. The angles of abduction and flexion



FIG. 6.—First plaster, Case VIII, showing degree of flexion.

extension in the first plaster. The first plaster should be changed at the end of two weeks, when it will be found possible to place the limb nearer the normal position, and the plaster should be changed every two weeks until its removal. I



FIG. 7.—Case VIII First plaster, showing degree of abduction

doubt the necessity of any case wearing plaster more than two months, and at the most three, and in many a shorter time.

The ages of the cases herein reported, varying as they do from twenty-one months to eleven years, suggests that cure may be effected more quickly in all cases, than by the Lorenz method, for instance, and that the upper age limit where perfect results may be obtained may be increased.

Is it not possible also that the number of cases in which an anterior transposition has been considered a good result may be smaller?

All these cases were treated in the New York Orthopaedic Hospital and this instrument was made in its shop.

130 EAST THIRTY-SIXTH STREET.

## SUDDEN BLINDNESS AND ITS VARIOUS CAUSES.\*

By MARY BUCHANAN, M. D.,  
Philadelphia.

**Sudden blindness:** The words strike terror to the hearts of the strongest of us! Modern man's enjoyment comes so largely through his sight that the mere thought of such a fate being ours causes each to cry instinctively, "Rather let me die!" Sudden loss of vision, however, like sudden death, spares its victim the horror of anticipation.

Sudden blindness in both eyes simultaneously is, fortunately, rare; in one eye it is not infrequent, and partial loss of vision is quite common. Blindness, more or less complete, whether monocular or binocular, is often spoken of as "amaurosis," while that of lesser degree, and generally without apparent fundus or other lesion, is called "amblyopia." We will consider briefly first, sudden binocular blindness; then monocular; and third, partial blindness, sudden in its onset.

Sudden complete blindness in both eyes, barring traumatism (gunshot injuries, lightning stroke, etc.) suggests always a systemic origin. Among the more important of these causes may be mentioned those usually classed as toxæmias, notably uræmia; malaria; anæmia, due, for instance, to a profuse general hæmorrhage; drugs and poisons, such as quinine, lead, and methyl alcohol.

In regard to gunshot wounds of the head causing blindness, it is interesting to note that the would be suicide who puts the revolver to the temple and fires rarely succeeds in his purpose; the bullet plows through the orbit and severs the optic nerve, or at times goes through the chiasm, and instead of sudden death sudden blindness is his portion.

Uræmic amaurosis is most frequent in the nephritis of scarlatina and pregnancy. It is more common in acute than in chronic nephritis. It is generally preceded by headache, but develops suddenly, is bilateral and passes rapidly into complete blindness, which may remain permanent or may be relieved, depending upon the course of the nephritis.

The fundus picture is negative and the pupils react to light, showing the cortical nature of the affection, as the reflex arc of the pupil is not connected with the cortex directly. The secretion of urine is diminished or suspended, the specific gravity is

high, and the urine contains a large amount of albumin. The usual symptoms of uræmia are present, and the treatment is for this condition.

The restoration of sight is at times sudden and occurs in from twenty-four to thirty-six hours, or, as Knies states, "when the nephritis is capable of recovery the blindness may also disappear, otherwise it indicates the beginning of the end."

The blindness produced by methyl alcohol poisoning is bilateral and generally complete. It may set in a few hours after ingestion of the poison (for it is a poison), or it may be delayed several days. There is subsequent improvement in vision, but finally a relapse into permanent blindness.

Methyl alcohol, or wood alcohol poisoning, is becoming much more frequent of late because the relative cheapness of the drug (50 cents per gallon against \$2.60 per gallon for ethyl alcohol) leads to its use in cheap whiskeys, Jamaica ginger, lemon extracts, bay rum, cologne water, Florida water, Columbian spirits, Cologne spirits, standard spirits, union spirits, eagle spirits, etc., and also because of increase of local option and prohibition states, which makes it impossible for men to purchase alcoholic beverages for drinking purposes, so they resort to subterfuge; they buy it for external use, or drink one of the above preparations. Dr. Frank Buller and Dr. Casey Wood made an exhaustive study and reported of these cases in 1904 for the Ophthalmic Section of the American Medical Association, and found that 153 cases of blindness and 122 deaths had been traced to this poison; they stated that the total would reach 400 if a more thorough search were made. I quote the following from their conclusions:

The symptoms are gastrointestinal disturbances, more or less severe, with pain, general weakness, nausea, vomiting, vertigo, headache, dilated pupils, and blindness. If recovery does not occur there is marked depression of the heart's action, sighing respiration, cold sweats, delirium, unconsciousness, coma, and death.

Acute abdominal distress followed by blindness should always suggest methyl alcohol poisoning. The visual fields, if blindness is not complete, are contracted and show a central absolute scotoma, that is, there is no perception of color or light in the area.

Individuals differ as to their susceptibility to the poison, and toxic symptoms may even be produced by inhalation or by methyl alcohol fumes. Treatment consists in the use of the stomach pump and stimulants, especially ethyl alcohol, strychnine, and coffee, and external heat. The treatment of the blindness is unsatisfactory; pilocarpine and potassium iodide may be given early, later strychnine.

Malarial poison acting upon the optic nerves and retina may cause a loss of vision or complete blindness, lasting from several hours to days or months. It disappears under malarial treatment.

Quinine in large doses may produce total blindness due to spasm of the vessels diminishing the blood supply and causing, according to Ward Holden, a degeneration of the ganglion cells and nerve fibres of the retina and optic nerve. The pupils are dilated and do not respond to light, and there is also associated with this tamus and deafness. Central vision may be restored, but the peripheral field will remain cut. The treatment is with withdrawal of the drug, and the administration of amyl nitrite and strychnine.

Lead poisoning has been known to cause sudden binocular blindness, probably central in origin.

Excessive hæmorrhages, particularly from the

\*Read before the West Philadelphia Branch of the Philadelphia County Medical Society, February 14, 1908.



stomach, may cause sudden loss of sight, which may be only temporary or may end in optic atrophy and permanent loss of vision. The ophthalmoscope shows a pale disk and contracted arteries. The lesions in the unfavorable cases do not appear until a week or more after the hæmorrhage. Uterine cases give the most favorable prognosis.

Transitory blindness sometimes occurs with brain tumors, particularly, according to Bruin, with those of the occipital lobes. Hirschberg denies that blindness in these cases is a localizing symptom.

Malingers sometimes feign sudden blindness of both eyes for gain, or to escape military duty. These people must be closely watched. Priestly Smith and E. Jackson give the following test for feigned blindness:

Place a lighted candle in front of the subject; now hold a 6 degree prism base out before one eye; if both eyes see, the one behind the prism will move inward, and on removing the prism will move outward, the other eye remaining fixed. The explanation of this is that the prism throws the

embolism of the central artery, complete detachment of the retina, or an extensive hæmorrhage into the vitreous chamber.

In embolism of the central artery the history is a sudden blindness, coming on without warning, without exertion, often on awaking from a sound sleep. We expect to find this in a patient with a heart lesion, but this cannot always be demonstrated clinically. The diagnosis can readily be confirmed with the ophthalmoscope, for the picture is unique. (See Fig. 1.) There is a cherry red spot in the macula which stands out well against the white background, the disk edges are not visible on account of the swelling, and the arteries are reduced to threads. It is a tragic picture, for our only chance is in dislodging the obstruction and that immediately, for the ganglion cells, which depend for their nourishment upon the retinal vessels, are soon starved to death and rapidly degenerate. Very few cases of embolism, if any, recover vision.

Complete detachment of the retina is not apt to occur spontaneously in a previously healthy eye. There is a history of a fall, a blow, or a nearsighted or diseased eye. An eye that has a detached retina is always soft on pressure. If you will recall the anatomy of the eye for a moment you will remember that the retina has firm attachment only at the optic nerve entrance, and anteriorly in the ciliary region; hence it must be held in place by the vitreous body. It can become detached by being pushed away by an exudate or a tumor beneath, or through the lack of support from a diseased or fluid vitreous body. A nearsighted eye often has a fluid vitreous body, and with its weakened and stretched coats is in danger of detached retina.

In these cases you get a gray reflex by throwing a strong light into the pupil, but it is deep, because the clear lens is in front of it. Possibly there has been a slight detachment before, to which the patient has paid no attention, but questioning will bring out the fact that he had noticed a moving cloud or curtain before his eyes. This is what the patients with partial detachment complain of. Detachment generally begins above, and then the fluid sinks gradually to the lower portion of the eye and increases until there is a total separation and blindness.

The prognosis of total detachment is absolutely hopeless, and while we rarely have both eyes lost through embolism, it is not unusual to have detachment in both eyes, although not simultaneously, because the same predisposing causes are apt to be present. These patients must be cautioned as to their danger, for even with the best of care as to correct glasses, avoidance of close work, violent exercise, etc., detachment may occur.

Sudden profuse hæmorrhage into the vitreous chamber will cause complete loss of vision, and to the ophthalmoscope presents a dark, impenetrable mass. It is not apt to occur unless there has been traumatism, or there is disease of the bloodvessels, or a blood dyscrasia.

Thrombosis of the central retinal vein causes almost complete loss of sight at the time of occurrence and may ultimately lead to permanent blindness. The ophthalmoscopic picture is typical; the veins are engorged, the arteries are reduced to



FIG. 1. Embolism of the central artery.

candle image inward, causing two candles to appear, but the impulse for binocular vision makes the eye move involuntarily so as to fuse the images into one.

It is not safe to depend upon the reaction of the pupils to light, because if the lesion is behind the corpora quadrigemina, the pupils will still react, although the patient is blind.

Mind, psychic, or object blindness, may appear suddenly. It is that condition in which the individual, because of cerebral lesion or disturbances, is unable to recognize familiar objects.

Burr reports a case in a woman sixty years of age who, while sitting at the table, suddenly lost vision. When he examined her she could not tell a watch when placed in her hands, and she could not feed herself because she could not recognize knife, fork, or spoon.

Before these cases are classified as mind blindness they should be carefully studied to exclude all peripheral causes.

Hysterical blindness is rarely bilateral.

Complete sudden loss of sight in one eye without external signs of inflammation suggests immediately

threads, the outline of the disk is obliterated, and the fundus is covered with numerous hæmorrhages. (See Fig. 2.) This is most apt to occur in elderly persons with atheromatous vessels, but may appear as a complication of facial erysipelas. The infection is then carried into the orbit, and the septic thrombus extends from the orbital vein into the retinal vessel. According to Knapp, "if, after the subsidence of an erysipelas involving the orbit, the eye is found to be blind, with optic atrophy and attenuated vessels, we may conclude that there has been a thrombosis of the central retinal vein."

Thrombosis of the retinal veins may be preceded by transitory attacks of blindness, as a premonitory symptom.

These four conditions give no pain, and the external appearance of the eye is normal, but acute glaucoma, on the other hand, which must never be forgotten, produces intense pain and does alter the appearance. Here the eyeball is hard to the touch,

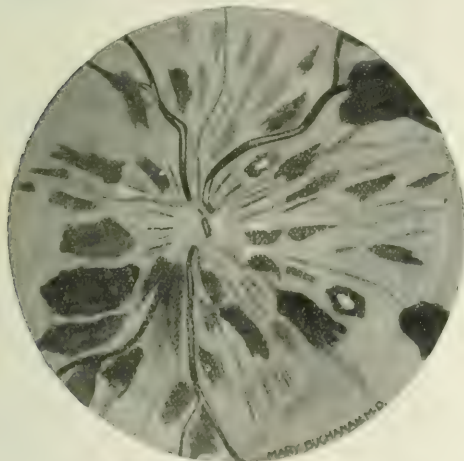


FIG. 2.—THROMBOSIS OF THE CENTRAL VEIN.

the pupil dilated and immovable, the cornea very hazy, like steamed glass, the iris is pushed against the cornea, and there is pain through the ball and over the brow.

The attack causes marked prostration, nausea, and vomiting. These patients are generally middle aged or past it, and their future eyesight and usefulness will depend upon the recognition of the condition by the family physician and his promptness in sending for skilled aid. This is one condition where the ophthalmologist is a necessity.

Sudden unilateral blindness may follow a blow over the orbit, in which case the optic nerve is generally severed or compressed by a splinter of bone. Here the history of traumatism is an aid, and every case of "black eye" should be examined carefully, with the possibility of fracture in mind. An X-ray should be taken at once if vision is reduced or lost. Delay is fatal to the return of sight.

Hæmorrhage into the sheath of the optic nerve or into the orbit may cause blindness, but this may disappear as the blood is absorbed.

A transitory form of monocular blindness has

been recorded in which the blindness lasted about half an hour, and is supposed to be due to a spasm of the vessels. These cases are rare.

Blindness of one eye is often feigned by malingerers or observed in hysterical patients. In a paper read by Dr. H. F. Hansell, before the Ophthalmic Section, College of Physicians, on this subject, mention is made of the difficulty of distinguishing between these two types, particularly where suit for damages is made. Dr. de Schweinitz gave a simple rule to follow, "The blind hysteric is consistent, the patient who pretends to be blind but is not hysterical is not consistent."

There are a number of tests for simulated blindness. One of the commonest is to place a red glass in a trial frame before the good eye and ask the patient to read the red letters on a test card; these cannot be seen through the red glass. Another is to place a strong glass before the good eye through which the patient could not possibly see, and a plane glass before the "blind" eye, and ask the patient to read a distant chart.

Another consideration in these legal cases following injury is that the eye may really be blind, but the condition existed prior to the accident. These patients may declare they saw well before the trauma, and yet an ophthalmoscopic examination reveals a well marked optic atrophy, or a large patch of sclera shining through where smooth choroid and retina should appear. These degenerative changes take at least three weeks and often months before they show up, and would make good vision impossible at the time stated by the plaintiff.

Sudden partial loss of vision may arise from conditions similar to those causing complete loss. Thus an embolism of a branch of the central artery would cause a blind area in the part supplied by that vessel; or partial detachment, a cutting down of the field in the portion corresponding to the part involved. If it is above the patient cannot see the ground, or he notices a cloud waving in front of it. Here again we have a soft eyeball, and generally a prominent, nearsighted eye to aid in the diagnosis. It requires considerable skill to recognize an early detachment with the ophthalmoscope, and even older ones when they are peripheral, and it is in the early stage only that there is hope of replacement and restoration of function.

Retinal hæmorrhage causes more or less blindness, according to its position. A large hæmorrhagic area at the periphery may almost escape unnoticed by the patient, while a tiny one right at the macula may reduce vision to about 1/60 of normal and make reading an impossibility. A blow on the eyeball, diabetes, arteriosclerosis, or anemia are all liable to cause hæmorrhagic retinitis.

An acute inflammation of the orbital portion of the optic nerve will blot out central vision suddenly. This may be caused by prolonged exposure to intense cold, by pressure from the sphenoidal sinus, or inflammation extending from it. A sudden reduction of vision coming on after a cold, or after influenza, should always suggest sinusitis as a possible cause.

Methyl alcohol poisoning of a milder grade than described before will cause sudden central blindness. Prolonged gazing at the sun, as during an eclipse, will produce a temporary central blind spot which



may persist for several days. Improvement in vision may take place, but complete recovery is not common.

The so called "snow blindness" is produced by exposure of the eyes for a long time to the glare of the sun on a large area of snow. This is mostly an affection of the lids and conjunctiva. The lids are red and swollen, there is lachrimation and photophobia with blepharospasm. The condition generally passes off in three or four days without leaving any bad results.

Electric ophthalmia is a condition similar to snow blindness, occurring in those engaged in electric welding, and occasionally in those who use a strong arc light. It comes on within twenty-four hours after exposure, and recovery occurs in a few days with no bad results. Exposure to strong electric light may cause the same effect on the retina as blinding by the sun, that is, there is a central blind spot produced. These workers should wear colored glasses, either yellow, ruby, or a combination of blue and red.

Transitory hemianopsia or scintillating scotoma is, as its name implies, a transient loss of sight in symmetrical portions of the fields of vision which may last from a few minutes to half an hour. The blindness commences over a small area near the macula, with zig zag flashes at its periphery, and gradually spreads over the whole side of the field. It is usually followed by migraine, and is generally classed as a symptom of the latter, though either the scintillation or the migraine may be absent. These attacks usually occur in intellectual individuals; and fatigue, long reading, hunger, and anæmia may produce them. They are probably due to some cerebral circulatory disturbance.

Permanent blindness involving half of each field may occur suddenly. This is known as hemianopsia, and is due to a lesion at the chiasm, at the centre of vision in the cortex, or between these two places. The term is not used when the disease is in the eye itself. If you will recall the anatomy of the brain, you will remember how the optic nerves leave the orbit and join at the optic chiasm, and then pass on as the optic tracts. The fibres from the outer half of each retina do not cross at the chiasm, but continue to the cortex in the tract on their own side, while the nasal fibres cross at the chiasm and join the tract on the other side of the brain. Hence, a lesion of one tract or one cortical centre would destroy vision in the temporal half of one eye and the nasal half of the other eye. If the lesion is in the optic tract, optic radiations, internal capsule, or pulvinar, hemiplegia, motor aphasia, or paralysis of central nerves, may be noted as direct symptoms.

Homonymous hemianopsia is the most common form; that is where the right half or the left half of each field is wanting. In this variety the patient with the left portion of each field cut off is much more fortunate than the one with the right portion gone, because in reading and writing English it is necessary to see ahead to the right, hence a patient with right hemianopsia can neither read nor write. The fact that a certain ward patient's plate always returned with the food remaining on one side of it led to the discovery that he had homonymous hemianopsia. He only ate what he saw.

Bitemporal hemianopsia is where the outer side

of each field is lost. This can only be caused by a lesion at the chiasm, as it is only here that the nasal fibres from each retina meet. Binasal and altitudinal hemianopsia are so rare, and so unlikely to occur suddenly, that they need not be discussed here.

The chief diagnostic symptom of cortical hemianopsia is what is known as *vision nulle*, that is, although the patient knows he has a blind area in each field, he is unconscious of it. It does not bother him any more than the blind spot does a healthy person.

There are also a number of cases in which the clinical history is of sudden blindness in one eye, and close questioning will elicit the fact that the patient suddenly covered the good eye, and *accidentally* discovered that he could not see. Ophthalmoscopic examination will prove that the lesion is a chronic one, and has been so gradual that the other eye has done all the work and the defect has not been noticed. Cataracts are often discovered this way, and grave fundus lesions, because they are painless, often work irreparable destruction on this account.

A large area of chorioiditis may also destroy the retina and choroid without the knowledge of the patient, and be suddenly discovered through some temporary shutting off of vision of the fellow eye. It is strange but true that a case of "pink eye," ordinary catarrhal conjunctivitis, will give a patient much more alarm and cause him to seek medical aid much quicker than the sudden discovery of impaired vision without external inflammation. It is not unusual to get a history of poor sight discovered in a supposedly healthy eye some ten days to six weeks previously. The victims delay, thinking "it will come all right again," and when it does not, they seek the ophthalmologist too late to be of any use, but to be assured that nothing can repair the loss. The retinal tissue is so highly specialized that it rapidly degenerates under pressure, or inflammation. This is a point for the general practitioner to remember, for it is the family doctor that is often first consulted in these cases of sudden blindness. Not infrequently we see eyes stone blind from acute inflammatory glaucoma where the doctor had passed it off with "You've taken cold; bathe it in hot water and it will come around all right." If you do not know what the condition is, don't waste time, but call in the ophthalmologist, just as you would the surgeon in serious abdominal conditions.

324 SOUTH NINETEENTH STREET.

## RADIOGRAPHIC DIAGNOSIS OF RENAL LESIONS.

By LEWIS GREGORY COLE, M. D.,  
New York,

Consulting Radiologist to the Board of Health, Radiologist to  
St. Mary's Hospital for Children

Since the more general practice of nephrotomy has demonstrated the difficulty of diagnosing cases of renal calculi with any degree of certainty, the demand for a more positive method has been apparent, and the discovery of Röntgen, twelve years ago, was at once eagerly seized upon as furnishing this method.

Radiographs of favorable subjects were made showing these lesions, and reports of these cases were heralded around the world, creating in the

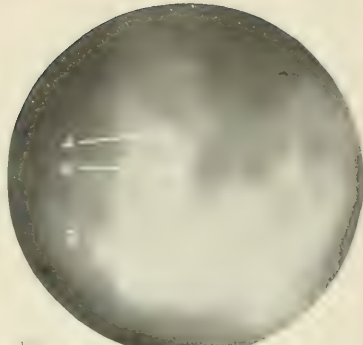




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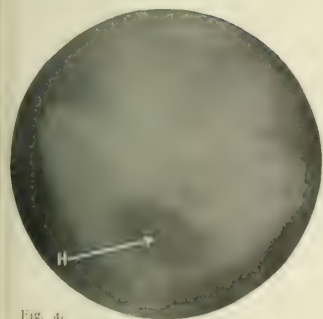
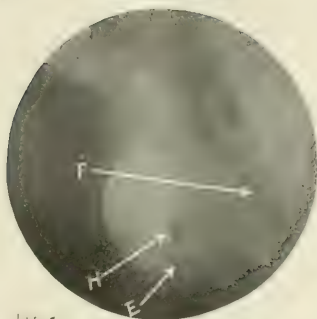
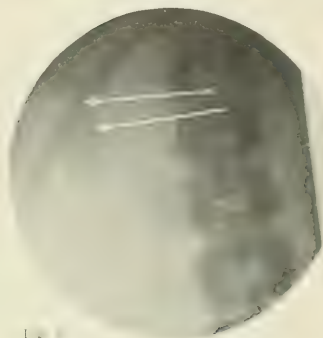


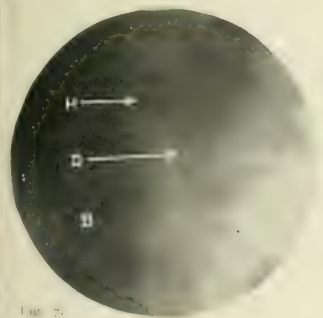
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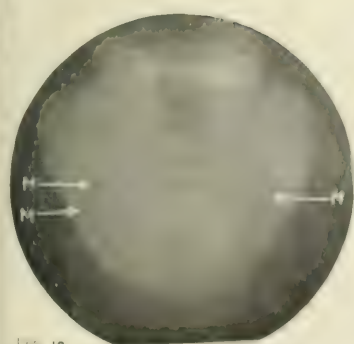
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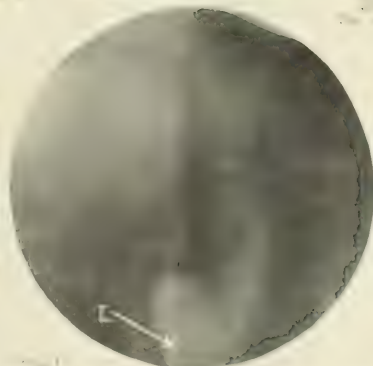
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minds of the oversanguine the erroneous impression that the x ray furnished a simple and infallible solution of the problem. With the generally limited knowledge of the science then possessed, physicians, surgeons, and instrument makers at once provided themselves with x ray equipments and undertook to make radiographs of renal calculi with what would now be regarded as crude apparatus.

As a result radiographs were made, giving shadows which were interpreted as calculi, but which, in many cases, were not sufficiently distinct to justify a positive diagnosis, and in none of these early plates was there sufficient detail to warrant a negative diagnosis. Such diagnoses were, however, frequently made, and in many cases proved erroneous, with the result that this method fell into disrepute, and it is with considerable difficulty that it is becoming reinstated in its proper place.

Three years ago this spring, after making a number of satisfactory radiographs of the renal and ureteral region, I read a paper before the genitourinary section of the New York Academy on The Negative and Positive Diagnosis of Renal and Ureteral Calculi by the Ray of Selective Absorption, and demonstrated some plates which showed calculi distinctly where the diagnosis had been verified by operation, and others which showed the psoas muscle and the tips of the spinous process distinctly enough to justify a negative diagnosis.

In some of these cases the symptoms of renal calculi were so characteristic that the operation was performed, and in only one patient was a stone found that was not shown in the radiograph, and in that case the plate did not extend high enough up to include the area of the pelvis of the kidney, where the stone was found on operation.

This success continued until the two tubes I was using gave out, and with new tubes the results were not nearly so satisfactory, and for several months it was with great difficulty that I obtained radiographs showing sufficient detail to justify a negative diagnosis.

During the winters of 1904 and 1905 I devoted much time to experimental work on the ray of selective absorption, and the results of this line of work are fully described in the *Archives of the Roentgen Ray*, May, 1905, and further experiments along the same line in the *Archives of Physiological Therapy*, December, 1906, or in the transactions of the *American Roentgen Ray Society*. In brief, this resulted in the separation of the x ray into three distinct varieties: 1, The direct ray; 2, the indirect ray; and 3, the secondary, or Sagnac, ray.

The purely direct ray when it can be obtained gives, on a well timed and properly developed plate, the greatest amount of detail, not only the structure of the bones, but the muscles, fascia, fat, and even the blood in the veins show very distinctly.

The indirect rays from the average tube are equally as powerful and abundant as the direct rays, and their effect is equal to that of the plate, and obscure the detail of the direct rays. It has been demonstrated by Professor J. J. Thomson that the secondary, or Sagnac, rays are generated in some minute form all substances under the action of the x ray in inverse proportion to the density of the

substance, and I am convinced by my own experiments that they are produced to a greater extent by the indirect than the direct rays, and the effect upon the plate is detrimental in the same manner as the indirect rays.

**Compression Blend.**—The use of a diaphragm or compression blend cuts off the indirect rays to some extent and helps very materially in obtaining good radiographs of the renal and ureteral region, but it does not convert any greater percentage of the energy into direct rays.

With an apparatus so constructed that one has a preponderance of direct rays and using a compression blend to eliminate the indirect rays and limit the field in which the secondary rays are generated, we can obtain enough detail to enable one to make a negative or positive diagnosis of renal or ureteral calculi of sufficient size to justify an operation.

**Technique.**—The patient should be prepared for the radiograph by thorough catharsis the night previous and an enema just before the exposure is made. This is especially important when the patient is constipated and the stools are hard and dry. The bladder should also be empty.

**Diet.**—It is desirable that only a light breakfast should be eaten, and that the stomach should be empty before the radiograph is made.

**Clothing.**—The clothing should be removed from the part of the body to be radiographed, not that the clothing interferes so much with the rays, but they are likely to contain buttons, hooks and eyes, or pins, that might lead to a misinterpretation of the negative.

**Position.**—The patient then lies with his back flat on the table and the thighs flexed so that the small of the back is in contact with the plate. Raising the head or shoulders sometimes assists in securing this position.

**Large Plate for Genitourinary Tract.**—If one large plate is to be used to include both kidneys, both ureters, and bladder, the tube is placed vertically over the umbilicus, twenty or twenty-two inches from the plate.

**Size of Plate.**—An 11 x 14 inch plate is the smallest size that will include both kidneys, ureters, and bladder, and if the patient is tall this is not large enough. Just previous to adjusting the plate under the patient it is well to test the tube. As the kidney moves from one half to two inches during respiration, the patient should hold his breath during the exposure, otherwise the shadow of a calculus will appear ill defined and indistinct, and if very small will appear as a blurred line.

**Exposure.**—The time of exposure varies from ten to thirty seconds, according to the size of the patient and condition of the tube. The radiograph should include the eleventh and twelfth vertebrae and ribs above, and extend about six inches beyond the tip of the coccyx below.

**Compression Blend.**—Much more detail may be obtained when a compression blend or diaphragm is used. The compression blend not only compresses the part and holds the patient quiet, but it also prevents the rays from being scattered too far. At the same time it so limits the area exposed that its use requires few radiographs to show the entire tract.



urinary tract, one for each kidney and the upper part of the ureter, one for each ureter, and one for the bladder and lower part of each ureter.

**Renal.**—The radiograph of the kidney region should show the eleventh and twelfth ribs, and the first, second and third vertebræ (lumbar).

**Ureteral.**—The ureteral radiographs extend from the third lumbar vertebra to the brim of the pelvis.

**Bladder.**—The radiograph of the pelvis includes the pubis below and extends up as far as possible.

**Full Set of Plates.**—The necessity of making a full set of plates cannot be too strongly urged. An oculist would not limit his examination to one eye, or an aurist to one ear, nor would a diagnostician make a physical examination of one side of the chest, even although all the pain was on that side. Why should a radiographer make a radiograph of one kidney? In a number of cases, which I will mention later, calculi have been shown on the opposite side from which the pain occurred, or calculi have been present on both sides and only given symptoms on one. If an opinion is desired as to the size, shape, position, and density of the kidney, then surely a radiograph of both kidneys is necessary for comparison.

**Interpretation of Plates.**—The interpretation of the plate is more important and more difficult than making it, and lack of care and experience in this is the cause of most of the errors that have been made in the diagnosis of renal and ureteral calculi by the x ray.

A person unfamiliar with woodcraft is astonished at the way an old hunter can follow the track of an animal in the woods, yet when his attention is called to the barking of a fallen log, the slight imprint in the ground, the turned leaf, or broken twigs, etc., they are all apparent. It is much the same in reading x ray plates—the shadows are there, and any one can see them when they are pointed out.

It requires a careful study and comparison with other plates by a trained eye to detect slight shadows, and it requires experience to determine whether they are due to calculi or one of many other things which I will mention later. This has been especially impressed upon me during the preparation of this paper, when I have studied nearly fifteen hundred plates, made during my practice, some of the earlier ones showing shadows of what I then failed to recognize as possible calculi, requiring repeated exposures for verification.

It is unwise to make a diagnosis on a wet plate: drops of water and the glistening of the wet surface interfere with the detail. The plate should be allowed to dry slowly and the back of the plate thoroughly cleansed and polished. It should then be carefully studied and compared with other plates in a good even light. Some prefer an illuminating box where the light can be controlled with a rheostat, but personally I prefer a northern sky or daylight with a ground glass, holding the plate in my hands so that it may be tilted at different angles to show finer gradations of the shadow.

One is not justified in making a negative diagnosis of renal or ureteral calculus, unless a plate of the renal region shows the following detail, which is shown in Fig. 4. 1. The spine and transverse processes should show distinctly all the way to the tip.

2. The outer border of the psoas muscle must show. In some very flabby, fat patients it may not show as distinctly as the kidneys. 3. The eleventh and twelfth ribs should show distinctly, and in many cases the bony detail may be distinctly seen. 4. In about 75 per cent. of the cases the kidney may be seen more or less distinctly, and if special care in technique is used, it may be shown in nearly every case. 5. The liver is frequently seen, and at times it interferes with showing the convex surface of the upper pole of the right kidney. 6. The spleen also may be seen, especially if it is enlarged or congested. 7. Accumulation of gases in the colon and small intestines appear on circumscribed areas, and folds in the walls of the intestines are often seen traversing these areas. 8. Fæces in the intestines, especially in the colon, show very distinctly, and interfere very materially with the diagnosis of renal lesions.

**Ureteral.**—The plate of the ureteral region should include the third, fourth, and fifth lumbar vertebræ, and part of the sacrum and ilium. The bony detail should show distinctly, and the sacroiliac synchondrosis should be well defined. The outer border of the psoas muscle is clear, and the accumulation of gas and fæces are frequently seen in the cæcum or sigmoid. The course of the ureter is about on a line with the tips of the transverse processes, and at the sacroiliac synchondrosis. Calcified arteries are sometimes seen in the plates.

**Pelvis.**—This plate shows the pubes, bony structure of the spine of the ischium, sacrum, and coccyx all the way to the tip. The bladder distended with urine is sometimes well marked, also when injected.

**Diagnosis.**—Up to the present time the radiographic diagnosis of the genitourinary tract has largely been limited to the negative or positive diagnosis of renal, ureteral, or vascular calculi. We will therefore consider this subject first.

After having made and carefully studied about fifteen hundred plates of the genitourinary tract in about five hundred cases, I believe that a plate having the described detail will show any variety of renal, ureteral, or vascular calculi of sufficient size to justify an operation—that is, one that is too large to pass.

In view of the fact that some of the best authorities disagree with me in this statement, it is with reluctance that I make it, but after carefully experimenting with the softest calculi that I could obtain, and in one case using the very stone it was stated would not show, I am convinced that I am justified in making this statement. I placed the stone behind a patient and made an exposure, and it showed very distinctly on a plate placed behind him. This, of course, is much easier than if it were in the kidney. I then placed it on the abdomen of a large man, and it showed distinctly. This was much more difficult than showing it in the kidney, because the further the calculus is from the plate the less distinct it is. Not satisfied with this, I imbedded this calculus in paraffin and placed it behind a patient the same distance from the plate that it would be if it were in the kidney, and it showed distinctly. Fig. 23 shows a cystine calculus, which is one of the varieties that some authorities claim cannot be shown by x ray.

**Differential Diagnosis.**—In some cases, Figs. 2, 3, 4, 5, 14, 15, 19, 20, 21, 23, and 24, the calculi are so distinct that there is no difficulty in making the diagnosis. In others, Figs. 6 and 7, on account of the size or indistinctness of the shadows, it requires the careful study of several confirmatory plates to make a positive diagnosis or to distinguish between calculi and the following: 1, faecal concretions; 2, gallstones; 3, calcified costal cartilages of the eighth and ninth ribs; 4, spiculae of the bone; 5, small calcarious bodies or so called phleboliths; 6, folds of intestines; 7, enteroliths; 8, foreign bodies in intestines; 9, calcified arteries; 10, calcified lymph-noids; 11, prostatic calculi; 12, finger marks; 13, developing stains from uneven flood of developer; 14, flaws in plates; 15, tuberculous kidney; 16, shot in back; 17, unknown.

1. **Faecal concretions.**—We are most frequently called upon to distinguish between the shadows of calculi and those of faecal concretions, such as shown in Fig. 8, and it is unwise to make this distinction on one plate.

#### Calculus.

If the patient has held his breath, the edges of the calculus will appear clear cut and well defined. The shadows are more dense for their size, and are only seen in the region of the kidney or ureter, and the most important thing is to give time for faecal concretions to move out of the field or change position, and if the shadow remains in the same place it is not faecal concretion.

#### Faecal Concretions.

The edges of the shadows are ill defined, and the shadows less dense than those of calculi of the same size. They are usually multiple and at least some are not in the region of the kidney or ureter, and if time is allowed to elapse between exposures and a cathartic and enema are given, the concretion changes its place or disappears entirely.

2. **Gallstones.**—Gallstones may be shown with patients on back, but are more clearly defined when patient lies with abdomen flat on the plate. The reverse is true of renal calculi. Shifting the tube slightly changes the position of the shadow of the gallstone more than it does the shadow of the kidney stone.

3. **Calcified costal cartilages of the eighth and ninth ribs.**—The calcified costal cartilages of the eighth and ninth ribs resemble renal calculi very closely. They may appear, as is shown in Fig. 9, in the kidney in the same positions in repeated exposures. There is usually more than one costal cartilage calcified, which gives the appearance of a calcarious deposit throughout the kidney, more than an isolated calculus, or two or three calculi, and are usually bilateral. They may be definitely distinguished from calculi by having the lip of the compression blend under the free border of the ribs; therefore, when ever the shape of a person is such that the compression blend must be on top of the free border of the ribs in order to include the renal region, these shadows must be distinguished from calculi.

4. **Osteoarthritis of the vertebrae.**—In cases of osteoarthritis of the vertebrae, they resemble ureteral calculi. They are a trifle nearer the spine than the normal course of the ureter, and the latter changes of the spine, such as hipping and destruction of the cartilages, are always present.

5. **Small calcareous bodies or so called phleboliths.**

#### Calculus.

Usually single and only on one side. If multiple they are arranged in lines which correspond with the course of the ureter, usually are irregular and have rough edges. If they are round, or small with rough edges, they change position between exposures with attacks of renal colic and blood in urine. They must be in line with the course of the ureter.

#### Calcified Bodies.

Calcified bodies near the lower end of the ureter usually are multiple and on both sides. When multiple they are arranged in a line running in the opposite direction to the course of the ureter. They are round with smooth edges and so small that were they calculi they would pass or change position between exposures. Usually they are one-quarter to three-quarters of an inch to the outer side of the ureter.

Ureteral catharization, which is discussed later, aids very materially in distinguishing between these conditions.

6. **Folds of intestines.**—These are not as well defined as calculi; usually seen only accompanied by accumulation of gas and appear as long, narrow shadows instead of the shape of calculi. Unless the fold is permanent and held in place by adhesions, it does not appear in confirmatory plates.

7 and 8. **Enteroliths and foreign bodies.**—Enteroliths and foreign bodies change their position. A Murphy button in the stomach viewed edgewise might readily be taken for a large calculus, but sooner or later it would show the hole in the centre.

9. **Calcified arteries.**—Calcified arteries usually are bilateral and show the tortuous course of the arteries, and are not in the position of the kidney or ureter. Whether the shadow shown in Fig. 12 is a single calcified plaque in an artery which shows indistinctly, or a true phlebolith in a vein, is undecided, but it is certain that it is not a calculus in the ureter.

10. **Calcified lymphoids.**—Calcified lymph glands, especially those in the pelvis, resemble calculi very much. They usually, however, are multiple and not in line with the normal course of the ureter.

11. **Prostatic calculi.**—Prostatic calculi are further down than ureteral or vascular calculi, and more closely resemble phleboliths.

12. **Finger marks.**—Finger marks made during the development of the plates might readily be mistaken for stone.

13. **Developing stains from uneven flood of developer.**—Irregular flooding of the plates during developing may leave a small area that resembles a stone.

14. **Flaws in plates.**—A slight flaw in a plate came as near causing me to make an error as anything I have seen. The case I have in mind, shown in Fig. 12, appeared as a small, well defined, round shadow with clear cut edges, exactly in the region of the kidney and about the place the patient had complained of the greatest pain. Up to this time I had only made confirmatory plates in doubtful cases, and this did not appear to be a doubtful case, but, fortunately, a confirmatory plate was made and the spot had disappeared. On closer study one could see it was a flaw in the plate.

15. **Tuberculous kidney.**—Some cases of tuber-

culous kidney may be very readily diagnosed by x ray, as shown in Fig. 13. In this case the entire kidney was involved with an old, slow tuberculous process. A radiograph made two years previous to this one was the first in which I felt justified in making such a diagnosis. It was later confirmed by the finding of tubercle bacilli, but the patient refused operation, and we are thus able to watch the development of the case by a series of radiographs. In another case the process was so distinct that it was difficult to distinguish between it and calculus, but as the treatment for each was the same the differential diagnosis was not so important.

16. Shot in back.—Shot in the muscles of the back are more distinct and the edges more clear cut than calculi.

17. Aside from these possible mistakes we find well defined permanent lesions which I have been unable to diagnose.

*X Ray versus Exploratory.*—Anyone who has hunted for a needle in a finger, even after a radiograph has shown its presence and apparently its exact position, realizes how difficult it is to find a foreign body. The finger is much smaller than the kidney, there is nothing to prevent cutting in all directions, hemorrhages may be prevented, and all the circumstances are most favorable, yet few persons except radiographers know how prolonged and unsuccessful operations for foreign bodies frequently are. How often you hear this phrase: "The x ray showed a stone, but none was found on operation." No one would question for a minute the fallacy of the exploratory operation, especially if the kidney was split and the calices explored with the finger. The following cases would show the relative value of x ray and exploratory incision:

The writer radiographed a patient, as shown in Fig. 14, and made a diagnosis of six calculi, a large one in the pelvis, and five small ones apparently in the calices. An operation was performed by a very careful surgeon, the kidney was split and the large stone was found. A thorough search was made by the surgeon and his assistant for the small ones. The calices were explored with the finger of each of the operators. Assuming that the nodules on the calculus were what I had interpreted as five small calculi, they informed me that the radiographic diagnosis of a large calculus was correct, but that there were no small ones present. About six weeks later the patient had a severe attack of renal colic and passed five of the largest calculi that could possibly pass. The large calculus was in such a position that the small ones could not possibly have slipped past into the ureter before or during the operation.

A number of cases are on record where the calculus had been shown in radiographs and not found on operation, but later the diagnosis has been verified by removal of the kidney, when the calculus has been found. Are surgeons justified in saying that the calculi are not present after an exploratory operation, when a satisfactory radiographic examination and positive diagnosis have been made?

*Catheterization versus X Ray in the Diagnosis of Renal and Ureteral Calculi.*—Comparing the relative value of catheterization and x ray, so much depends on the technique of the one and the dexterity with which the other is performed that we will only compare the results of the best of each. Each has its dangers.

In x ray there is the danger of the so called burn, but with the short exposures of thirty to fifty seconds this is practically eliminated. The danger of infection and shock from ureteral catheterization you are in a position to know better than I am, and the discomfort, to say the least, well—the patient is the best judge of that, and most of them have very decided views on this subject.

As to their value, each has its place. Many things can be determined with the catheter that cannot be with the x ray, but in the diagnosis of renal calculus, if you cannot find a stone in the kidney when it is split open by examining each calix with your finger, how do you expect to make a negative diagnosis of calculus at the other end of a catheter sixteen inches long? And with what certainty can one say that he touches a stone in the pelvis of the kidney? In the diagnosis of ureteral calculi the catheter is of more value than in renal, as one can say with certainty that he meets with an obstruction so far from the bladder, and with wax tips or other devices, in some cases may be reasonably sure it is a stone, but whether it is small or large, smooth or rough, and whether it will move or not, it is impossible to say.

A radiograph as reproduced in Fig. 15 will show the size, shape, and position of a calculus, and with a little experience one can tell whether it will pass or not. A small, rough one will lodge, while a smooth one of astonishing size will pass. On the other hand, small calcified bodies near the lower ends of the ureters, called by many phleboliths, are frequently mistaken for calculi. The characteristic differences between these are described early in this paper, but a combination of catheterization and x ray, as shown in Fig. 16, is of greatest value, using a stylet catheter and making a radiograph.

As I said, these phleboliths are usually about one half to three quarters of an inch to the outer side of the course of the ureter, but sometimes directly in line with the ureters, and in the x ray appear to lie against the catheter. It is wise to make two radiographs at different angles to prevent this source of error. The following cases will show the fallibility of making a negative diagnosis of ureteral calculus, even though the catheter passes all the way to the kidney with little or no obstruction.

CASE I.—The first case of ureteral calculus that I radiographed showed a well marked shadow at the lower end of the ureter, oval in shape and about one centimetre long. It appeared in several plates. Ureteral catheterization showed no obstruction at this point. An exploratory operation was performed and on palpation no calculus could be felt. The ureter was opened and a catheter was passed down into the bladder without meeting with an obstruction. At that time I was not familiar with so called phleboliths, and insisted there must be a calculus, so just before the wound was closed a further search was made and the calculus was found in a pocket it had formed in the ureter just before it passes into the bladder. It was pushed out of the pocket into the ureter and out of the opening near the kidney.

CASE II.—The second case was where a young woman was catheterized by one of the most eminent genitourinary surgeons in the country, with a wax tipped catheter, and the catheter was passed up to the kidney without obstruction, but with a scratch on the wax tip. Preparations were made for an operation, but an x ray failed to show the calculus in the kidney. The ureter was again catheterized and there was no obstruction in the matter of scratch on the wax tip of the catheter. The operation was indefinitely postponed and later the case was referred to me by



another surgeon. Fig. 5 shows very distinctly a calculus about one half inch in diameter near the lower end of the ureter. An operation verified the findings of the radiograph. The surgeon says the calculus passed from the kidney to the lower part of the ureter between the time of his last examination and my first. This, of course, I cannot disprove.

Considering the previous case and the following case which I am about to describe, it seems possible, at least, that the calculus was in the ureter and the catheter passed it with little or no obstruction.

CASE III.—The third case was referred by Dr. Bangs and Dr. Pederson, and their history of the case and record of operative procedure is as follows:

First attack of renal colic took place on July 12, 1907. It was severe on the right side; there was frequent vomiting; the pain was confined to right kidney region; no radiations; no bladder symptoms. Hematuria was not noted, perhaps because the patient did not look for it.

Second attack occurred the following day. It persisted for seven days with varying severity, some vomiting during first day. The pain remained localized as before.

For a month thereafter he suffered nagging pain every few days, lasting from a few seconds up to a few minutes.

Third attack happened on December 21, 1907. Very severe, no radiation.

Fourth attack took place on December 24; the pain ceased suddenly.

Fifth attack happened December 26th, and lasted from 10 p. m. until 5 a. m. Again the pain ceased suddenly.

Cystoscopy, performed on December 27th, showed no calculus in the bladder, and nothing distinctively pathological in its appearance.

Radiographic examination, December 28, 1907, showed two calculi (Fig. 17), one just below the brim of the pelvis and the other opposite the transverse processes of the fourth lumbar vertebra.

Cystoscopy and catheterization of right ureter was performed on January 8, 1908. No obstruction was encountered, no grating sensation was perceived.

Second radiographic examination, January 11, 1908, showed that the calculus, which was near the brim of the pelvis had descended to the lower end of the ureter, but that the upper one was in the same place, opposite the transverse processes of the fourth lumbar vertebra.

The lower stone was passed from the bladder, 11 a. m., January 12, 1908.

Cystoscopy and catheterization of right ureter performed on January 13th. Again no obstruction was felt. Patient was now free from all pain and tenderness over the right ureter.

Another attack of pain in the right kidney region, lasting ten minutes, during the night of February 24. Patient passed another almond shaped calculus similar in shape and size to the first calculus on February 11th. The patient when last seen (February 24th) had been entirely free from symptoms of any kind.

Radiographs of both calculi were made after he passed them, and these are reproduced in Fig. 17 with the first radiograph made of him.

These cases demonstrate that it is unwise to make a negative diagnosis of ureteral calculus, even if there is no obstruction in the ureter.

*Do Calculi Perforate or Migrate Through the Walls of the Ureter?*—The case just described, where a stone was found in a pocket near the lower end of the ureter and another case (Fig. 18), where a calculus was found to be imbedded in the walls of the ureter, seem to suggest this possibility, and Dr. Bryant told me of a case where a stone containing uric acid salts was found in the abdominal cavity. In another case the catheter met with obstruction about one and one half inches from the ureteral orifice. The case was radiographed at the patient's request to ascertain the size and shape of the mass and the possibility of its passage. The

calculus was shown at this point, but there was a well defined one in the kidney, which was verified on operating.

One of the most important points that the writer has to make is, that many of the cases having typical attacks of renal colic do not have a stone in any part of the genitourinary tract, and when a calculus is shown in this class of cases it is usually so small that it will pass without an operation other than ureteral catheterization.

On the other hand, most of the cases in which renal calculi have been demonstrated by x ray have had no symptoms that were sufficiently characteristic to justify an operation, and only those that engage in the ureter or obstruct the pelvis cause typical renal colic. They may have pain either in the back or side, especially on jolting or riding in a car, tenderness over the kidney, dull aching, or especially what is described by them as a sense of weight or heavy feeling in the back. Figs. 19 and 20 demonstrate this class of cases very clearly. Fig. 19 shows a large rectangular calculus in the pelvis of the right kidney, and Fig. 20 shows a calculus four inches long in the lower end of the right ureter of the same patient (in process of reproduction the plates are reversed, which causes it to appear on the left side), and yet the symptoms were not sufficient to designate which side the trouble was on. The patient had been treated for many months or a year for stomach trouble.

A great many of the cases diagnosed as lumbago or rheumatism of the back have renal calculi. Whether the calculus is the cause of the lumbago, or the lumbago the cause of the calculus, is not for me to decide.

Calculi giving symptoms of chronic appendicitis are very common. Several of the cases in which calculi have been demonstrated were diagnosed as appendicitis, and radiographs have been made just to eliminate the possibility of calculus. This has occurred in so many cases that some physicians are having nearly all cases of obscure abdominal lesions radiographed. The wisdom of this is particularly shown in the following cases:

CASE IV.—A woman, fifty years, complained of symptoms which were diagnosed as appendicitis (chronic). She traveled a great deal both in this country and abroad, and her hobby was to get the opinion of the best authorities in every country, and strange as it may seem, they nearly all agreed that it was appendicitis in some form or another. She finally came under the care of a physician who had many of his obscure abdominal lesions radiographed, particularly those of appendicitis, to distinguish them from renal calculi. This case, as shown in Fig. 7, had a stone at the pelvis of the kidney, and several appendicectomy had given no indication of stone.

Ten or eleven of the fifty-four cases in which I have demonstrated renal calculi have complained of all the pain, or the worst, same pain, on the opposite side from that on which the calculus was found. Fig. 21 shows one of these cases. This is such a peculiar fact, requiring a detailed history of each case to make it complete, that it seems unnecessary to incorporate it in this paper; I therefore merely mention it here to show the necessity of making radiographs of both sides.

Before making a positive or negative diagnosis of renal or ureteral calculi, much information may

be gained by a radiograph having sufficient detail to show the kidney distinctly. The density, shape, size, and position may help very materially in making the diagnosis of tuberculosis, new growth, pro-lapse, and congestion of the kidney, and ascertaining the presence of the kidney on the opposite side.

The kidney may be seen more or less distinctly in about 75 per cent. of the cases, and if special care in technique and selection of tubes is used, it may be shown in nearly every case. Strange as it may seem, the size of the patient has very little influence—indeed, in large, fat persons it is more frequently seen than in thin ones. This may be accounted for by difference in density between the kidney and fat it is imbedded in; the more fat the greater this difference is. The soft tissues of some patients are much more dense to the rays than others, and where this is so the kidney shows very distinctly compared with the spine, which in these cases shows indistinctly.

The repeated appearance of one kidney and not the other, or the increased density of one compared with the other, or with the psoas muscle, indicates a change in the kidney, and if this density is uniform, and the kidney is not mottled, it is due, probably, to congestion of that organ, as shown in Fig. 22. If the kidney appears mottled, as shown in Fig. 13, or of irregular density, it would indicate tuberculosis or new growth, and if the contour of the kidney is changed in addition to the irregularities of density and mottleness, it increases the probability of new growth. Several confirmatory plates are necessary, and these shadows must be differentiated from the same things calculi are, particularly fecal accumulations.

*Size.*—The size of the kidney compared with the opposite one may be fairly accurately determined, but it must be remembered that it is slightly enlarged in the radiographed. The amount of this depends on the distance of the x ray tube from the kidney, and the distance of the kidney from the plate. In a person of ordinary size, with the tube eighteen inches from the plate, the radiograph represents the kidney about one half to three quarters of an inch larger than it really is. In some cases the pelvis of the kidney and the ureter show distinctly, but it is doubtful if this is of any pathological significance unless it is thickened and irregular, which would indicate tuberculosis (Fig. 13).

The position of the kidney at the time the radiograph is made may be demonstrated very accurately if the position of the tube is considered. If the kidney is shown to be out of place, the diagnosis of floating kidney is positive, but if it is shown to be in its normal place it does not indicate that it is not movable, as the position of the patient, and particularly the pressure of the compression blend, tend to cause it to assume its normal position.

*Résumé.*—The principal points that should be remembered are:

With a limited knowledge of the science, radiographs have been made which did not have sufficient detail to justify a negative or positive diagnosis, and persons without sufficient experience have made negative or positive diagnosis on these plates.

The separation of the x ray into three varieties. The value of the direct in radiography and the detrimental effect of the indirect and secondary.

The interpretation of the plate is more important and more difficult than making it.

The amount of detail necessary for a negative diagnosis.

Technique, diet, clothing, catharsis, position, exposure, etc.

Necessity of making full set of plates.

Reasons for believing that one is justified in making a negative diagnosis of calculus when detail as described is present.

Things calculi must be distinguished from.

X ray versus exploratory examination in the diagnosis of calculi.

X ray versus ureteral catheterization in the diagnosis of calculi.

Most patients having typical attacks of renal colic do not have stones, and, on the other hand, only very few of the patients who have calculi have symptoms sufficiently characteristic to justify an operation.

Similarity of symptoms of chronic appendicitis and renal or ureteral calculi.

About one quarter of the patients in whom calculi are found have the most pain on the opposite side.

Value of the x ray in the diagnosis of tuberculosis, new growths, and nephropotosis.

One cannot expect any great amount of success in renal radiography when work requiring so much attention to detail is turned over to hospital orderlies, nurses, even physicians without any training or experience along this line.

103 PARK AVENUE.

## A CASE OF CHRONIC FIBRINOUS BRONCHITIS.\*

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Acute or chronic inflammatory conditions of the bronchial mucous membrane, accompanied by expectoration of casts of the bronchial tree, are of comparative infrequency, and in consequence such cases are always of interest. In the past thirty-eight years one hundred and eleven cases of this disease have been recorded in the literature. Of this number one hundred—including two of his own cases—Bettman (1) in an exhaustive article thoroughly analyzed. Since Bettman's treatise appeared up until the end of the past year, eleven additional cases have been reported, viz.: by Vassal (2), Rabe (3), Shoyer (4), Moser (5), Schwarzkooff (6), Deganello (7), Bosc (8), Bilina (9), Giglio (10), and Dehon and Brasser (11). Contributions to the subject have been made by Eiselt (12), who enters upon the etiology of the disease, Milian (13), and Rabé (14).

Vassal's case was one complicated with exophthalmic goitre in a woman of thirty-five years. Bron-

\*Read, by invitation, before the College of Physicians, Philadelphia, February 10, 1908.

chial casts showing arborescences were expectorated. A man of thirty-seven years was the victim in a case reported by Rabe. In this case it followed closely in the wake of a pneumonia and terminated fatally about three weeks subsequent to the initial onset. In Shoyer's case the patient was a man of seventy-four years, who, in early adolescence, had had tuberculosis and who, five days after the onset of what was diagnosed influenza, coughed up a complete cast of the bronchus 10.5 cm. long. For three weeks after, he expectorated great quantities of ribbon like strips of fibrin. He was entirely well in one month.

Moser believed syphilis to be the ætiological factor in his case, a man of forty-eight years who had recurring attacks of severe coughing and dyspnea. The sputum was blood stained and in it casts of the bronchi were noted. Fifteen years previously he had had a chancre, and at the time of the attack had syphilitic manifestations such as ocular palsy, dermatitis, and myocarditis.

Schwarzkoﬀ reports a case of a girl, thirteen years of age, whose mother was tuberculous. The patient had undergone four attacks of acute rheumatism which were followed by some cardiac disturbance, but she had never had any severe bronchial or pulmonary disease. For three years she had had a slight chronic cough, occasional hæmoptysis, and subsequently typical attacks of fibrinous bronchitis. Tuberculosis as an ætiological factor was absolutely excluded, and Schwarzkoﬀ believes the cause was mitral insufficiency.

The cases of the remaining six authors I am unfortunately unable to recite owing to the fact that the necessary journals were not available at the library.

The case which was referred to me by Dr. Ross T. Skillern and to whom I am indebted for the privilege of reporting is as follows:

The patient was a young lady of twenty-six years, whose family history was absolutely negative. Her past history was good, as aside from measles, varicella, scarlet fever, and pertussis in childhood she had always been well. Her menstrual function was normal. The trouble which prompted her to seek medical aid first made itself apparent about eight weeks ago by a short, hacking, unproductive cough, which was particularly troublesome at night and in the morning upon rising. About one week after the onset she was seized with a violent paroxysm of coughing and of such a nature that she imagined she was again developing whooping cough. The paroxysm continued for several minutes, and only ceased when a large "piece of phlegm," as she thought and expressed it, was dislodged and expectorated. Prior to this paroxysm there was no dyspnea and she was not in any sense of the word ill. A few days later, just how many the patient did not recollect, and again in the morning, a second paroxysm occurred and another large piece of "phlegm" expectorated. A third and a fourth occurred at intervals of from four to seven days, always in the morning, and relief from it always brought about by the dislodgement and expectoration of a large, greyish white, solid piece of material. She stated that she could always appreciate that there was something within her lung that ought not to be there; that this something was always felt in the same place, and that place just under the clavicle of the right side. In her own words "she felt as if by putting her two fingers in her throat she could drag out the offending material."

After her last paroxysm she noticed that what she expectorated had some definite form and was undoubtedly something more than mere bronchial secretion, so she preserved the specimen and with it visited her physician. As this patient had at the same time, to the physician's knowledge,

been a host for lumbricoids, he concluded upon superficial examination of the specimen that she had vomited rather than coughed up one of these parasites. Hæmoptysis had never occurred, she never had night sweats, appetite was and always had been fair, there had been no loss of weight, and all her body functions had been regular. Indeed, aside from the chronic dry cough, associated at intervals with the paroxysms mentioned, she never felt the least bit ill. As far as she knew she has never had an asthmatic attack.

Physical examination of the patient showed a fairly well nourished and developed girl of somewhat anæmic aspect, and very nervous, her nervous state depending, however, probably on the fact that it had been hinted to her that her condition might be one of tuberculosis, a statement which she was the more ready to accept since she appreciated how closely she had associated during the summer with an intimate girl friend who recently died at the Whitehaven Sanatorium.

Careful examination of her chest showed a decided limitation of movement in the upper right side anteriorly compared with that of the left. Over this area, too, the breath sounds were appreciably weaker than those of the opposite side. There was apparently no impairment of resonance anywhere, and no râles could be heard. Her heart was normal, and the other organs apparently so.

A specimen of her sputum, which was difficult to obtain, inasmuch as she expectorated but little, showed nothing of moment. No tubercle bacilli were found. A bacteriological study of a washed specimen showed the streptococcus and the *Staphylococcus aureus*.

Milian, in a contribution on the subject of fibrinous bronchitis, divides bronchial casts into four classes, namely: Bacterial casts, which are very rare and composed almost entirely of organisms; mucous casts, also very rare; fibrino-leucocytic casts, and lastly blood casts. The cast from this patient was of the fibrino-leucocytic variety, but differing from Milian's description, who says in regard to the cellular elements, "*bien colorés, c'est-à-dire bien vivants, rarement mortifiés*"—in that many of the cells show degeneration. The most interesting histological feature, however, was that the cellular elements were largely composed of eosinophiles, which, according to most of the writers, are found only in small numbers. On the other hand, mono-nuclear leucocytes, which are as a general thing to be noted in considerable numbers, were in this specimen conspicuous by their sparsity. Stained by Weigert's method, the stratified anastomosing substance in the meshes of which the leucocytes were, showed for the most part to be composed probably of mucin, although a little fibrin was present. Several sections stained for the ordinary pathogenic bacteria showed none of these, which was again interesting, since these can usually be identified, except, as Rabe points out, in old exudates. A large number of sections were examined for the tubercle bacillus, but were, to the exclusion of a single one, unfruitful of success. This one section, however, did show what very strongly resembled three acid fast bacilli, but inasmuch as several were examined without result, and as the sputum, as we have seen, was negative, it would be unjust in view of this indefinite ocular evidence to positively diagnose them as such. Cultures from the cast were not made, as I thought the results would be of little value, since the specimen had been kept for some time in an unsterile bottle.

Macroscopically the main trunk of the cast was about five centimetres long by about four millimetres in diameter. It terminated in two branches, each about twenty-five by three millimetres. This is, of course, when compared to those reported by other authors, which averaged ten to sixteen centimetres, not a large one. No lumen could be recognized in either the main trunk or its branches. The cast was of a slate color.

Bettman, in analyzing a hundred cases, classified them as follows: 1. Chronic bronchitis with expectoration of branching casts; 2. Acute bronchitis with expectoration of branching casts; 3. Cases in which branching casts were not expectorated but found at autopsy; 4. Cases in which cast showed dichotomous branching; 5. Expectoration of casts in organic heart disease; 6. Expectoration of casts in pulmonary tuberculosis; 7. Cases of small and non-



branching casts associated with asthma; and 8, formation of casts in bronchi, in cases of pulmonary oedema following thoracentesis.

Accepting this classification then this case would belong to either the category of group 1, viz., the expectoration of branching casts associated with chronic bronchitis, or to cases in group 6, cases associated with pulmonary tuberculosis. If to the latter the case is interesting because in the cases recorded by Jacoud, Model, Duflocq, and Ménétrier the expectoration of casts did not occur until late in the disease, and consequently with clinical symptoms well marked. However here, while we have much to substantiate the inference of probable tuberculous trouble, namely the circumstantial evidence of close association for three months with a rapidly dying case of consumption, suspicious physical signs, the markedly diminished movement of the upper right chest with weakened breath sounds over the same area; a lymphocytosis in the circulating blood, and opsonic index of 0.7, and lastly the finding in one of the sections what suspiciously resembled acid fast bacilli, it is by no means definite. At best the subjective and the objective symptoms are such that if tuberculosis exists at all it is in its incipency, and hence if the ætiological factor in this case, the case is rare.

Comparing the case with those associated with chronic bronchitis it presents one or two interesting features. Usually these cases exhibit marked dyspnoea preceding the expectoration of the cast. This patient says that she never had dyspnoea, and having none it is exceptional for the severe paroxysms of coughing which she suffered from, because observers have noted that in those cases in which dyspnoea does not obtain, little or no coughing is the rule. As is usually the case the casts were always formed in the one place, as is evidenced by the patient's own appreciation of their location. The not uncommon symptom of emaciation and loss of strength is not present here. The patient weighed 136 pounds and she said that she never weighed more than 140. No skin complications such as pemphigus, impetigo, or herpes zoster, noted by many authors in connection with these cases, existed, or as far as I could ascertain had existed.

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2030 CHESTNUT STREET.

#### ACCIDENTS DURING ANÆSTHESIA.

*Their Recognition, Prevention, and Treatment.*

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Death from an anæsthetic is such an appalling event, and carries with it such a stigma in the eyes of the public, that any research that has for its intention the lessening of the dangers pertaining to this class of drugs should receive the careful attention of all who are called upon from time to time to administer them. It is true that comparatively few patients die from the direct effect of an anæsthetic, but this apparent safety makes anæsthesia more dangerous. A physician does not need more than one death from this cause to injure him seriously in his community. The public seems to think that all deaths from this cause are due to carelessness or ignorance, and in some cases, no doubt, this is true. There seems to be an opinion among medical men that anybody can give an anæsthetic, so often we see the cone in the hands of medical students, and even the laity are intrusted with it. The mortality from anæsthesia will never be lowered by putting its administration into the hands of inexperienced and ignorant persons, but this practice will be the means of teaching some doctor some day a very severe lesson.

There is so much to be said upon this subject that one is at a loss where to begin, but believing that an ounce of prevention is worth many times its weight in cures, I will begin by briefly stating some of the points we should observe, when it is possible, in preparing the patient to receive the anæsthetic. Some of these may seem very trifling to the dogmatic, superficial eye, but each detail goes to make up the whole ideal, and it is only by striving to attain the ideal that we are able to obtain the best results.

When it is practical, the patient should have several days' attention before the operation; better, a week. Chemical and microscopical examinations of the urine should be made. The bowels should be emptied, which takes several days of careful purging. However, no purgative should be given later than forty-eight hours before the operation, but an enema should be given about twelve hours before the appointed time. The free administration of water by the mouth is very beneficial, and both combine to limit the formation of gas, thereby reducing intraabdominal pressure. The food should be carefully regulated for several days, the most easily digested food being selected. Nothing should be given in the way of food twelve hours before the operation, as the nervous state of the patient inhibits digestion. If conditions permit, a general bath should be given the night before the operation, and it is also highly important that the patient should get a good night's sleep preceding the day appointed for the operation. Hypnotics should be used, if necessary, and there is perhaps none better than trional (sulphonethylmethane). All of these points bear directly upon the patient's safety. When carried out they give the patient the very best chance of taking the anæsthetic quietly and safely.

for such preparation means that you have put the system in the very best possible condition. In minor operations it is, of course, unnecessary to go into such an elaborate preparation of the patient, especially where the anæsthesia is to be of short duration, but even in these cases such a preparation could do no harm.

Before the patient is brought to the anæsthetizing room a careful examination of the heart should be made. Note the color of the skin, the character of the pulse, the condition of the arteries, whether they are hard or soft. The character of the respiration should be noted, as should also the patient's general temperament.

All rings having been removed from the fingers and ears; all loose teeth having been taken out; all constrictions of throat and chest having been corrected, the patient is brought to the table and is ready for the anæsthetic. It is a good plan to give, a few minutes before the anæsthetic is begun,  $\frac{1}{8}$  grain of morphine and 1-150 grain of atropine. This quiets the patient and reduces the excitability of the respiratory tract. It does more than this. It lessens the excitability of the inhibitory centre of the heart, which centre is very wide awake during the early stages of anæsthesia. It steadies up the vasomotor system and thereby lessens the fall of arterial pressure, so certain to occur under chloroform. It diminishes the amount of mucus secreted under ether, thereby lessening the chances of an infected respiratory tract, pneumonia. The position of the patient is important. He should be flat on his back, with only a small pillow under his head and shoulders. The arms at the beginning should be in such a position so that the fingers can be clasped over the abdomen. Do not be in too much of a hurry to begin the anæsthetic. Converse with the patient cheerfully. Allay his fright as far as possible. Assure him that he will be safely carried through the trying ordeal. Death has occurred a number of times from fright alone, even before a drop of the anæsthetic had been given, so it is best to divert the patient's mind from himself as much as possible. The best way to do this is to have the patient put the ends of his thumbs together and press firmly upon them. I say to them: "The more queer you feel the harder you press." This concentrates the mind upon the thumbs and gives the patient something to do, which is much easier than trying to be perfectly passive. Whatever you do, do not tell the patient to take a deep breath. This is just what you do not want him to do. You want him to be as "natural" as it is possible to get him. Now begin the anæsthetic—chloroform, we will say. Drop by drop it should be added, not to one spot on the mask, but all over it. The wire frame covered with several layers of gauze is the best mask for either chloroform or ether. Some authorities say, push the anæsthetic as soon as the higher centres show signs of incoordination, but it is best never to push it, in the sense of adding a large amount of it to the mask at one time. The continuous dropping will, in the large majority of cases, silently and surely do the work. So easily do many patients take chloroform in this way that if one is not careful the surgical stage will be passed before one knows it, and the patient will be in that stage of complete

relaxation that is hardly ever to be desired. No matter how carefully the anæsthetic is given, very frequently symptoms will arise that call for either more anæsthetic or its immediate withdrawal; consequently it is important to understand all the phenomena that may arise, that we may avoid danger on the one hand or the needless allowing of the patient to come from under the anæsthetic on the other. No anæsthetizer can forget the disgust that mounts the surgeon's face when a patient is allowed to wake up in the midst of a difficult operation unnecessarily.

Generally the first difficulty we strike is some abnormality in the breathing, commonly stertor. There are three kinds of stertor: Palatine, mucous, and pharyngeal. The first two are not danger signals, but the last calls for the immediate removal of the mask. It is caused by the tongue dropping back against the posterior pharyngeal wall, and if not attended to the patient may suddenly suck his tongue tightly down into his throat, thus cutting off the air entirely. It is a sign of marked relaxation, which is always dangerous ground to be on. We remedy this condition by temporarily removing the anæsthetic and bringing the chin forward and up. This pulls the tongue away from the posterior wall and permits the air to enter. The palatine stertor may be remedied in the same way. When lifting the chin forward and up does not relieve the condition promptly, the tongue itself should be caught with forceps or napkin covered fingers and gently pulled forward and up, toward the nose. Pulling the tongue straight out over the teeth only makes the condition worse. After the tongue has been pulled away from the posterior pharyngeal wall it can generally be kept away by keeping the chin well up and the patient's mouth shut, or by turning the head to one side, so that gravity will carry the tongue in this direction rather than backward. After the stertor is relieved the anæsthetic may be continued. Sometimes there appears quite early a choking sensation, and the patient will try to remove the mask. This should be met by the administration of a little air, after which the anæsthetic can be dropped somewhat faster. The following conditions indicate that the anæsthetic should be gradually increased: Marked lateral rolling of the eyes, deep, sighing respiration, swallowing, hiccough, and vomiting. During the last mentioned event the patient's head should be immediately turned to one side, to prevent the vomited matter from being aspirated into the lungs. It can be stated as a safe rule to follow that if the respiration at any time becomes irregular the anæsthetic should be suspended, for it is by the respiration that we can best judge the amount of anæsthetic the patient is getting. Even in the early stages, where irregularity in the respiration is known to be of reflex origin, it is best to admit a little air before increasing the anæsthetic. When struggling, holding the breath, or vomiting occurs, alarming symptoms may suddenly develop, so that one should deal gently with these symptoms. Beware of the inspiratory "whoop." On several occasions I have had patients stop breathing after giving this whoop, and they were revived with the greatest difficulty. The mucous stertor so frequently heard when ether is being admin-

ministered is due to an outpouring of mucus and saliva. If very excessive it can be removed with a piece of gauze wrapped around the finger, or, better still, by turning the head to one side, thereby draining the patient's mouth. The so called "pumping method" of getting rid of the mucus requires some skill and will be used only by the expert anesthetist. In this method the patient's chin is pressed downward and backward during expiration. This forces the mucus out through the nose. During inspiration the chin is held in its usual position—forward and upward.

Should the anesthetist watch the pulse or the respiration? I believe he should watch both, but he should especially watch the respiration, noting the pulse from time to time. If the patient is getting too much anæsthetic, this fact will be reflected in the respiration, either by change in rhythm or depth. Under chloroform, with its accompanying low arterial pressure, the temporal or even the radial pulse is not a true index to the heart's action. The respiratory centre is quick to notice any marked fall in the pressure, because under such circumstances it is not properly supplied with blood; hence we will get a disturbance of the respiration before we can appreciate with the fingers on the pulse that there has been a dangerous lowering of arterial pressure. Another point to be remembered is that the amount of anæsthetic a patient is getting cannot be judged by the amount we pour upon the mask. It is the amount that he inhales that regulates the effect. When the respiration becomes irregular the dose becomes uncertain, and when the dose becomes uncertain the patient is in danger. So we watch the respiration to see if the patient is getting the anæsthetic in evenly distributed doses. It is the sudden increase of the percentage of the anæsthetic in the blood that usually kills the patient. It matters not whether we watch the respiration or the heart, we are unable to forecast these sudden deaths that sometimes arise, especially from chloroform, but in the ordinarily healthy heart watching the respiration will enable us to judge how well the patient is standing the anæsthetic. The patient's face is a good index to the respiratory movement. Marked cyanosis means respiratory failure. Pallor indicates heart failure.

A slight irregularity in the heart's rhythm has no special significance. Neither do murmurs necessarily contraindicate the administration of an anæsthetic. Especially is this true if there is no distinct functional disorder. As Dr. Wood says, the key to the situation is not found in the valvular lesion, but in the condition of the heart muscle. Loud murmurs do not more strongly contraindicate an anæsthetic than do weak ones. The very loudness of the murmur shows that the heart muscle is in a fair condition. It is a safe statement to make, however, that anæsthetics should be avoided, if possible, in all diseased conditions of the heart, bearing in mind that the shock of the operation without an anæsthetic may be more dangerous to the patient than the anæsthetic. Every anesthetizer has noticed how the weak, nervous heart is improved by the anæsthetic. The vasomotor system being depressed, a patient gets chilled if the proper care is not taken

to keep the temperature up, but it is doubtful whether this chilling is ever a cause of the post-operative pneumonia that follows the administration of ether.

The wise selection of the anæsthetic will diminish the liability to accidents. All forms of organic brain diseases contraindicate the administration of anæsthetics, especially if there is atheroma of the vessels. In this case chloroform would be the anæsthetic of choice. Without atheroma, ether is safer. In heart disease, without complications, ether is the anæsthetic of choice. Where there is pulmonary engorgement, all anæsthetics are very dangerous. The combined use of chloroform and ether is perhaps the best plan under these circumstances. In chronic lung troubles chloroform is safer than ether. In all acute pulmonary affections, especially if associated with dyspnoea, anæsthetics are strongly contraindicated. The same is true in obstructive laryngeal diseases, but chloroform is less dangerous than ether. In spasmodic laryngeal troubles chloroform should be selected.

In kidney disease authorities differ in regard to the selection of the anæsthetic, but I believe the majority of them lean toward chloroform as the anæsthetic of choice. Our selection, however, would be influenced by the secondary effect of the disease. If the heart was markedly affected, ether would be our choice. If the lungs were engorged, chloroform would be safer, as ether would increase the engorgement.

The time of day would influence our choice. Ether is inflammable, so it should be used cautiously in the presence of a light other than the incandescent electric. It should be remembered, however, that while chloroform is not inflammable, it undergoes degeneration in the presence of a flame and chlorine is liberated, causing a severe irritation of the respiratory tract to all in the room.

In spite of all the care we can bestow upon the patient, alarming symptoms and sometimes death will occur. There is no method known to man of administering an anæsthetic that is entirely free from danger. Beware of the anesthetist whose own peculiar method of administration has banished the hypodermatic needle from the operating room and reduced the mortality from anæsthesia to nothing! Eternal vigilance should be the watchword, and the minute the least suspicious symptom arises the anæsthetic should be suspended. Death may come suddenly. Alarming symptoms may arise at any time.

How can we tell when the patient is in danger? First, by closely watching the respiration. Any irregularity means trouble. Watch the face for cyanosis or pallidity. Examine the pupils from time to time; their sudden dilatation without fluctuation means stop the anæsthetic and give plenty of fresh air. Note the pulse from time to time. A weak, fast pulse calls for stimulation and the momentary stopping of the anæsthetic.

Suppose, however, instead of any of these symptoms, the patient suddenly shows signs of impending death. What is to be done? First, don't get excited. Have a systematic plan of treatment "at your fingers' ends," then apply it speedily but thoroughly. Unless the heart is beating forcibly, which



is entirely unlikely, invert the patient's body to an angle of forty-five degrees with the floor. Immediately begin artificial respiration and see that the tongue is held in such a position, by an assistant, that the air can enter the lungs freely. This is lung washing, and is the only way we can get the poison (anæsthetic) out of the patient, just as we wash out the stomach when the patient has swallowed a poison. Artificial respiration should be faithfully and persistently carried out. The patient must be made to breathe. The rhythmical dilation of the rectum is a powerful stimulant to the respiration. It rarely fails to make the patient gasp. Pressure over the abdomen while the patient is inverted will help to send the blood to the brain, where it is so badly needed at this time. As for drugs, only two or three are of any value, and these should be given hypodermatically: Strychnine sulphate, 1/10 grain, and digitalis, 5 minims, should be administered by an assistant. Ammonia may be inhaled, and a pint of decinormal salt solution, containing fifteen or twenty drops of adrenalin chloride solution, may be given under the skin. This sometimes has a markedly restorative effect. It should be borne in mind, however, that absorption is exceedingly slow in these cases, on account of the defective circulation, so that in administering drugs toxic doses should not be given, nor should the doses be repeated too often or too close together, for drugs given under these circumstances remain under the skin just where they are injected until the circulation begins to improve, at which time all of the doses may be absorbed at once, killing the patient. Artificial respiration stands first; all other restorative measures are secondary. Be sure to provide plenty of pure air and keep the patient warm. After the patient has recovered he should be watched for several hours. There are certain drugs that have been used in treating impending death from anæsthesia that I regard as of doubtful efficacy, if not actually dangerous. Amyl nitrite is one of these. This drug depresses in a powerful manner the entire central nervous system, including all the higher centres. It paralyzes the vasomotor system in large doses and depresses the heart. I will admit that there is a time in its action when it apparently stimulates the heart, but this occurs only when the dose is regulated to a nicety, and is exceedingly fleeting. "The dominant action of amyl nitrite is that of a powerful depressant to all higher forms of protoplasm," and especially is this effect noted upon the vasomotor system. Alcohol in any form is also contraindicated, for it only differs in that its action is more prolonged. Especially is this true when ether is the anæsthetic. Hypodermatic injection of brandy or whiskey should not be given. The hypodermatic injection of ether is a physiological outrage. Nitroglycerin acts similar to amyl nitrite.

The writer hopes that this paper will aid these physicians who are called upon from time to time to administer anæsthetics. With a careful attention to its details many of the unpleasant symptoms of anæsthesia can be avoided and its dangers greatly diminished.

617 WALNUT STREET.

## ON THE ÆTIOLOGY OF PSORIASIS.

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The causes of psoriasis are not known. This is the gist of the writings of the authorities on skin diseases, as it is the first statement of nearly all lecturers when presenting cases of psoriasis to the class.

It was while the writer was taking a prolonged course of instruction in laboratory methods and technique at the Philadelphia Polyclinic Laboratories that the idea first came to him to try out the method which has proved successful in growing the germ which, when the opsonins were made therefrom and used in treatment upon the patient, resulted in a speedy and safe cure of the disease.

I had been attending the clinic of Professor Schamberg for the purpose of gathering material for laboratory use when he presented a very bad case of psoriasis. During his lecture he spoke of the aggravating effects that hot water and soap had upon this disease. Perhaps it was because of the way he put this information to the class, nevertheless it impressed me forcibly and I became determined to try out the method which came to my mind during those moments. I intended to have made the trial then and there, but was called home, and it was not until this winter that an opportunity presented in which I could do so.

But first let me quote from some authority on skin diseases—and perhaps Hyde on the *Diseases of the Skin* is as good as any—to show us the present state of the bacteriological search for the cause of this dreadful disease.

"Lang, of Innsbruck, attracted notice by his alleged discovery of certain fungous elements in psoriasis that he asserted to be the cause of the disease. These fungi he finds in the whitish pellicle beneath the superficial squamous layer, to which Bulky had already called attention. After stripping the pellicle or a part of it from the surface, and subjecting it to the action of a five per cent. solution of caustic potash, the epithelium appears translucent, and upon and beneath the epithelium double contoured and highly refractive spores become visible. Lang considers this fungus to be of the lowest species, different from any previously recognized upon the skin, and he terms it *epidermophyton*. Weyl, who believes that psoriasis is due to 'an inherited weakness of the nervous centres,' has seen Lang's 'brood cells,' and he regards them as 'myelin like exudations'; but this position is disputed by both Wolff and Eklund, who confirm Lang's observations, and who believe the disease to be of parasitic origin. Lassar succeeded in producing a disease of the skin in rabbits by rubbing into various portions of their bodies scales, blood, and lymph removed from psoriatic patches of a male patient."

I could quote from other writers, but to the same effect, that nothing definitely is known.

The case upon which I determined to carry out the mental suggestion received during Professor Schamberg's lecture was a man aged forty-eight, short and stolidly built, in excellent health, other than being afflicted with psoriasis on one of the lower limbs. He was a man of an ever careful and regular in all his habits, and he has never been sick, nor had any disease since early childhood.

The patches were numerous and thick, extending from the lower part of the leg, to the knee, and were of a brownish color, and have a scaly surface. The patches were of the size of the palm of the hand, and the patient had been using the only cure of his kind, from time to time.

As I examined this man the words of Professor Schamberg came to me, with the same force and

mental pictures received while at his clinic one year ago.

I proceeded to work by removing the outer scales, and when I had reached the lower stratum I proceeded with care and removed scales to a wet slide, keeping the scales moist with soapy water and at a temperature of 104° F., examining it at stated intervals with the high power lens. At the end of twelve hours I failed to detect any change whatever in the scale, the "myelin like exudations" were in evidence and seemed to so fill the scale that nothing else could be seen.

I left it that night under arrangements whereby the moisture and temperature would be retained at even degree. The next morning I was surprised to find that the temperature stood at 190.4° F., scales moist, and upon examination I was surprised to find a growth of a very peculiar germ; all the "myelin like exudations" were in bloom, and the growth was at or from one end of the spore, looking for the world like a transparent, delicate, diminutive stove pipe placed over one end of an egg.

In the hanging drop I found that while the organism is in this state it will swim through the fluid, spore end first; after the growth of the vegetative end has reached an almost fully developed state the organism will swim or move through the fluid vegetative end first. Now one may see the germ making strong and rapid movements to rid itself of the spore. Should it succeed it will move away as an independent organism, but should it not become free and not be disturbed it will develop into as pretty growth of fungus as could be found.

The bottom growths, grown in a liquid medium containing sodium nitrite, are of a long, slender, delicate, transparent nature, containing comparatively few spores, while the top growth seems to run to seed, so numerous are the spores. In one organism I was able to count over sixty spores.

I then made a liquid medium, slightly alkaline, and containing 0.1 per cent. sodium nitrite, and securing fresh scales, as before, I incubated at 159° F. for two weeks in semidarkness. The growth was heavy, and examinations from time to time showed the same odd shaped and odd acting germ.

I at last succeeded in obtaining a pure culture, from which I made the opsonins, and gave the patient his first treatment. The opsonic index was taken several times, but proved nothing.

I have not finished my study of this organism, but suffice it to say that it is a mould.

At the end of four days my patient reported at my laboratory and seemed none the worse for the treatment. The reaction, while quite severe for about twelve hours, simulated rheumatism or a slight cold settled throughout the muscular system; the patient never lost a meal nor an hour's time during the course of the treatment. The only change noticeable was a pitting of all the scales, as if each scale was punctured with fine needles; this was noticed in every part of his body.

At the end of eight days he reported again. The pitted condition of the scales was still in evidence, with a decided lessening in the amount of the scales formed on the inflamed patches of integument.

The second treatment was given; the reaction proved to be of less severe character than the first.

In ten days he again reported. There was now

noted a decided change in the color of the inflamed skin, changing from a bright red to a dull leaden red, a decided shrinking in the elevation of the inflamed integument, with numerous patches of shrunken areas of smooth surface, which seemed to be on a level with the normal integument. This was the first noticeable change toward a return of the psoriatic patches to a normal condition.

After the fifth dose the case progressed without a stop or hitch in a smooth and even way toward full recovery and a permanent cure; at least, I have good reasons to so state.

I have several milder cases under treatment at this time, which I shall report later.

In conclusion it may be of interest to some to know that in the examination of the saliva the sulphocyanides were present, and that the content of ammonia was above the normal, while the basic salt of the saliva was potassium, and, as it is in all inflammatory diseases, the secretions from the parotid glands were in less amount than that from the other salivary glands, causing the saliva to be of a thick, stringy and frothy nature.

I have made a chemical study of this organism and its opsonin, as I have of that germ which I have made use of in my study of the epilepsies and allied paralysis, and have found the same reaction or substances which give the same reactions in both germs, being found in greater quantities in the nidus fluid, or liquid medium, in which the organism was permitted to grow, until, from the accumulation of a certain crystallizable substance (which is an anti-enzyme), prevents the organism from performing its normal function, thus causing its death. It is this substance, and not phagocytosis, as is now believed, that is the active agent in producing immunity.

There are found three distinct crystallizable substances, each forming distinct and different, though beautiful, crystals, and an amorphous substance, which I have reasons to believe is composed of two different substances.

So far my laboratory studies have shown me that each of these substances have distinct physiological actions. One is the toxine which affects the host, the second is the autogermicidal toxine which I know will, when in sufficient strength in the body, kill the germ, and from laboratory experiments believe it to be an antiferment. The other substances, as well as those just mentioned, are still being studied, with prospects of a full report within the year.

#### ON THE MANAGEMENT OF TYPHOID FEVER WITHOUT A NURSE.

BY L. C. FREENY, M. D.,  
Pittsville, Md.

The average general practitioner is obliged to treat probably three fourths of his cases without the help of a trained nurse. Now and then one comes in contact with people of good habits of observation who make capital nurses, never having had any experience in the handling of the sick. On the other hand, those you might expect to do good work are often the most disappointing.

After some years of experience, I have made out a sheet of instructions for the use of the family

when a competent nurse is not available. This sheet I have typewritten, and order it to be tacked on the wall. The family are told that when a question arises, if they will read the sheet carefully they will in all likelihood find in it just what they want to know, as it covers a great deal of ground.

It may be as well to state that as soon as the diagnosis is made full directions as to the disposal of fæces, urine, and sputum are gone into thoroughly, once for all. Also the disinfection of the bed linen. A solution for the disinfection of the hands is kept in the room all the time, with the warning that it must be used to prevent the disease being communicated to those in attendance.

There are set aside for the patient's own use a sufficient number of glasses. These are scalded after being used each time, and once each day the whole number is boiled in a solution of sodium carbonate. The same precautions are taken with the china, spoons, etc., at a later time, i. e., when the patient is convalescent.

A member of the family is shown how to take the pulse, respiration, and temperature. These are put down in a schedule, together with the number of bowel movements and approximate amount of urine day by day. From this data I fill out the chart myself for my own guidance in the case and for future reference.

I sponge an arm to show how I want it done, rubbing the part rather briskly with a dry cloth. Then the arm is "slushed" with 95 per cent. alcohol. Some will not agree with this manner of sponging, but it gives a more thorough refrigerant effect than without friction. Not only that, but it keeps the skin in good condition, stimulates the patient, and quiets the nervous system, the patient falling into a quiet and refreshing sleep.

If the family will carefully follow out the scheme, and watch the patient closely, notifying the physician of any untoward symptoms, many of the accidents in the management of this disease will be avoided. To many that will read this it will seem foolish or childish, but the patient's friends will not think so. They fully understand that they are undertaking something that they are unfamiliar with, and anything that helps them in this self imposed task will be gladly accepted.

#### *Some Things to Remember.*

Sponge the patient every three hours when the temperature reaches 102.5° F. or over, unless he is in a sweat. Use a watch to time yourself when sponging, and make it take you at least thirty minutes to complete it.

Do not sponge the patient when he is in a sweat, but wait, even if the temperature is high, until the skin is dry and hot, before sponging.

Take the temperature every three hours.

Give the nourishment every three hours.

If you forget the medicine don't forget the nourishment and the temperature.

Watch every bowel movement for any sign of blood.

Report to me any complaint of pain in the bowels.

The nourishment ordered is enough. The patient must not have anything else.

Keep quiet in the room and always encourage the patient.

Give a warm soapsuds bath every morning at 9 o'clock, and an alcohol rub every evening at 9 o'clock.

Never rub the abdomen at all.

Write down anything of importance that you may want to ask me; then it will not be forgotten.

#### CHLOROSIS CURED BY THYROID EXTRACT.

By F. K. MACMURROUGH, M. D.,  
New York.

CASE. B. H., aged twenty-two years, female, single, occupation bookkeeper, suffered with symptoms of chlorosis since first menstruation. Fainting spells, heart flutterings, constipation, scanty menstruation, and constant leucorrhœa were the more prominent troubles in this case. The blood count was deficient. The treatment consisted of thyroid extract, 3 grains after meals, a daily quart clyster of normal salt solution, Bland's pills, the practice of deep breathing, and open air life. All the symptoms yielded which had before been intractable to other modes of treatment. The remedial measures employed were suggested by a cursory reading of the second volume of Sajous's *Internal Secretions* and the *Principles of Medicine*.

If we are henceforth to ascribe many, if not all, diseased conditions to overstimulation or depression of the pituitary bodies and the consequent effect upon the internal secretions of the ductless glands, viz., the adrenals, thymus, parathyroids, thyroids, and the spleen, medicine becomes at once an exact and a simplified science. That such is the case Sajous, in his exhaustive treatise on the *Internal Secretions*, seems very strongly to establish. He traces the nerve connection between these ductless organs and the pituitaries so clearly, and shows the control exercised by that portion of the brain over the oxidation of tissue or tissue respiration, the internal secretions acting and counteracting on the blood through the "ferment of ferments," that the vista at once gladdens the heart of the therapist and brings an air of the fact accomplished which becomes the most reassuring and convincing thing in latter day medicine.

Following Sajous's line of medication, the two contrasted conditions of exophthalmus and myxœdema would give the key to the whole subject. Sajous says in the preface to his second volume that he does not introduce any new theory or speculation in medicine. He has simply followed such men as Brown-Séquard, Langlois, and Ciliulski. He does not even introduce a new serum. He simply introduces order where there is a certain medical disarray. Mercury, iodine, quinine, strychnine, opium, and the bromides have, through his good offices, come into their rights, and rank higher than before in the list of medicaments. Thyroid extract is, perhaps, placed above them, but they are all congeners, and henceforth may become, in the hands of the profession, weapons of as much point and precision as the needle or the sterilized blade. At the same time he delivers a death blow to self medication at the hands of the laity, for when this new step in medicine is realized and grasped by the public mind, a proper dread should be felt by all for the unscientific treatment of disease. Every man should then not be his own physician any more than every man is now his own surgeon.



## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far they have been decided upon, the further questions are as follows:

LXXXIII. How do you treat seasickness? (Closed April 15, 1908.)

LXXXIV. How do you treat sunstroke? (Answers due not later than May 15, 1908.)

LXXXV. How do you treat cholera infantum? (Answers due not later than June 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXXII has been awarded to Dr. J. Russell Verbruycke, of New York, whose article appears below.

### PRIZE QUESTION NO. LXXXII.

#### THE TREATMENT OF FRACTURE OF THE PATELLA.

By J. RUSSELL VERBRUYCKE, M. D.,  
New York.

House Physician to the Mt. Sinai Hospital (Private Pavilion).

Perhaps in no other injury does the future usefulness of the part depend so much upon proper treatment as in fracture of the patella. In spite of all our efforts, the result is often far from perfect, and usually the patient has some weakness of the leg, particularly in extension, though perhaps flexion, also, may be restricted. More unfavorable outcomes, such as nonunion or insufficient fibrous union and bony ankylosis, are far too common.

The natural tendency of the fragments, because of their usual wide separation, is to heal by fibrous union. This must be prevented, and an attempt made to obtain bony union, by more perfect coaptation of the fragments. The separation is produced by the retraction of the strong quadriceps muscle, the collection of a large amount of fluid exudate and blood, which generally takes place speedily after the injury, and the interposition between the fragments of the torn periosteum or aponeurosis. The prognosis is governed in great measure by the presence or absence of these factors and the consequent treatment employed.

#### Simple Fractures.

Eighty per cent. of simple fractures of the patella are transverse. The aponeurosis covering the patella is usually torn, while the capsule and reinforcing tendons of the vastus internus to the inner side and the prolongation of the fascia lata on the outer side may also be injured to greater or less degree. The extent to which these are injured has an important bearing in the prognosis and treatment

of the case. There are two general methods of treatment: (1) By mechanical means, and (2) by open operation. In cases of transverse fracture, in which there is not much injury to the surrounding parts, no interposition of soft parts, not too great swelling, and the fragments can be brought into good apposition, the mechanical treatment may be relied upon.

The best device is probably Agnew's. Use a splint of board, about thirty inches long, five inches wide at the top, and four inches at the lower end, having two pegs projecting laterally from each edge, the upper peg on each side to be above the patella and the other two below. After padding well apply it to the posterior surface of the thigh and leg, and elevate the lower end. Bring the fragments into position by strips of adhesive, of which one passes from the upper peg on one side, downward, under the lower fragment, thence to the upper peg on the other side, while the other strip is passed from the lower peg on one side, upward, above the upper fragment, and thence to the lower peg on the other side. By this means the fragments are pulled toward each other, and by turning the pegs more pressure may be exerted at will, so as to keep them approximated.

Since, however, the mechanical treatment often gives fibrous and incomplete union or the continued immobility tends to produce bony ankylosis, mechanical treatment has its disadvantages. One can never say when there is an interposition of soft parts between the fragments, and cannot always estimate the probable extent of the tear in the surrounding structures.

So what appears the more ideal method of treatment, now that nearly perfect asepsis can be obtained, is the open operation and wiring. This is the only method by which bony union can usually be obtained. A longitudinal or transverse incision is made over the fracture, and the exudate, hæmorrhage, and tabs of tissue thoroughly cleaned out of the joint. It is preferable to wash the joint out with hot, sterile salt solution from a nozzle, and the fingers should not touch the parts any more than is positively necessary, all handling being done with instruments as far as possible. The fragments are brought together and held in position by two silver wire sutures passed through holes bored obliquely through the dorsal surface and edge of each fragment. The torn periosteum is united with heavy catgut, the tear in the lateral expansion of the tendon with kangaroo tendon, and the wound closed. A posterior splint is applied. As soon as the skin wound has healed, and the sutures have been removed, the knee is encased in a light plaster of Paris cast. This is split in a few days, and removed every day to allow light massage of the joint. In three weeks the patient, still wearing the cast, may walk with crutches, and in a month passive motion should be practised. The cast should be worn during the day for three months.

Good results with bony union are obtained by this method in about ninety-five per cent. of the cases, while the operation itself has scarcely any mortality in the hands of good operators. It is the ideal method of treatment, but should be employed only

where the conditions are such that an absolutely aseptic operation can be performed, and by a competent surgeon.

Longitudinal fractures require little treatment. The fragments do not tend to separate widely, and may be held in place by adhesive strips and the use of a posterior splint for two weeks, after which the patient may walk with the knee in a light plaster cast for several more weeks. The same may be said of fissure fracture and most cases of oblique fracture. If the fragments tend to separate in an oblique fracture, treat as a transverse fracture. T shaped fractures should be wired.

#### *Compound Fractures.*

Of course, it is evident that the open method, with removal of small fragments and thorough cleansing of the joint, followed by approximation with sutures, is the treatment which must be followed in this class of cases. Temporary drainage should be instituted. Heavy chromic gut is preferable to silver wire in these cases for holding the fragments in apposition, as, in the event of infection taking place, the gut is absorbed, while the wire remains as an irritant, preventing healing, until removed.

#### *Summary.*

1. In simple transverse fractures, when the proper facilities are at hand, the results are more sure by open method and wiring, with a consequent bony union.
2. If the patient objects, or operation is not feasible, results from the Agnew splint are next most satisfactory, though followed more often by fibrous union.
3. In other varieties of simple fracture, the treatment depends on the amount of separation, approximation being usually easily obtained by adhesive plaster and the use of a splint.
4. All compound fractures should be treated by approximation of fragments with heavy chromic gut instead of silver wire, and the use of temporary drainage.

*Dr. Walter Ennis Hays, of New York, writes:*

We base our treatment of any condition requiring medical or surgical attention on our understanding of the morbid process presenting itself. The usual thing in fracture of the patella is to find a varying degree of separation of the fragments. Especially is this the case when there has been quite an extensive laceration of the soft tissues. The fractured surface of the upper fragment is tilted toward the cavity of the knee joint by the pull of the fibres of the vastus externus and vastus internus inserted into the outer edge of the bone. The traction exerted on the upper fragment by the tendon of the quadriceps extensor and a counter pull on the lower fragment by the patellar tendon serve to separate the two fragments, the prepatellar tissues then falling over the edge of the upper fragment and interfering with direct apposition of the fractured surfaces. A tension within the joint due to trauma of the synovial membrane also separates the fragments, the inner edge of the distal piece of bone being usually tilted outward. There are cases of fracture of the patella with little injury to the soft tissues

and but slight separation of the fragments. These cases offer good results from conservative or non-operative treatment. Fibrous union of the injured bone, with its final crippling of the patient to a greater or less degree, is so much to be dreaded, however, that the radical treatment is always to be preferred where a competent surgeon and the strictest aseptic technique can be assured.

The patient should be frankly informed as to the dangers of sepsis with the risk to life and limb, as well as the expected advantages to be derived by the operative method. The probable results of the conservative treatment should also be laid before him. The working man or any one else actively using his legs can expect a shorter convalescence and a probable better result by the operative than by the expectant treatment. Operation should never be attempted in individuals of over sixty years of age, and is, of course, always necessary in compound fractures. In multiple or comminuted fractures, operation is also indicated, and wiring of the fragments should be done. Amputation may have to be considered in the latter class of cases. Preliminary treatment of the joint to reduce swelling may be necessary. The foot is elevated and the joint immobilized. The ice bag and cooling lotions are applied to limit the inflammatory reaction. A flannel roller bandage, reapplied as necessary, will greatly aid in the absorption of the effusion. As soon as the inflammation has subsided, operation may be attempted with better result.

The operative treatment consists in careful cleansing and sterilization of the area about the knee joint with soap and water, alcohol, ether, and corrosive sublimate solution (1 in 1,000). A transverse or longitudinal incision is then made exposing the cavity of the knee joint. All blood clots and shreds of tissue must be wiped away from the surfaces of the fractured bone and the joint cavity sponged or irrigated free of clots or other tissue debris. If the joint is irrigated, sterile normal salt solution should be used, except in an open fracture, where mercuric chloride solution (1 in 10,000) may be employed and followed by the salt solution. Care must be taken to reach all parts of the joint, especially posteriorly, behind the condyles of the femur. It is usually not necessary to fasten the bony fragments unless the fracture is an old one or comminuted, as mentioned before, and difficulty is experienced in retaining the injured bone in proper position. The ligamentous tissue covering the patella is sutured with chromicized catgut, after the fractured surfaces have been carefully approximated. The fascia is also brought together with chromicized catgut, while the skin is closed with a subcuticular suture of silkworm gut. No drainage is necessary. The joint is then immobilized in a posterior wire or plaster of Paris splint. Massage may be begun after two weeks. At the end of three weeks, passive movements should be instituted. A week later the splint should be removed, and a light stiff dressing applied about the knee joint. The patient should then be encouraged to attempt walking. At the end of the sixth or eighth week the patient should be able to flex the knee, and will only need to wear a light flannel bandage, and no brace. A month later the splint should be removed as before the accident.

In the conservative method of treatment the knee joint should be immobilized by a posterior splint, either of wire or board with side pieces, or of plaster of Paris. The latter has seemed more satisfactory, as it can be perfectly fitted about two thirds of the circumference of the leg from the gluteal furrow to the foot. Several layers of cotton flannel, well rubbed up in cream of plaster of Paris, can be applied posteriorly to the leg, and held in place by a muslin roller bandage. It may be removed as necessary and reapplied. Care should be taken that it should fit snugly after the joint swelling has disappeared. Adhesive plaster strips are used to approximate the two fragments in proper position. One strip of the plaster is applied from above downward obliquely about the joint, so that its lower edge will pass over the upper border of the upper fragment of bone, pulling it downward and preventing the inward tilting of its lower edge. A second strip is passed obliquely from below upward and posteriorly over the lower fragment, so that the outward tilting of its fractured edge will be obviated. Occasionally it will be necessary to firmly apply a strip of adhesive transversely about the joint to prevent eversion of the fractured edges. By traction and countertraction thus exerted to promote apposition of the fractured surfaces, firm fibrous union can often be secured and a good result follow. As the effusion disappears, readjustment of the adhesive plaster strips will be necessary. After the first week, daily massage of the quadriceps extensor should be done, without removing the splint, to prevent atrophy through disuse. At the expiration of three weeks the splint should be removed daily, and massage and passive movements practised. At the sixth week, a light stiff splint should be applied and walking with crutches permitted. After the eighth week, active motion may be tried with care, the crutches discarded, and a cane used. This light stiff splint about the joint should be continued until the sixth month, when a flannel bandage should be applied and employed for three months longer. After the ninth month a support is not usually required.

Comparison of results from the two methods of treatment shows to the credit of the radical or operative in more perfect restoration of function, better bony union, and a shorter invalidism. However, the danger from sepsis must not be discounted, even with complete facilities for cleanly work.

*Dr. P. C. Hutton, of the United States Army, states:*

In the treatment of a fractured patella we first seek an accurate reduction and means to immobilize the fragments. Accurate reduction is dependent largely upon the time elapsing between receipt of injury and the time the patient is seen by the surgeon. If seen immediately, the swelling will not be such as to prohibit approximation and retention of fragments, but if seen after the effusion has become prominent steps must be taken to dissipate this effusion before reduction can be accomplished. An elastic bandage, should other means not be at hand, will ordinarily secure the desired results, if traumatism has not been very severe, in twenty-four hours or less, but two flat sponges, about the size of a man's hand, are equally efficacious and more com-

fortable to the patient. These sponges should be applied after the joint is snugly wrapped in a flannel bandage and in such a manner that the sides of the sponges come together over the anterior surface of the patella. After carefully applying the bandage, which holds them in position, with such force as may be consistent, hot water (115° F.) is slowly poured over the whole until the sponges become saturated. This process is repeated each hour until the bandages and sponges are removed.

Having dissipated the effusion, the leg is massaged and the fragments approximated. The lower fragment is drawn upward as far as practicable, and there maintained by a strip of adhesive plaster, one and one half inches wide, passing beneath the lower border, encircling the leg obliquely, and overlapping on the under surface in the popliteal space. The injured member is now elevated by an assistant, and the upper fragment brought downward into apposition in a similar manner, the adhesive plaster overlapping on the posterior surface at about the lower border of the knee joint. A properly padded, long posterior splint is affixed and held firmly by straps, preferably made of canvas, and attached to back of splint with a buckle, so situated as not to infringe upon the limb. Of these straps there should be four, one at each extremity of the splint and one above and one below the knee. In addition to fixation of leg to splint these straps also serve to prohibit powerful contraction of the extensor muscles. This prohibition is more completely realized, however, when coaptation splints are also applied over the lower half or two thirds of the quadriceps, but before their application a second strip of adhesive plaster is passed above and below the respective fragments, and the extremities of the straps made fast to the posterior surface of the splint in the oblique manner as indicated. As the swelling subsides these straps may have to be tightened. In this event the fragment is held in position by an assistant while the surgeon reapplies the strap. The limb is now bandaged snugly to the splint, both above and below the knee, the joint being left clear for inspection and examination. The limb should then be elevated in order to secure relaxation of the extensor muscles.

The treatment from this point onward is of the greatest importance, and the result attained will depend largely upon the manner in which the case is handled after reduction is complete. Daily massage, beginning upon receipt of injury, must be carefully and systematically employed. The external bandaging having been removed, the masseur should begin at the ankle and slowly work upward. In massaging the joint care must be exercised that no violent friction is developed. The tips of the fingers only should be employed at this point. Union takes place in from two to six weeks, depending somewhat upon the age of the patient, and the splint should not be removed until the latter time has elapsed. In this statement I am not unmindful of what certain books recommend on this subject, but having once had a distasteful experience I am in no position to advise the removal of the cast nor the commencement of passive motion at the end of four weeks. The only danger of waiting six weeks is that of partial ankylosis, and this always clears under massage and passive motion. It is much better



to have a well united patella than to have one weakened by passive motion practised upon fibrous shreds before union is complete. Therefore at the end of six weeks passive motion is to be instituted and the massage still continued. At this time, also, a removable, light plaster cast may be employed, and at the end of eight weeks the patient allowed to walk on crutches. About the tenth week the crutches may be abandoned for a stout cane. The light splint is worn for four to six months, when it gives way to a flannel bandage, and in the meantime the massage is continued. It is best to continue the flannel bandage for one or, perhaps, two months, when it may be removed. At this time perfect function should obtain, but the patient is to be cautioned to avoid quick movements and the sudden application of weight to the injured limb for a period of one to two years.

*Dr. Walter Lathrop, of Hazleton, Pa., says:*

While fractures of the patella are not common as compared with those occurring in other bones, yet the importance of correct treatment cannot be overestimated, as the correct or incorrect handling of the case usually determines the usefulness of the limb.

The cause of these injuries is usually direct violence, and in my experience has most frequently happened to railroad brakemen, who have been struck by a brake iron, while setting or releasing a brake. Again, I have seen it due to a kick from the point of a heavy shoe. It may also be caused by sudden contraction of the muscles or flexing of knee. Of course a fall against some solid material would easily produce the injury.

Most of my own cases have been of the comminuted type, and I believe those produced by direct violence are frequently of this order, while muscular contraction would tend to give a single break, and this is usually transverse, and below the middle.

The symptoms, while familiar to all, may be briefly stated in order of importance as, sudden loss of power, pain, great swelling about the parts, and difficulty in raising the limb from the bed. There is also a characteristic hollow between the fragments when the leg is bent, and often with no moving of limb we can separate the parts easily.

In regard to treatment we have to consider the conditions present in this class of cases. We have a joint filled with blood; we have the fragments pulled apart, and kept so by the action of a powerful muscle and tendon, and we have also the strong supposition that interposed between these fragments are pieces of tissue or shreds of aponeurosis, which will act against our getting bony union if allowed to take a course of nonoperation. It is true that in many cases nonoperative treatment will give, and has given, good results so far as fairly good use of the limb is secured, provided the treatment has been most carefully and thoroughly applied when the injury is first received.

In the nonoperative treatment we hope to achieve several things: The removal of effusion in joint and tissues, and to overcome muscular opposition are the chief objects in view.

The application of cold compresses is most valuable, accompanied by firm bandaging, or we may

remove fluid by aspiration or small incision, being sure of having the parts surgically clean. After removal by incision or tapping, the part should be firmly bandaged, to prevent a return of the trouble. The treatment of the fracture is best done, I believe, by the use of the Agnew splint, with or without the adjusting pegs; my preference is either a firm figure of 8 bandage, bringing the bones together as well as possible, or else using strips of adhesive plaster, carefully applied, and passing beneath the splint.

Plaster of Paris for fixation I have abandoned entirely in these cases until several weeks have passed, when the limb may be put up in plaster, and patient let up on crutches, and shortly after the cast may be removed, and massage, passive movements, and gradual use of the knee be commenced.

In regard to operative treatment, I am convinced by a fairly large experience that, under strict surgical cleanliness, aseptic or antiseptic surroundings, fair ability, and clean work on the part of the surgeon, this method offers the very best of all measures, in securing bony union, and a useful limb. When a patient is elderly, or in poor health, I think it better not to operate, although possibly a local anæsthetic might be used, but I doubt its expediency.

We must remember also that opening the knee joint is not a simple affair, but a formidable operation, to be undertaken with the same preparation that would be used in opening the abdomen, and, in fact, the after results are more often in doubt where the knee is involved than where the abdomen is concerned.

Stiffness of the limb, infection, and possible loss of the leg are possibilities not to be ignored, and it is therefore self evident that the chief element of success in these cases is scrupulous cleanliness at every stage of the operation. If we can place the injured parts in practically the same position as they were before the injury, then we should expect a practical cure, and it can be secured by the method which is described in this paper, and used by a good many surgeons, and is most satisfactory in the results obtained.

The leg and knee are carefully prepared for operation, and then an incision made either across the joint from side to side, above the fracture (my custom), or a "U" shaped flap turned up, exposing the parts beneath. The torn tissues about the fracture are turned back, all clots and debris carefully and thoroughly removed by sterile salt solution, aided by forceps if necessary. The leg is then extended and held firmly while the fragments are brought into apposition (care being taken to prevent any foreign matter from lodging between the bones), and sutures of chromic gut passed through the ligaments and tissues about the patella, as well as the periosteum, which should be secured over the line of fracture very carefully. The quadriceps tendon should be sutured with care, and the skin wound closed with silk worm gut or any suture of choice. I do not believe in the use of wire or nonabsorbable material, and my experience has proved it unnecessary. A loop of catgut may be passed entirely around the patella if the surgeon deems it necessary, but I seldom, if ever, use it. The after treatment consists in putting the limb on an Agnew splint.

with absolute rest, for two weeks; then very gentle manipulation of the patella only, and after four to six weeks passive motion, massage, and the gradual use of the limb, aided, of course, by crutches. Of course at the time of operation a small drain of gauze or horsehair may be inserted at the angles of wound if deemed advisable, but where hæmorrhage has been carefully arrested, and the suturing done with great care, the use of drainage is not often required.

As to time of operation, my practice is to operate at once if possible, before the advent of great swelling and hæmorrhage about the joint, but most of the patients have been received from two to four days after the accident, and I have always operated upon them at once, carefully cleansing the joint as before mentioned, and getting splendid results in every case.

I have tried the direct suture by wire, through holes drilled in the fragments, by passing wire around the fragments, and by a combination of methods, but none equal, or even approach, the means I have advocated.

*Summary.*—In elderly or feeble people the non-operative method seems advisable, save in selected cases. For the general practitioner the nonoperative is best.

Where hospital facilities can be obtained the operative method is much the better method.

Where good surgical skill is at hand this method is to be chosen in most cases. The use of chromic gut is better than nonabsorbent sutures. The great secret of success is absolute cleanliness, careful technique, perfect apposition, with all bleeding checked, absolute rest for ten days to two weeks, gentle massage after two or three weeks, and then passive motion, and gradual use of the leg.

(To be continued.)

## Correspondence.

### LETTER FROM HAMILTON, CANADA.

*The Ontario Medical Association.*

HAMILTON, April 20, 1908.

The twenty-eighth annual meeting of the Ontario Medical Association will be held in the Normal College Building, Hamilton, on the 26th, 27th, and 28th of May, 1908, under the presidency of Dr. Ingersoll Olmsted, of that city, the general secretary being Dr. Charles P. Lusk, of Toronto. A programme of great scientific and practical interest has been prepared; in fact, it is one which has not been surpassed by any medical organization in Canada within recent years. The address in medicine is to be delivered by Dr. Charles G. Stockton, of Buffalo; the address in surgery by Dr. Charles L. Scudder, of Boston. In addition to these, papers are to be presented by several eminent United States and Canadian physicians and surgeons. Among others are Dr. Virgil P. Gibney, of New York; Dr. Harry C. Buswell, of Buffalo; Dr. Thomas McCrae, of Baltimore; Dr. Lewis G. Cole, of New York; Dr. Benson P. Cohoe, of Baltimore; Dr. Harry P. Lyle, of New York; Dr. J. C. Meakins, of New York; Dr. Herman Sanderson, of Detroit; Dr. George E. Armstrong, of Montreal; Dr. A. E. Garrow, of

Montreal; Dr. J. W. Stirling, of Montreal; Dr. Campbell Howard, of Montreal; Dr. Colin K. Russell, of Montreal; Dr. Adam H. Wright, of Toronto; Dr. N. A. Powell, of Toronto; Dr. L. W. Cockburn, of Hamilton; Dr. J. C. Connell, of Kingston; Dr. J. T. Fotheringham, Dr. A. Primrose, Dr. W. P. Caven, and Dr. E. E. King, of Toronto. The meeting will convene in the following sections: General Medicine; General Surgery; Obstetrics and Pædiatrics; Eye, Ear, Nose, and Throat; and Preventive Medicine. The evenings will be given over entirely to the social side of the convention. On the first evening there will be a smoking concert at the Yacht Club at Hamilton Beach; on the second the annual dinner at the Royal Hotel, when the invited visitors will be the guests of the Hamilton members of the association. The entire afternoon of the second day will be given over to the business of the association, which is an exceptionally wise choice, as there are matters of importance to be properly presented and discussed which will be far better handled than if they were left to the last session, which in former years has been the case. The principal item of business at this session will be the reception of the report of the special committee of the association appointed to revise the constitution and by-laws to conform with the national medical body, the Canadian Medical Association, so as to provide for affiliation with that body. The splendid and attractive programme and the important items of business, combined with the promising social side, will be sure to induce many to attend, and the meeting will most probably be a record breaker in the history of the association. The Ontario Medical Association in the past has not traveled much. Most of its annual meetings have been held in Toronto. This departure will be watched with interest, and it is "up to" the profession throughout the province to support Hamilton to an unlimited extent. The popularity of the president and the hospitable inter-provincial spirit displayed in inviting many Montreal men to present papers to the meeting will contribute a due quota to the success of the meeting.

## Therapeutical Notes.

### Lotion for Gouty Joints.—

Sodium carbonate, .....	3iii.
Liniment of belladonna, .....	5i.
Tincture of opium, .....	3ii.
Distilled water, .....	℥i. q. s. ad 5℥ii.

M.

A small portion of the lotion is mixed with an equal quantity of hot water and applied on cotton to the affected joint. Repeat every four hours.

### Bismuth Subnitrate in Diseases of the Stomach.

—The *Archives des maladies de l'appareil digestif* contains a full account, by Gaston Lion, of the use of bismuth for diseases of the stomach. He insists upon the use of a very pure preparation in order to avoid toxic symptoms. The heavy subnitrate is to be preferred to the light, because the latter very often contains impurities, such as the carbonate or the oxides (*The Practitioner*, April, 1908). Chemically pure bismuth subnitrate is harmless, as much as  $\frac{1}{2}$ ss having been taken daily. Its use is indicated in gastric pain, whatever may be the cause, and is

equally successful in hypopepsia, aepsia, and hyperpepsia. It soothes gastric pains of all sorts, but is ineffective in those due to nervous dyspepsia. The sedative effects are produced from the second to the sixth day. In simple ulcer, it relieves pain and hastens healing. In cancer of the stomach, only temporary relief is afforded. In bleeding from the stomach, Lion confirms the good effects already noted by Mouneret and Fleiner. It acts as an antiseptic in abnormal fermentations. There is only one contraindication to the use of bismuth in large doses, which is when, in some part of the alimentary canal, stenosis exists. In these cases, bismuth accumulates behind the obstruction forming a concretion with the mucus. If used in cases presenting only a slight degree of stenosis, it must be given in small doses, and be watched very carefully. Constipation is no bar to its use, for large doses make the motions more regular, and may even produce diarrhœa. Lion is of opinion that it has a double action on the stomach; physically, by coating the mucous membrane, and thus shielding the glands and nerve endings from the more or less irritating effects of the gastric contents, ulcers being protected in the same way and healing promoted. Chemically, many believe that the salt is not acted upon by the gastric juice, but Lion, as the result of clinical examinations of gastric chemistry, has come to the opposite conclusion. He finds that bismuth, taken either before or with a test meal, lessens hyperchlorhydria, decreases the pepsin, and reduces the energetic action of the process of digestion. When it is taken with a meal, digestion goes on more quickly, and the stomach empties itself in a shorter time. Bismuth has no direct action upon secretion. It may be given in the morning, after lavage, in a dose of 5iiss to 5vj suspended in 5vj to 5viij of water. The patient should then lie down on the side corresponding with the presumed site of the lesion. When the protective action of bismuth is wanted, the dose should be given when the stomach is empty, and may be administered by the mouth. By giving a large dose five or six hours after a meal, the contents of the stomach are changed into a solution which is, though acid, not irritant, and the stomach then empties itself with ease.

#### Treatment of Symptomatic Urticaria in Infants.

—Schmitt (*Therapeutische Monatshefte: The Practitioner*, April, 1908), as the result of several years' experience, finds that the way to relieve the pruritus in strophulus or erythematous urticaria (which he prefers to term symptomatic urticaria) is to apply to the skin a five per cent. aqueous solution of ichthyol, to which should be added five per cent. of glycérine. This is applied twice a day, and covered with starch powder. More obstinate patches are treated by a coating of the following preparation:

R	Ichthyol, .....	5i
	Pulverized starch, .....	5â 3i
	White of egg, .....	5i
	Water, .....	5iv

M.

In the reflex forms, like that arising from irritation of the emptying teeth, which may be given internally, a young infant being able to take, three times a day, ten drops of a ten per cent. aqueous solution. There is not, as a rule, any definite shown

for the drug by children, disagreeable as it appears to adults.

**Treatment of Morphine Addiction.**—In the *Medical Record* for April 11, 1908, C. C. Langsdorf publishes a statement regarding the drugs used by him in the treatment of morphine addiction. The following are the formulæ employed:

#### I.

R	Compound extract of colocynth, .....	gr. i;
	Extract of hyoscyamus, .....	gr. 12;
	Extract of nux vomica, .....	gr. 1/2;
	Extract of jalap, .....	gr. 12;
	Podophyllin, .....	gr. 1/6;
	Oleoresin of ginger, .....	gr. 1/8;
	Calomel, .....	gr. 1.

Mix, and make one pill.

#### II.

R	Pills of pilocarpine hydr. chloride, .....	gr. 1;
	Fluid extract of hyoscyamus, .....	5iii;
	Fluid extract of prickly ash, .....	5iii;
	Tincture of belladonna root, .....	5iv.

M.

Dose: Seven to twenty drops every hour.

#### III.

R	Tincture of gelsemium, .....	5ss;
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Dose: Five to twenty drops every two hours.

#### IV.

R	Tincture of strophanthus, .....	5ss;
	Tincture of nux vomica, .....	5i;
	Tincture of convallaria, .....	5ii;
	Tincture of cactus grandiflora, .....	5ii;
	Tincture of digitalis, .....	5iii.

Dose: Seven to eight drops every four or five hours.

Langsdorf lays stress on careful observance of details in administration. The usual dose of the accustomed drug [the addiction] is to be given at bedtime, along with three pills (Formula No. 1). In the morning, after free movement of the bowels, give another dose of the accustomed drug. If the bowels have failed to move, give a hot water enema or a saline laxative. Within one hour after the morning dose of the accustomed drug, give ten to fifteen drops of Formula No. 2, and continue giving No. 2 every hour. Twelve hours after commencing No. 2 start giving Formula No. 3, about twelve drops every two hours. When No. 2 has been given for fourteen hours, give three pills (Formula No. 1); continue No. 2 and No. 3. After No. 1 has acted freely, give a moderate dose of the accustomed drug. Continue No. 2, but stop No. 3 for eight hours after the last dose of the accustomed drug, then resume No. 3 as before. Twelve hours after the last dose of the accustomed drug give three pills (Formula No. 1) and when these have acted freely and show greenish or yellowish discharges, discontinue Nos. 1, 2, and 3 and start with Formula No. 4, about eight drops every four or five hours. Continue this for several days. When greenish or yellowish discharges appear the cure is effected. Should the patient become nervous or restless, give twenty-five drops of Formula No. 3. If the bowels are slow, assist with a saline, hot water enema, or castor oil. If, about the time for the last dose of Formula No. 1 to act, the patient becomes nauseated, give plenty of warm water and induce vomiting; it will give relief. If aching of the bones occurs, give a hot bath. If sleep does not come by the second night, give bromides or trional. Watch the pulse throughout the treatment.



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NEW YORK, SATURDAY, APRIL 25, 1908.

CONSUMPTION IN THE TENEMENT  
HOUSES.

The work of combating pulmonary tuberculous disease among dwellers in the tenement houses of New York has been materially aided by the Charity Organization Society, which has recently published a summary of its twenty months' experience in collaboration with the Health Department and various city dispensaries. So far as the resources of these organizations would allow, all possible means of alleviating the condition of the sufferers and their families have been resorted to. Naturally, there has been but little expectation of actually curing the disease, except in its incipency, but even in this respect the results have been such as to contribute perceptibly toward lowering the death rate.

But it is not by the cure or arrest of consumption in the individual case alone that we must estimate the beneficence of the work undertaken by the society and its coadjutors. It is a great thing to prevent the spread of infection from the sick person to the other members of the family, and this the society has succeeded in doing in a notable number of instances. Instruction as to the disposition of sputum has, of course, been given, but this instruction has been most efficiently supplemented by material aid; in many instances in which the sick person was sharing his bed with another the society has provided bedstead and bedding for his sole use. Furthermore—and this is in the highest degree important—wages lost by reason of physical incapacity

for work, partial or complete, have been made good in money; families have been moved from insalubrious tenements to improved quarters, the society paying the increase of rent, or even, in some instances, the entire rent; nutritious food, clothing, and needed furniture have been supplied; sufferers have been sent into the country and maintained there at the society's expense; medical supervision, medicines, and nursing have been furnished gratuitously; and light work has been secured for those whose working capacity has been partly regained or not yet wholly lost.

Encouraging statistical tables are given in the pamphlet issued by the society, but mere figures can give but a feeble idea of the amount of good it has done, and it has all been accomplished with an expenditure of only about \$20,000 a year. This, however, consumed the whole fund which the society had at its disposal for the purpose, all derived from individual contributions. Such contributions ought to be greatly magnified, for in no other way that we can imagine is it now possible to fight urban tuberculous disease more effectively than by just such measures as the society has employed. It is a substantial gain to the community whenever an afflicted family is rescued from the lapse into pauperism and put in the way of retrieving its independence, and these things have resulted from the society's work in many an instance. We hope that its resources will soon be so augmented as to enable it to extend its beneficent activities to the utmost of New York's needs.

THE PREVENTION OF THE ORIENTAL  
PLAGUE.

Even for American readers the question of combating plague possesses more than academic interest, for the disease has obtained a foothold in San Francisco and has also recently been reported from Seattle. It is, of course, well established that it is spread through the agency of infected rats and the fleas which infest these animals. When this fact was discovered, it was believed to point the way for the ready suppression of the disease, but these hopes have not been realized. An interesting review of the question is presented by Professor W. M. Haffkine in the February number of the *Journal of the Royal Institute of Public Health*. According to this observer, the part played by man in the causation of plague seems to be subordinate to that of other agents. When plague first broke out in Bombay, in 1896, it remained for a considerable time confined to one quarter of the city inhabited by day laborers. Although these people spent considerable time in close communion with other people, the cases con-

tinued to occur only among the laborers and their families. Only subsequently and gradually did the disease appear in other parts of the town. Haffkine cites a series of such instances, and concludes that the plague is, in general, a disease of locality, that it is contracted principally at night, and that the part which man plays as a direct agent in its propagation is a subordinate one. So far as concerns seeking to combat plague by disinfecting or destroying infected merchandise, furniture, houses, etc., the item of expense and other difficulties are very great.

In discussing the measures directed to the lower animals, the following plans have been pursued: 1. Destruction or keeping away of rats by poisoning, trapping, tar and sulphuric acid mixture, or the agency of the domestic cat. 2. Improvements in towns and villages with a view of reducing or keeping out the rat population, viz., demolition of dwellings, storehouses, and insanitary buildings, prompt disposal of garbage, cleaning and draining of streets, etc. 3. Destruction and dispersion of fleas by petroleum or other insecticides. 4. Fumigation of houses as a temporary protection against rats and fleas. 5. Anchoring infected ships away from shore, or providing mechanical arrangements for preventing the landing of rats along mooring cables and gangways. 6. Fumigation of ships arriving with plague patients or plague rats on board.

Professor Haffkine gives a very interesting account of the campaign which has been waged against rats and fleas in various countries. It is admitted that such a campaign is the most rational and best founded of all the measures suggested for stamping out the plague, but it is important to estimate the extent to which this is a promising direction. The experience of the health officer of New South Wales is cited. This officer carefully organized a campaign against rats in Sydney, with the object of protecting from plague a white population of a high standard of intelligence and education. During the campaign it was found that the gross returns of rats and mice caught and destroyed week by week were nearly uniform, and that there was thus no evidence that the slaughter produced such an impression on the general horde as would have rendered collection progressively more difficult. The use of Danyasz's rat virus also did not succeed in appreciably diminishing the number of rats in places where this agent was tried. From Japan also come reports that give little encouragement for the destruction of rats. In Tokyo alone almost five millions of these animals were killed, and it seemed as though the slaughter had only prepared more favorable conditions for the multiplication of the survivors.

According to Haffkine, the ultimate plan of combating the bubonic plague in the areas in which it becomes endemic consists in conferring on the population immunity from the disease by means of an artificial treatment. As a result of the work in India in the past ten years, Haffkine draws the following conclusions: 1. In a native of India, who is more susceptible to the disease than Africans, Europeans, and some other races, the inoculation now in force reduces the liability to attack to less than one third of what it is in a noninoculated Indian. 2. In the one third of cases which still occur the recovery rate is at least double that in the noninoculated attacked. The ultimate result is a reduction of plague mortality by some eighty-five per cent. 3. In an inoculated European an attack of plague, if it subsequently occurs, has so far always ended in recovery. 4. The inoculation is applicable to persons already infected and incubating plague, and prevents the appearance of symptoms or else mitigates the attack. Some idea of the importance of the control of plague in India may be obtained from the returns for 1907. The total cases of plague from November 24, 1906, to November 9, 1907, were 1,394,947, of which number 1,276,576 were fatal.

#### INJURIES AND THE PREVIOUS CONDITION.

For one reason or another there often arises the question of the influence of a person's previous state of health upon the disability resulting from an injury. A lecture on the subject was recently given at the Hôtel Dieu by M. Brissaud (*Progrès médical*, April 11th). His special topic was the question of whether or not the possibility of such an influence should be considered in adjudicating suits for damages. He maintains that no hard and fast rule on the point can justly be laid down and be regarded by the courts as inviolable. He protests against the French law which ordains that a pregnancy lasting more than 300 days cannot be admitted, with the consequence that a child born even two hours after the expiration of that fixed time, the date of the last marital coitus being known, has been declared illegitimate. The arbitrary rule is adhered to, he says, in spite of a known case in which a woman was violated, became pregnant, and carried the child for 317 days, although she had never had sexual connection before or after the rape. This matter he brings up in his introduction, to support the contention that the law is unjust when it generalizes without regard to exceptional occurrences.

Proceeding to his proper subject, M. Brissaud cites the case of a girl, twenty years old, employed

by a seamstress, who pricked her left thumb with a needle in the course of her work. A very small superficial abscess formed at the site of the puncture, and M. Kirmisson extracted a fragment of the needle through an incision not more than a third of an inch long. A few days later the girl's left hand became painful, and the fingers were in an attitude of contracture in extension. Almost at the same time a new abscess, quite like the first one, formed in the left forearm, and again a piece of needle was removed. A few weeks afterward, the pain and contracture of the hand persisting, a third abscess appeared in the upper part of the arm, and a third piece of needle was cut out.

It was soon afterward that M. Brissaud saw the girl, and found hyperæsthesia and even slight atrophy (from disuse) of the upper left limb. The young woman protested, with tears in her eyes, that she could no longer work, and was disabled for life, and proceeded to enact a scene of violent despair. Some days later she had an abscess of the left breast, and a fourth piece of needle was extracted. It is added that the four fragments, taken together, exceeded an ordinary needle in length. The girl had purposely stuck herself with needles. Her mother bewailed the young woman's hysterical conduct, saying that she had always been "so reasonable, so sweet, so industrious," etc. And, says M. Brissaud, the mother spoke justly; the first prick, accidental as it was, had roused into activity a latent state of hysteria.

#### SOME POINTS CONCERNING SCARLET FEVER.

In the April number of the *Dublin Journal of Medical Science* there is published the graduation thesis of Dr. G. Allan Crowley. It is entitled *Some Points on the Diagnosis of Scarlet Fever*, but the points given do not all relate particularly, certainly not solely, to diagnosis. What the author says is founded on his personal observation of 1,005 cases; he has, therefore, no lack of clinical data, and his thesis reads like the work of a good observer.

Dr. Crowley follows Caiger's division of cases of scarlet fever—somewhat arbitrary, he admits—into three classes, the simple, the septic, and the toxic. The simple cases are those that usually run a mild course, though they are not free from the liability to dangerous complications. The septic cases are those in which some secondary infection takes place, especially that with *Staphylococcus pyogenes*, and is apt to prove more important than the scarlet fever itself. The third, or toxic, class is made up of those

fulminating cases in which the fatal issue is "the direct result of an overpowering and lethal dose of the scarlet fever toxine *per se*."

Dr. Crowley properly insists upon the diagnostic value of the disproportion between the excessive rapidity of the pulse and the moderate amount of elevation of the temperature in the simple cases, though it is observed only in the early period of the fever. It is common enough, he says, to find the pulse from 140 to 160, while the temperature is only between 101° and 102° F. The discrepancy need not in itself give rise to anxiety, though it is a very important aid to diagnosis. As regards the temperature, he thinks there is a tendency on the part of American and Continental authors to record it too high in cases of average severity. We do not remember that such a difference has been noticed before. If it turns out to be real, it may perhaps be accounted for by some variation in the process of taking the temperature; many of our physicians, it is well known, have been taught to seek by extraordinary precautions to elicit the highest possible degree of heat in the mouth. It is hardly to be supposed that the temperature of scarlet fever patients is lower in Great Britain than elsewhere, or that there are geographical variations of the accuracy of clinical records in so simple a matter as thermometry.

The author gives an interesting account of the process of desquamation, especially of the form known as the "pinhole" desquamation, and his description of the rash is minute and accurate. Soon after the rash has faded, he remarks, the diagnosis may be extremely difficult. In that case the following points are of importance: The peeled condition of the tongue, which has not yet had time to renew its epithelium; the appearance of the fauces, which, if the attack has been at all severe, will still show some degree of injection; roughness and dryness of the skin, which is not infrequently of a dirty yellowish color; the presence of enlarged and injected papillæ on such parts as the legs, the outer side of the thighs, and the posterior surface of the arms; and the existence of enlarged and tender glands at the angles of the jaw.

At the height of the rash, says Dr. Crowley, there is often present around the mouth "a pallor in striking contrast to the cheeks, where the flush attains a marked degree." He adds that "the existence of this circumoral ring bears no special significance." There is, however, in rare instances, a *milk white* pallor about the mouth, which is said to be of deadly import and to occur early in the disease, but this is evidently a different thing from the pallor mentioned by Dr. Crowley.



## A NOVEL SOURCE OF LIGHT FOR OPERATING.

The illumination usually available in a farm house is woefully inadequate when it comes to performing even a minor operation. This fact recently led a physician in Rome, N. Y., to put to a novel use the acetylene headlight from his motor car. The car was run close to the window of the room in which the patient lay, and one of the gas lamps was taken off the carriage and into the operating room, the supply of gas being furnished through a long piece of drainage tube. The result was entirely satisfactory, so we learn from the *Scientific American*, as the improvised light made possible an operation which would have been difficult, if not impossible, to perform in an entirely satisfactory manner without the additional illumination furnished by it.

## Obituary.

JAMES KING CROOK, M. D.,  
of New York.

Dr. Crook died on Thursday, April 16th, aged forty-nine years. He was a graduate of the Medical Department of the University of the City of New York, of the class of 1880. He was known as an excellent clinical observer and as a writer possessed of a clear and attractive style.

## News Items.

**Mount Sinai Hospital, New York.**—The George Blumenthal, Jr., Fellowship in Pathology for the current year has been awarded to Dr. Reuben Ottenberg, of New York.

**Syracuse, N. Y., Academy of Medicine.**—At a meeting held on Tuesday evening, April 21st, Dr. Carl Levy read a paper on the Diagnosis of Gallstones.

**The Frederick Douglass Memorial Hospital of Philadelphia** has contracted for the erection of a new five-story hospital building on the south side of Lombard street, between Sixteenth and Seventeenth streets.

**The Medical Jurisprudence Society of Philadelphia** held a stated meeting on Monday evening, April 20th. Henry Lerman, Esq., delivered an address on The Bar as Seen from the Witness Box.

**Meetings of Canadian Medical Associations.**—The forty-first annual meeting of the Canadian Medical Association will be held in Ottawa on June 9th, 10th, and 11th, and the Ontario Medical Association will hold its twenty-eighth annual meeting in Hamilton on May 26th, 27th, and 28th.

**Physicians of St. Joseph's Hospital Organize.**—The present and former physicians of St. Joseph's Hospital, Philadelphia, met on April 14th and organized the Association of Resident and ex-Resident Physicians of the St. Joseph's Hospital. It starts with a membership of seventy-five.

**Consolidation of Medical Journals.**—Announcement is made of the consolidation of the *Carolina Medical Journal* with the *Charlotte Medical Journal*. The new publication will be under the business and editorial management of the latter journal, and the name, *Carolina Medical Journal*, has been retained for the consolidated journal.

**A New Medical Society in Bessemer, Ala.**—The physicians of Bessemer, Ala., held a meeting on the evening of April 9th, and organized the Bessemer Medical So-

ciety, with the following officers for the first year: President, Dr. Thomas C. Donald; vice president, Dr. E. P. Lacy; secretary, Dr. T. I. Conwell; treasurer, Dr. E. V. Colwell.

**The Rock Island County, Ill., Medical Society** held its annual meeting on April 14th and elected the following officers: President, Dr. T. J. Lamping, of Moline; first vice president, Dr. William H. Ludewig, of Rock Island; second vice president, Dr. M. S. Dondanville, of Moline; secretary, Dr. H. L. Youts, of Moline; treasurer, Dr. A. E. Williams, of Rock Island.

**Springfield, Mass., Academy of Medicine.**—The second annual meeting of this organization was held recently, and officers for the ensuing year were elected as follows: President, Dr. W. A. Smith; first vice president, Dr. John A. Houston, of Northampton; second vice president, Dr. Ralph H. Seelye; secretary, Dr. Joel I. Butler; treasurer, Dr. H. W. Van Allen.

**Medical Society of the County of Cumberland, N. J.**—The annual meeting of this society was held in Bridgeton on Tuesday, April 14th. Professor J. C. Applegate delivered an address on Eclampsia. The officers for the ensuing year are: Dr. J. C. Loper, of Bridgeton, president; Dr. C. W. Wilson, of Vineland, vice president; and Dr. A. J. Mander, of Millville, secretary.

**Buffalo Academy of Medicine.**—A regular meeting of the Section in Pathology was held in Tuesday evening, April 21st. Dr. James A. Gibson presented specimens of variations seen in livers hardened *in situ*, and Dr. F. C. Busch read a paper entitled Transplantation of the Supra-renal Gland. Dr. Edwin A. Bowerman is chairman of the section, and Dr. George A. Sloan is the secretary.

**Saratoga Springs, N. Y., Medical Society.**—At a meeting of this society held on Friday evening, April 17th, the general subject for consideration was irreducible hernia. Dr. M. E. Van Aernem read a paper on Varieties and Symptoms of Irreducible Hernia, and Dr. D. C. Moriarta read a paper on the Treatment of Irreducible Hernia. The discussion was opened by Dr. J. F. Humphrey.

**The Hospital Conference of the City of New York.**—The annual meeting will be held on Thursday, April 30th, at 8:15 p. m., at the New York Academy of Medicine. Mr. Richard H. Townley will read a paper on State Inspection and Municipal Aid, and Dr. S. S. Goldwater will read a paper entitled The Unfinished Business of General Hospitals. Officers will be elected to serve for the ensuing year.

**Scientific Society Meetings in Philadelphia for the Week Ending May 2, 1908.** *Monday, April 27th.* Microscopical and Geological Section, Academy of Natural Sciences; Society of Normal and Pathological Physiology, University of Pennsylvania. *Tuesday, April 28th.* Medical Society; South Branch, Philadelphia County Medical Society. *Friday, May 1st.* American Philadelphia Society; Kensington Branch, Philadelphia County Medical Society.

**Improvements for Hudson Street Hospital.**—Plans have been filed for the remodeling of the New York Hospital's House of Relief, at Hudson and Jay streets, to provide better facilities for the treatment of patients. The projected improvements include making the ambulance room in the basement into an x ray room, with isolation and sterilizing rooms adjoining, and remodeling the matron's room and the laundry into apartments for the accommodation of patients.

**The Medical Society of the Georgetown University** held its annual meeting in Washington, D. C., on Tuesday, April 14th, and elected the following officers: Honorary president, Dr. Warwick Evans; president, Dr. John F. Moran; vice presidents, Dr. Edwin B. Behrend, Dr. Thomas F. Lowe, Dr. Loren B. T. Johnson, Dr. Llewellyn Eliot, and Dr. G. W. Wood; corresponding secretary, Dr. Roy D. Adams; recording secretary, Dr. R. A. Hamilton; treasurer, Dr. Prentiss Willson.

**The New Hampshire Medical Society.**—The first biennial and twenty-sixth annual meeting of this society will be held in Concord on Thursday and Friday, May 14th and 15th. A good programme has been prepared, and the meeting promises to be one of interest and value. The officers of the society are: President, Dr. John H. Neal, of Portsmouth; vice president, Dr. John M. Gile, of Haverhill; secretary, Dr. D. E. Sullivan, of Concord; treasurer, Dr. D. M. Carrier, of Newbury.

**Rochester, N. Y., Academy of Medicine.**—The regular monthly meeting of the Section in Public Health, which embraces hygiene, climatology, physiology, pathology, bacteriology, and forensic medicine, was held on Wednesday evening, April 22d. Climatology was the general subject for discussion, and Professor Fairchild delivered an illustrated address on the Superior Climate of Rochester.

**Plymouth District, Mass., Medical Society.**—The annual meeting of this society was held in Brockton, Mass., recently. Dr. Gilman Osgood, of Rockland, delivered an address on Hippocrates, the Father of Medicine, and Professor William E. Cheney, of Tufts College, read a paper on the Accessory Sinuses. Officers for the ensuing year were elected as follows: President, Dr. F. J. Ripley, of Brockton; vice president, Dr. C. S. Millet, of Brockton; secretary and treasurer, Dr. Alfred C. Smith, of Brockton.

**Lectures on the Psychoneuroses.**—Dr. Tom A. Williams, who has taken up his residence in Washington, D. C., after having spent two years abroad in the study of nervous diseases, has made arrangements for a course of lectures on the diagnosis and treatment of the psychoneuroses, dealing particularly with the recent researches of the French school in this branch of medicine. In the mornings the lectures will be on anatomopathology, and the afternoons will be devoted to clinical work. The course will begin on May 25th, and the number of lectures will be limited.

**A Joint Meeting for the Discussion of Tuberculosis.**—A meeting of the Ontario County, N. Y., Sanitary Officers' Association, the Medical Society of the County of Seneca, N. Y., and the physicians of Geneva and Ontario County will be held in Geneva on Tuesday, April 28th, at 3 p. m., in conjunction with the tuberculosis exhibit of the State Department of Health. Dr. H. D. Pease, of Albany, and Dr. Lewis Gregory Cole, of New York, will deliver addresses on the subject of tuberculosis, which will be illustrated by lantern slides. All who are interested are invited to attend.

**The Medical Society of the County of New York.**—A stated meeting will be held at the New York Academy of Medicine on Monday evening, April 27th. The scientific session will be devoted to a "symposium" on obstetric prophylaxis, and papers will be read as follows: The Hygiene and Management of Pregnancy, including the Examination of Pregnancy, by Dr. Austin Flint, Jr.; The Prevention of Maternal Dystocia, by Dr. Richard C. Norris, of Philadelphia; The Prevention of Maternal Infection, by Dr. Edwin B. Cragin; The Prevention of Fetal Infection, by Dr. J. Clifton Edgar.

**A Consolidation of Medical Colleges.**—It is announced that the Medical School of Indiana University and the Purdue School of Medicine are to be united in one school which is to be under the control of the Indiana University. The faculty of the new school will be selected with due regard to the members of the present faculties. A two years' course of medicine will be maintained at Bloomington in addition to the complete medical course at the University of Indiana. The final plans and details of the merger have not yet been arranged, but it is said that the change will be made as soon as possible.

**The Mortality of Baltimore.**—According to the report of the health department of Baltimore for the week ending April 11th, there were during the week 235 deaths from all causes, as compared with 227 for the corresponding period in 1907. The annual death rate in 1,000 of population was 20.60; white, 18.77; colored, 30.29. The principal causes of death were: Measles, 2; scarlet fever, 1; diphtheria, 1; membranous croup, 1; grippé, 1; consumption, 41; cancer, 12; apoplexy, 14; organic heart diseases, 12; bronchitis, 7; pneumonia, 26; Bright's disease, 10; suicides, 3; homicides, 2; accidents, 9; all other causes, 25.

**The Section in Laryngology and Rhinology of the New York Academy of Medicine** will meet on Wednesday evening, April 29th. Dr. P. Fridenberg will present a patient with a congenital defect of the anterior faucial pillars, and Dr. S. Oppenheimer will present a patient with congenital atresia of the larynx. Papers will be read as follows: The Treatment of Fractures and Depressed Deformities of the Nose by a New Method, by Dr. William W. Carter; The Drainage Mechanism of the Normal Accessory Sinuses, by Dr. Sidney Yankauer; A Report of Three Cases of Laryngeal Growth Removed by Direct

**Dr. Koch Compliments New York Institutions.**—During his stay in New York Dr. Koch visited the offices of the health department and was enthusiastic in his praise of the antituberculosis work inaugurated in this city by Dr. H. M. Biggs. He said that Berlin was about five years behind New York in the organization of the tuberculosis crusade, and was watching with interest the progress of the work here. Dr. Koch also visited the quarantine station, and was much interested in the organization of that service. He was particularly impressed by the successful campaign which Dr. Doty has waged against mosquitoes in Staten Island.

#### Society Meetings for the Coming Week:

**MONDAY, April 27th.**—Medical Society of the County of New York.

**TUESDAY, April 28th.**—New York Dermatological Society; New York Medical Union; Metropolitan Medical Society of New York City; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology).

**THURSDAY, April 30th.**—Brooklyn Society for Neurology.

**FRIDAY, May 1st.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn, N. Y.; Manhattan Clinical Society, New York; Practitioners' Society of New York.

**Canadian Antituberculosis Association.**—The eighth annual meeting of the Canadian association for the prevention of tuberculosis was held in Ottawa on March 18th. The report of the secretary showed that a sanatorium for tuberculosis patients had been established in British Columbia; that one would be established in Manitoba this spring, and that plans were being made for the establishment of sanatoria in Alberta and Saskatchewan. Dr. LaBerge, of Montreal, spoke on Some Civic Aspects of the Tuberculosis Problem, and Dr. Bryce, of Ottawa, delivered an address on the Tuberculous Immigrant. Officers were elected for the ensuing year, and Hamilton was chosen as the place for the next meeting.

**The Undergraduate Medical Association of the University of Pennsylvania** is an association of the students of the University modeled on the organization of the American Medical Association for promoting "the growth of practical accomplishments in scientific medicine among the undergraduates, to prepare them for future usefulness in wider spheres of professional activities, and to unify the interests of the various constituent societies." The first annual meeting of the association was held on Wednesday, April 8th. There was a morning session at 10:30, a luncheon at 1:00 an afternoon session at 2:30, after which Dr. S. Weir Mitchell, the orator of the day, delivered an address on the Conduct of the Medical Life, and a dinner in the evening. The entire affair was very successful.

**Michigan State Board of Health.**—The regular quarterly meeting was held in Lansing on April 10th, with the following members present: Dr. Angus McLean, of Detroit, president; Dr. Malcolm Sinclair, of Grand Rapids, vice president; Dr. Frank W. Shumway, secretary; Mr. Charles M. Ranger, of Battle Creek, and Dr. Aaron R. Wheeler, of St. Louis. A resolution was passed authorizing the secretary to have printed in several foreign languages pamphlets containing instructions regarding contagious diseases, to be distributed free of charge among the foreigners who do not understand English. The secretary was also authorized to issue placards for posting in public places regarding the danger of the spitting habit, and the spread and prevention of tuberculosis.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending April 18, 1908:

	April 11.		April 18.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis . . . . .	579	211	444	180
Diphtheria . . . . .	168	65	436	51
Measles . . . . .	1,880	48	1,640	46
Scarlet fever . . . . .	985	54	1,095	66
Smallpox . . . . .	106	2	108	1
Varicella . . . . .	106	1	108	1
Typhoid fever . . . . .	101	4	10	1
Whooping cough . . . . .	12	1	13	1
Cerebrospinal meningitis . . . . .	14	7	7	7
<b>Totals . . . . .</b>	<b>4,105</b>	<b>399</b>	<b>3,747</b>	<b>117</b>





## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

April 16, 1908.

1. Chronic Obstruction of the Duodenum by the Root of the Mesentery. By E. A. CODMAN.
2. Acute Yellow Atrophy of the Liver. A Report of Two Cases, One with Ascites. By WILDER TILESTON.
3. On the Significance of Clinical Histories Before and After Operative Demonstration of the Real Lesion. By MAURICE H. RICHARDSON.

1. **Chronic Obstruction of the Duodenum by the Root of the Mesentery.**—Codman, in his paper, wishes to prove his contention that in the human being the transverse portion of the duodenum is more or less compressed by the root of the mesentery. Slight anatomical deviations from the normal or certain pathological conditions may increase this pressure to a varying extent up to the point of complete occlusion of the gut, and when this pressure reaches a degree great enough to give more resistance to the muscular efforts of the duodenum than the closed pylorus, the condition becomes of pathological significance. Thus anatomically the duodenal secretions are brought in contact with mucous membranes unfitted physiologically to withstand their corrosive action. The obstruction favors stasis in the duodenum and thus bacterial invasion of the tissues. He concludes that if these propositions can be proved they will materially alter the present conceptions of the aetiology and treatment of a variety of pathological conditions, e. g., hyperchlorhydria, nervous dyspepsia, duodenal and gastric ulcer, pancreatitis, cholelithiasis, persistent vomiting after laparotomy and in pregnancy, and excessive fluid drainage from wounds in the common duct and duodenum.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 18, 1908.

1. Malunion of Bones. By CARL BECK.
2. Malignant Degeneration of Warts and Moles. By EDMUND A. BABLER.
3. Static Electricity. Its Physical Properties, Modalities, Physiological Effects, and Therapeutic Indications. By WILLIAM BENHAM SNOW.
4. Aetiology and Treatment of Hypertrophy of the Prostate. By A. J. CROWELL.
5. Blood Depletion in Pernicious Anæmia, with Recovery. By WILLARD J. STONE.
6. A Case of Transient Heart Block Due to Intestinal Toxæmia. By FIELDING LEWIS TAYLOR.
7. How the Malarial Parasite Perpetuates Its Existence. By ALBERT WOLDERT.
8. The Systematic Occupation and Entertainment of the Insane in Public Institutions. By EUGEN COHN.
9. Diagnosis of Tumors and Other Lesions in the Cerebellopontile Angle. By T. H. WEISENBURG.
10. General Anæsthesia. By ORVAL J. CUNNINGHAM.

1. **Malunion of Bones.**—Beck suggests the following axioms: No bone injury should be treated unless at least one reliable Röntgen ray picture is taken. The Röntgen method, in combination with the usual methods of examination, determines the character of a suspected bone injury. If there is no bone injury the usual treatment consists in massage, followed by temporary immobilization; a movable splint (plaster of Paris) being recommended for the latter purpose. If there is a fissure or fracture, followed by no displacement, manipulation of the in-

jured area must be avoided, and immobilization in the most comfortable position applied. A plaster of Paris dressing answers the purpose best, as it adapts itself to the contours of the body in any shape desired, and it offers no obstacle to the control of the Röntgen rays. After two or three weeks the dressing is removed and massage begun. If a displacement is present, the fracture must be looked on as a most important injury. Reduction must then be tried at once. This may be done under the control of the screen, on a translucent table, a plaster of Paris dressing being applied after reposition is perfect. This is a simple, short, and cheap method, but the impressions on the fluoroscope are by no means so reliable as those made on a plate, and the latter can be studied at leisure. If the facilities allow, a plate should therefore be made before efforts at reduction under the guidance of the fluoroscope are tried. Another method consists in taking two skiagraphs, in different positions, generally in the lateral as well as in the dorsal position. Under the guidance of these plates the reposition is done and a plaster of Paris dressing is applied. A Röntgen picture is taken through it in order to ascertain whether or not reposition is perfect. If it does not seem to be, the dressing must be removed and another attempt at reposition made. If the process of reduction, as frequently happens in displaced fractures, meets with difficulties, anæsthesia should be employed.

2. **Malignant Degeneration of Warts and Moles.**—Babler remarks that the laity should be impressed with the danger of permitting warts and moles to grow, and should be urged to have them excised at once. The early excision of apparently harmless warts and moles will save days of suffering; in many instances the life of the individual will be saved thereby. The moment that warts and moles begin to grow they are almost invariably already malignant growths and should be treated as such.

3. **Static Electricity.**—Snow gives four rules of dosage: 1. The spark gap, when administering the wave current, must not be made so long as to produce too severe pain throughout the inflammatory area, and the gap should be gradually lengthened as it becomes possible; 2, the spark gap should not be so long as to produce spastic or too severe muscular contractions; 3, the static sparks should be regulated in their length according to the depth of the lesion or size of the part under treatment, from one half inch to the fingers, to four inches over the knees and thighs; 4, the convective discharges should not be administered to the extent of local irritation. The author gives a list of diseases in which static electricity should be applied.

5. **Blood Depletion to 296,000 in Pernicious Anæmia, with Recovery.**—Stone reports such a case, from which he draws the following conclusions: The immediate prognosis in certain cases of pernicious anæmia, with blood depletion below 400,000, although serious, is not hopeless. The prognosis depends on the degree of red cell regeneration in the bone marrow, the age of the individual, and the potency of the hæmolytic poison being important factors. Arsenic exerts a rapid specific influence on the degree of red cell regeneration in certain cases

of pernicious anæmia, but whether through direct stimulation to bone marrow activity or through neutralization of the hæmolytic poison, or both, is a point that remains to be settled.

**7. How the Malarial Parasite Perpetuates Its Existence.**—Woldert says that the length of time a mosquito may live in temperate zones has not yet been absolutely determined. In Philadelphia the author kept one living in a glass jar and fed on bananas, from October 28th to December 26th, or sixty days. Some mosquitoes may live in the latitude of Philadelphia during the months of December, January, February, March, and, in fact, throughout the entire year. In Tyler, Texas, he found larvæ of *Anopheles* living on the surface of water of a small pond in midwinter, and after freezing weather. It is undoubtedly true that mosquitoes may live and propagate in regions near the Arctic zone. Rear Admiral George Wallace Melville informed the writer that he had found mosquitoes within 500 miles of the north pole, in latitude 65 to 78 degrees N. Mosquitoes are said to be so numerous in regions near the north pole that animals coming southward during certain months of the year are driven back north again by the swarms of mosquitoes infesting that country. The determination of the length of life of this insect is of special interest in the prevention and prophylaxis not only of malarial fever, but also of yellow fever. Woldert has stained specimens of malarial parasites taken from cases of malarial fever occurring in every month of the year. In every instance but two the specimens were stained by his modification of the Nocht-Romanowski method, and in these exceptions the carbolthionin and Wright methods were used. The types of malarial parasites found in the peripheral blood were as follows: January, tertian merozoites and a few rosettes. February, estivoautumnal ring and signet ring forms. March, tertian rosettes and many rings forms. April, tertian rings and full grown forms. May, half grown tertian forms. June, tertian forms. July, tertian rosettes. August, estivoautumnal rings. September, estivoautumnal rings. October, swollen estivoautumnal rings. November, estivoautumnal rings and full grown forms. December, crescents and estivoautumnal merozoites. Our author has taken the malarial parasite from the peripheral circulation in cases of malarial fever occurring in every month of the year (during winter, when there are presumably no mosquitoes, and also during the spring, summer, and fall, when they are abundant), therefore no one can escape the conclusion that the malarial parasite may live and thrive during the winter months, without the existence of mosquitoes, and that man is its permanent host.

**9. Diagnosis of Tumors and Other Lesions in the Cerebellopontile Angle.**—Weisenburg reports five cases, in two of which a tumor growing from the dura covering the petrous portion of the temporal and the occipital bones gave some of the symptoms of a lesion in the cerebellopontile angle to such an extent that an operation was performed in one. In the third case, there was entire absence of headache, nausea, vomiting, vertigo, and choked disc, and yet sufficient symptoms were present to indicate a lesion in the cerebellopontile angle, to find at operation a cyst, with the consequent, almost total, recovery of

the patient; the report of a case of abscess of the pia which stimulated the symptoms of a tumor in this angle, and, lastly, the report of a case in which a tumor of the fourth ventricle, compressing the inferior vermis, indicated a lesion in the cerebellopontile angle. The cerebellopontile angle is that area between the lateral lobe of the cerebellum and the medulla and pons in which are located the eighth, seventh, sixth, and fifth cranial nerves. Tumors of this area, as a rule, are fibromata, and grow principally from the eighth nerve, less frequently from the fifth and seventh nerves. Such tumors, especially those growing from the eighth and seventh nerves, are favorable for operative removal. Lesions in this area may be classified according to their nature and origin. They may be fibromata, sarcomata, endotheliomata, fibrosarcomata, or they may be cystic. According to the location, they may grow from the eighth, fifth, or seventh cranial nerves; secondly, they may grow from the substance of the cerebellum or pons, and secondarily involve the structures in this angle, and, thirdly, they may grow either from the dura covering the petrous portion of the temporal or the occipital bones, or from both, and secondarily involve the structures in this angle. Inasmuch as tumors of this area, if sufficiently large, must involve the cerebellum, the motor fibres of the pons and the cranial nerves situated there, it is of the utmost importance to recognize the disease as early as possible, and, therefore, the early symptoms are of the greatest importance. These will depend on the situation of the growth. If a tumor grows from the eighth nerve, there will be, at first, diminution of hearing on the same side, with such irritating phenomena as buzzing, rushing, singing noises, etc. Later this will be replaced by total deafness. Very often, however, little attention is paid to the diminution of hearing or the noises in the ear, and the first symptom that the patient will complain of will be that of incoordination as a result of the pressure exerted on the lateral lobe of the cerebellum, or the early symptoms may be those which are the result of increased intracranial pressure, such as headache, nausea, vomiting, vertigo, and choked disc. The symptoms of lesions growing from the dura covering the petrous portion of the temporal and occipital bones and involving the cerebellopontile angle secondarily will be bilateral, the greater involvement being on the side of the tumor. There should be present implication of the cranial nerves on both sides, with difficulty in eating, talking, and swallowing, because of the involvement of the bulbar nerves, incoordination in the limbs, depending on the side of the cerebellum diseased, the general symptoms of brain tumor, and, at times, spastic paresis of the opposite side of the body, because of pressure on the pons, all of these coming on gradually.

#### MEDICAL RECORD

April 18, 1908

1. Constructive Surgery After Extensive Gunshot Wound of Abdomen. By W. M. POLK.
2. A Phenomenal Aortic Aneurysm. By W. GILMAN THOMPSON.
3. A Case of Recurrent Jaundice, Death in Third Attack from Carcinoma of Pancreas. By GEORGE L. PLABODY.
4. Bright's Disease and Its Treatment. By OTTO LERCH.

5. Electromechanical and Thermic Removal of Local Stasis, By WILLIAM BENHAM SNOW.
6. Integrity of Stereognostic Function and of all Forms of Sensation in a Case with a Lesion of the Left Parietal Lobe, By ALFRED GORDON.
7. Fractures of the Tip of the Olecranon Process, By FRANK E. PECKHAM.

**1. Constructive Surgery After Extensive Gun-shot Wound of Abdomen.**—Polk reports the history of a patient who was badly injured by the discharge of both barrels of a shotgun, the muzzle being directly against the body, with three layers of clothing intervening. The contents of the two barrels struck the abdomen at and above the anterior superior spinous process of the left ilium and came out at and above the iliosacral joint, tearing away all the soft tissue from the crest of the ilium and the crest itself, above a line drawn from a point one inch back of the anterior superior process, around the outside of the bone to the upper limit of the sacroiliac joint. The joint was not entered, but the outer half of the transverse processes of the two lower vertebrae were torn off. Many pieces of detached and semidetached bone were scattered throughout the entire field of the deeper parts of the wound. The only portion of the crest that escaped fracture was that in the immediate region of the anterior superior process, but between it and the inferior process this space was stripped of all tissue but the periosteum. Four operations became necessary. The last one is described thus: The first step was the separation of the intestine from the surrounding wall and then closing it. After being separated, the opening in the gut was spontaneously lessened somewhat, but still the large oval opening, narrowing at its extremities and widening at the middle, involved so much of the circumference of the gut, particularly at its widest part, as to raise a doubt as to the proper line of procedure. This doubt was still further increased by the necessity for removing the thickened cicatricized edges in case it should be decided to close this opening, rather than resect. There was ample room for resection had it not been for the attachment at the point of anastomosis. This reduced somewhat the amount of intestine below the traumatic opening at disposal for such an operation. It was concluded to close this opening. Closing it longitudinally would have been unwise, as the gut would have been too much narrowed at the central portions of the opening. It was therefore closed transversely, making thus an elbow in the gut, widening it at that point. Through and through primary sutures were used with the usual peritoneal surface sutures all interrupted. The next question was to provide adequate covering. Fortunately the omentum was abundant and its displacement to the left dependent upon the anastomosis made it easy to draw it over the entire opening. This had expanded after the intestine had been cut out, so that its measurement was now increased from one half to three quarters of an inch, the general outline remaining oval as before. The first step was to provide a parietal peritoneal covering for the restored sigmoid; to this end the omentum was drawn over the intestine without tension, and stitched to the under edge of the abdominal opening throughout its entire circumference. This afforded ample parietal peritoneal covering. It was

out of the question to find either fascia or muscle for the purpose, so Dr. Polk was compelled to rest satisfied with a supercovering of fat and skin. Vertical incisions were therefore made through the skin and fat at either extremity of the opening, the longest arm being through the gluteal region, the skin with the fat was then dissected from its under attachment beginning at edges of wound, and drawn together over the omentum. The major portion of the flap was taken from the gluteal region. A small piece of rubber tissue drain was inserted at the anterior angle of the wound and dressings applied. The patient was then returned to bed. Care was taken by the frequent passage of the rectal tube to keep down the accumulation of gas in the lower bowel. A thorough and through movement was obtained by a mild catharsis on the second day, and from that time on the progress of the case was uneventful. The patient recovered entirely.

**4. Bright's Disease and Its Treatment.**—Lerch states that if Bright's disease is recognized early and proper treatment undertaken, it is curable. Early symptoms, no matter how light, must be regarded as serious. If the favorable time is allowed to pass, cure becomes more and more impossible, relief of distressing symptoms more and more difficult, and the fatal issue is only a question of time. Statistics are unreliable, because the patients are usually carried off by intercurrent diseases; damaged kidneys provide a favorable soil for almost any disease, and death follows, when with these organs sound the patient would pass smoothly through the attack. The treatment of acute nephritis is first of all preventive. During an infectious disease and after the disease has run its course, the kidneys have to be watched and the urine has to be frequently examined. Pure water, vichy, milk, and buttermilk must be freely administered to flush the kidneys, and drugs that irritate them should be given with the greatest caution. Absolute rest in bed is the treatment after the disease has been established, no matter how mild the case. There is no drug known that exercises a beneficial influence upon the process. Thorough elimination by skin, bowels, lungs, and kidney, and rest to the organ are the indications. A flushing of the kidneys, freeing tubules and glomeruli from debris, is desirable. However, the oedema present and the state of the circulatory apparatus must guide the administration of the liquids. The tepid bath increases diuresis and effects a flushing of the kidneys. The bowels have to be kept freely open, sodium and zinc sulphocarbonate given; if diarrhoea is present betanaphthol or other antiseptics may be administered to prevent fermentation. For practical purposes it is sufficient to administer these antiseptics in doses large enough to make the stools odorless or to add bismuth and to continue to increase until salt is found white in the dejections. If the nephritis is due to chilling of surface, the treatment ought to be commenced with a steam or hot air bath. Severe pain in the region of the kidneys demands hot fomentation or a Priesnitz bandage. If oedema is excessive and does not yield to the hygienic and dietetic treatment, the usual measures have to be taken—saline laxatives to produce watery stools—hot baths, hot packs, and hot air baths. Of the diuretics only those that are not



irritating ought to be administered: the tartrates and acetates of sodium and potassium, lemon juice, infusion of juniper berries, infusion of digitalis, and benzoate of sodium. During an acute attack all food must be withdrawn. Chloroform inhalations and hypodermatic injections of morphine to stop spasm; venesection in suitable cases, and hot injections of normal salt solution may be tried—pilocarpine if the lungs are not seriously damaged. The treatment of the chronic form does not materially differ, though rest and diet must be modified to conform to less vigorous demands.

## BRITISH MEDICAL JOURNAL.

April 4, 1908.

1. The Physiology of the Emotions (Lecture I),  
By F. W. MOTT.
2. Vicious Circles Associated with Disorders of the Heart.  
By J. B. HURRY.
3. Report, with Comment, of Six Cases of Heart Block,  
with Tracings, and One Post Mortem Examination  
of the Heart, By E. O. JELLINEK and C. M. COOPER.
4. A Specific Treatment of Leprosy,  
By Professor DEYCKE.
5. Electrolysis in Tic Douloureux and in Spinal Sclerosis,  
By D. TURNER.

2. **Cardiac Disease.**—Hurry states that the term "vicious circle" in medical nomenclature indicates a morbid condition in which cause and effect act reciprocally on each other. Such vicious circles are numerous and play an important part in the processes of disease. Vicious circles associated with disorders of the heart may be grouped as follows: (a) Associated with the myocardium. (b) With the endocardium. (c) With the pericardium. (d) With neuroses. (e) With a fall in blood pressure. All these vicious circles can be analyzed into two or more factors which act and react on each other to the progressive injury of the patient, and their recognition is essential to rational treatment. Special points as regards treatment are as follows: 1. The exciting cause must be sought. This may be obvious, e. g., rheumatic fever, or pneumonia and heart failure. But close investigation of detail may be required; thus an ill ventilated, gas lit office or overindulgence in tobacco may so depress the heart, even when organically sound, that the pulse becomes feeble and intermittent and life miserable and useless, the heart and general health depressing each other. 2. It is frequently desirable to actively treat each of the several factors concerned. In pneumonia the heart must be watched as carefully as the lungs. The unsound heart of the laborer must not be stimulated with digitalis and strychnia if no steps are to be taken to lessen the hard work that is preventing compensation. 3. Where there is a choice of treatment, the physician must attack what appears to him the point of least resistance. Hence results a varying *modus operandi* for the same disorder—a variety which puzzles the patient. 4. The close dependence of the heart on the central nervous system is shown by the existence of several vicious circles in nervous introspective patients. There is often a baseless fear of sudden death, which a few well chosen words from a trusted adviser may entirely dissipate. 5. Many vicious circles associated with the myocardium arise from the failure of compensatory changes—e. g., when a mitral regurgitation

is followed by undue dilatation, caused either by degeneration of the myocardium or by the excessive work thrown on the heart. Here treatment may do much to increase the vigor of the myocardium or to lighten its load. By one or both courses the failing compensation may be so restored as to render the heart once more equal to its task. Above all, an ample supply of pure blood must be secured to the myocardium.

3. **Heart Block.**—Jellinek and Cooper report six cases of heart block, with the results of the post mortem examination in one case. Three of the patients were comparatively young, twenty-seven, thirty, and thirty-one years respectively, and two of these died, the third being in the preparoxysmal stage and recovering. All of the patients came under observation complaining of attacks of the nature of semifaints, the patients not quite losing consciousness. Several of the patients complained of auræ or pre seizure sensations. These may be due to: 1. Extra systoles which, coincidently in some cases, in others perhaps regularly, precede the seizure, the description given being not unlike the so called "auræ" in Adams-Stokes's disease. 2. Slight, short seizures, preceding more prolonged ones. 3. The pumping in of blood into comparatively empty bloodvessels after an extra systole has failed to open the aortic valves; this, for instance, causing an additional pulsation in some of the vessels. The attacks seem to occur in spells and are an indication of the temporary breaking down of the ventricular compensation. It is remarkable from what seizures or series of seizures people can recover and afterwards lead a useful life for years. Pulsation of the veins of the neck can only be detected during the shorter, milder attacks. The sounds as heard over the auricles are shortened miniature toneless imitations of the normal first and second sounds as heard at the apex. In no case was there any œdema. Clinically the hearts of four of the six patients were greatly dilated and hypertrophied. Rest in bed was the most salutary factor in treatment, drugs having but little or no influence.

4. **Leprosy.**—Deycke in his studies of leprosy has not succeeded in cultivating the lepra bacillus as seen in the leprous tissue. But he has isolated, however, from several severe cases of nodular leprosy a characteristic microorganism which he terms the *Streptothrix leproides*. The material from which the cultures were made was obtained by throwing back a flap of skin, including a nonulcerated recent leproma, and taking fragments of lepra tissue from the under surface of the leproma, every precaution against outside infection being of course taken. The tissue so obtained was placed in normal salt solution and incubated for several weeks, when the filaments of the streptothrix could be observed growing from the mass in great profusion. Injection of a small quantity of a living culture into a severe case of leprosy at weekly intervals was followed by disappearance of the fever and rapid retrogression of the leprous symptoms, so that at the end of two months recovery was apparently complete. Investigation of the cultures showed that the active principle was contained among the fatty substances. This substance, called "mannin," was found to be a genuine neutral fat, the glycerin ester of a high molecular fatty acid. When smitten down, the bacteria are

given hypodermatically, there ensue more or less intense reactive processes in the leprous tissue, consisting in inflammatory swelling and saturation, pulplike softening, true suppuration, and necrosis of the leprous formations, the normal tissue remaining unaffected. It was found that by combining nastin and benzoylchloride the former was activated to a great extent. The nastin is carried to the lepra bacilli, to which, owing to its near chemical and physical relation, it attaches itself, and then the benzoyl can fully display its well known antibacterial action in removing the fat of the lepra bacilli. And when deprived of fat the lepra bacilli seem to be doomed. The human organism then effects with comparative ease the further dissolution and ultimately the complete destruction of the bacteria nuclei. The writer sums up his conclusions in one short sentence: Benzoyl nastin is an agent which acts directly on lepra bacilli.

LANCET.

April 4, 1908.

1. The Pigmy and Negro Races in Africa (Hunterian Lectures, I), By F. C. SHRUBSALL.
2. Tuberculosis of the Kidney and Malignant Disease of the Cæcum (Lettsomian Lectures, III), By C. J. SYMONDS.
3. Delayed Chloroform Poisoning: Its Nature and Prevention, By W. HUNTER.
4. Observations on the Bacteriology of Scarlet Fever, By H. KERR.
5. Note Upon the Tuberculoopsonic Index of the Urine and Sweat in Health and in Tuberculous Disease, By J. MILLER.
6. Observations on the Opsonins, with Special Regard to Lupus Vulgaris. Part II, By A. REYN and R. KJER-PETERSEN.
7. Motoring Notes, By C. T. W. HIRSCH.

2. **Cancer of the Cæcum.**—Symonds in the third of his Lettsomian lectures on the above named subject points out the characters of early cancer of the cæcum, and shows the comparative safety of operation in suitable cases and the degree of immunity from recurrence that may be secured. The two main signs are the presence of a tumor and the occurrence of early intestinal colic due to obstruction of the ileocæcal orifice. The tumor in its most typical form is unlike any other morbid condition about the cæcum. It is movable, hard, and well defined, and so close to the abdominal wall that it may be grasped by the hand and even lifted from the posterior wall. It may be moved downward and upward for quite a distance, during which movement a gurgle is often felt from air passing through the stricture. The discovery of the tumor by the patient may be the first sign of disease. Intestinal colic is a common initial symptom, and if the patient be taking food at the time of the colic part of the food may be rejected without nausea, and he may return to his meal. Colic may be entirely absent where the disease begins in the posterior wall or just above the orifice. Swellings in the region of the cæcum giving rise to questions of diagnosis may be classified as follows: 1. The conditions resulting from appendicitis. 2. Cancer of the posterior wall with early perforation, fixation, and suppuration. Here the resemblance to subacute cases of appendicitis is very close. 3. Glands in the angle between the ileum and cæcum. 4. Tuberculosis of the cæcum. This occurs in earlier life and fixation arises sooner than in cancer. 5. Actinomycosis in

its early stages resembles more closely that form of appendicular swelling due to a calcareous covered concretion, in that the tumor is fixed and does not disappear. In the later stages, when infiltration and suppuration occur, there is a resemblance to cancer beginning in the posterior wall. So mobile is the tumor in cases of cancer of the cæcum, that until the abdomen is opened one cannot be certain whether extirpation is possible or not. The presence of ascites and of secondary deposits in the peritonæum or liver puts excision out of the question, as does also adhesion to the posterior wall with infiltration of the muscle or with a sinus. Infiltration of the anterior abdominal wall, unless very limited, also renders complete eradication impossible. Where the disease is too expensive for removal, short circuiting will sometimes relieve the symptoms. The writer makes use of the Murphy button in almost all his cases, but supplements it by a row of Lembert's stitches all round.

3. **Delayed Chloroform Poisoning.**—Hunter holds that to connect the symptom complex of post-anæsthetic poisoning exclusively with disturbances in fat metabolism is to exaggerate the importance of this change and to underestimate the importance of the other functional liver disturbances with which disturbance in fat metabolism is associated. The acidosis accompanying increased fat metabolism becomes of grave pathogenetic significance when combined with diminished proteolytic activity, owing to inanition, deprivation of food, or recurrent vomiting. As the result of the diminished absorption of ammonia in the portal blood caused by such conditions the intracellular alkalinity of the liver cell is already at a low level. There then results first of all a serious interference with the proteolytic, antitoxic, and glycogenic functions of the liver (of which the post-anæsthetic nausea is a symptom), and the transference of fat to the liver in increased quantity from its depots is a result. The acidosis which accompanies this increased fat metabolism depresses still further the intracellular alkalinity and proteolytic and antitoxic powers to the point when they are almost in abeyance. There then ensue the characteristic severe toxic cerebral symptoms of the condition which rapidly prove fatal. So that the disturbances in fat metabolism, evidenced by the fat changes after death, and the acetoneuria and acidosis during life, are thus the results rather than the causes of the preceding disturbances in the other functions of the liver. The vomiting which occurs after the administration of anæsthetics is not of nervous origin, but is essentially toxæmic, due to the profound depression of liver function, with consequent diminution in its antitoxic function during the period of the administration. This depression will be the greater if a liver already weakened by disease or by poor nutrition be further unduly weakened by food having been withheld for many hours before the administration. This enforced abstinence from food before administration of an anæsthetic may thus, in individual cases, be carried too far, and it is largely responsible for the fatal effects of delayed chloroform poisoning in exceptional cases. Such effects could, in all probability, be completely prevented if, instead of withholding food, particular care was taken that the patient had always a very nutritious and easily

digestible meal, well sweetened, two or three hours before the operation.

**4. Bacteriology of Scarlet Fever.**—Kerr has made a bacteriological investigation of the throats of 160 patients suffering from scarlet fever, and found streptococci present in 84 per cent. But cultures from forty healthy throats showed streptococci in 83 per cent. Streptococci in pure culture were found frequently in the adenitis and mastoid infections, showing that they play an important ætiological part in the complications of scarlet fever. All the streptococci found were subjected to the well known Gordon tests, but no light was thrown on the ætiology of the disease, as at least seven different strains were found. That the infecting agent is present in the pharyngeal and faucial mucus is absolutely all that has been established for certain regarding the causation and source of the disease. If none of the streptococci in the throat are causative of the primary condition, some other agent must have made it possible for them to obtain entrance to the tissues in order to produce the secondary complications.

#### BERLINER KLINISCHE WOCHENSCHRIFT

March 23, 1908.

1. Contribution to the Surgery of the Lower Segment of the Œsophagus. By O. HILDEBRAND.
2. Contributions to the Surgery of the Brain and Spinal Cord. By HERMAN KÜTTNER.
3. Diagnosis and Treatment of Puerperal Fever. By J. VEIT.
4. Gastric Disturbances in Masturbators. By C. HIRSCH.
5. The Decrease of Mortality from Tuberculosis and Its Causes. By B. FRANKEL.
6. The Operative Treatment of Chronic Obstruction. By W. A. THINOT LANE.
7. Homes for Lupus Patients and the Subjugation of the Disease. By ALBERT NEISSER and E. MEIROWSKY.
8. What Should the Physician Do for Tumors of the Bladder? By POSNER.

**1. Surgery of the Lower Segment of the Œsophagus.**—Hildebrand considers operative measures to remove carcinoma of the lower portion of the œsophagus to be hopeless.

**2. Surgery of the Brain and Spinal Cord.**—Küttner reports thirteen cases in this portion of his paper. They are divided into congenital malformations, injuries, and inflammatory diseases. The cases of congenital malformation were one of cephalocele occipitalis inferior cured by operation, one of spina bifida of the upper dorsal vertebra in which death resulted from compression of the medulla oblongata by a sarcoma of the plexus chorioideus of the fourth ventricle, one of spina bifida occulta with defect of the lower segment of the sacrum and of the coccyx, and one of spina bifida occulta of the sacrum with the formation of a tumor. The cases of injury were one of late hemorrhage in fracture of the base of the skull, one of fracture of three cervical vertebrae with pure motor paralysis of both arms by intramedullary hemorrhage followed by perfect recovery, one of fracture of the spinous process of the fourth lumbar vertebra by muscular violence, and one of trophæneutonic gangrene of the foot after fracture of the spine. The cases of inflammatory disease are divided into two parts: 1. Brain abscess and purulent meningitis; one of acute abscess of the brain after

complicated fracture of the skull with recovery after operation, one of acute traumatic abscess of the brain with an enormous prolapse of the brain that recovered with a certain amount of spastic paresis, one of chronic abscess of the left frontal lobe of the brain which simulated a tumor of the cerebellum on the left side, and one of purulent meningitis with the formation of gas. 2. Myelitic processes. Only one case is reported which was of congenital symmetrical paralysis and deformity, due perhaps to a foetal poliomyelitis.

**4. Gastric Disturbance in Masturbators.**—Hirsch reports a case of nervous dyspepsia met with in a man, twenty years old, which was cured by the stoppage of the habit of masturbation.

**5. Decrease of Mortality from Tuberculosis.** Fränkel states that in Prussia there died from tuberculosis 88,283 persons in 1886, 64,450 in 1906. In terms of proportion in 1886, 31.14 to the 10,000; in 1906, 17.26 to the 10,000. The steady decrease in mortality from this disease during these twenty years is excellently shown by a table prepared by the author.

**7. Homes for Lupus Patients.**—Neisser and Meirowsky urge the establishment of institutions in which patients with lupus may be cared for, and think that by this means the disease may become stamped out.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

April, 1908.

1. The Hygiene of Medical Cases, Particularly in Hospital Wards, with Notes on Various Ward Infections, and Observations Relating to the Probable Role of Secondary Gastrointestinal Infections in Typhoid Fever. By D. L. EDSELL.
2. The Nature and the Management of Diabetes Mellitus. By O. F. OSBORN.
3. The Importance of the Early Detection of Aneurysm of the Aorta. By H. D. ARNOLD.
4. Carcinoma of the Mediastinum Simulating Aneurysm. By J. THACKERS.
5. Cardiac Arrhythmia Due to Extrasystoles Originating in the Bundle of His.
6. Some of the Reasons Why Cholecystectomy Should Not be Performed as Frequently as is Advocated by Many Surgeons. By J. B. DEWEY.
7. Perforation of the Gallbladder During Typhoid Fever; Cholecystectomy. Recovery, with an Analysis of Twenty-one Operations on the Gallbladder during Typhoid Fever. By A. P. C. ASHURST.
8. The Diagnosis and Treatment of Syphilitic Lesions of the Nervous System. By F. D. WOODBURN.
9. The Neuræmia of Auto-intoxication. By V. J. ORRISON.
10. The Indican Reaction as Evidence of Enterogenic Intoxication. By H. A. HOSCHOT.
11. The Treatment of Chronic Stenosis of the Larynx and Trachea. By J. ROGERS.
12. The Reaction of the Phagocytes of Elements of Blood on the Bacilli of Tuberculosis. By S. G. DIXON.

**1. The Hygiene of Medical Cases, Particularly in Hospital Wards.**—Edsell believes that infection is communicated in hospital wards much more frequently than is usually suspected, and in medical more frequently than in surgical wards. The ordinary regulations are inadequate in two ways: (1) they consider only a few of the infections, (2) they cover only a portion of the means of conveyance. Isolation of cases is a very incomplete solution, for it can be applied to very few diseases. Infection of the food, and especially of the



milk, when the milk is not pasteurized, is a matter requiring serious attention. The milk when received at the ward should be under the care of a particular nurse and protected from infection. The rest of the food within the ward must also be protected from infection. The nurses and doctors may transmit disease from one patient to another. The patient's mouth must be kept free from infection, hence it should frequently be swabbed out with cotton and a suitable solution. Ward utensils must be frequently boiled, and orderlies must be eliminated from the care of patients as much as possible. Both nurses and patients should be protected from infecting themselves or others.

**2. The Nature and Management of Diabetes Mellitus.**—Osborne states that this term should be restricted to cases in which the sugar in the urine cannot be removed by any dietetic or medicinal treatment. Clinically recurrent glycosuria is, however, frequently a forerunner of diabetes mellitus. Temporary diabetes may be produced by phosphoric, lactic, and hydrochloric acids, by strychnine, arsenic, phosphorus, and carbonic oxide. Glycosuria resulting from irritation of the floor of the fourth ventricle or of the medulla oblongata is well known. Disease of the islands of Langerhans in the pancreas is present in many cases of diabetes. The diabetic eats an excess of proteid and fat in order to get the proper amount of energy from his carbohydrates. His dry skin is due to the great loss of water from the tissues, and he shows predisposition to infections. Diabetic coma is preceded by headache, nervous irritability, and an acid condition of the blood. In treatment of this condition starches must not be too rapidly withdrawn. The diet must be suited to the individual case; medicine is of secondary importance. A warm climate, especially an equable climate, is to be preferred, with freedom from worry, and work that is not fatiguing. The pancreas and suprarenal extracts are the only organic substances which the writer has found serviceable.

**3. The Importance of Early Detection of Aneurysm of the Aorta.**—Arnold states that in examining for this condition one should carefully percuss the area of dullness of the great vessels, note the conduction of the heart sounds in this area, examine both radial pulses simultaneously, examine for the tracheal tug, note all evidences obtained by inspection or palpation, note carefully all the anatomical relations of the aorta, and ever keep in mind the possibility of aneurysm. The early symptoms are usually pain or disturbance with the respiratory apparatus, the latter from pressure on the air passages or the recurrent laryngeal nerve. The symptoms often simulate those of heart disease. There are no pathognomonic signs; the features may be entirely different in successive cases. An x ray examination is useful for confirmatory evidence, for distinguishing from solid tumor, and for detecting aneurysms not discoverable by ordinary methods of examination. While the disease cannot be cured, it can be relieved. It demands limitation of exertion and mental quietude. The vasodilators are the most useful drugs which can be given.

**6. Cholecystectomy.**—Deaver sounds a note of warning against too frequent extirpation of the

gallbladder. The organ serves a useful purpose, and should be retained unless hopelessly diseased. From the standpoint of pathology it is most useful as an avenue for drainage in septic conditions of the liver and biliary passages. If chronic pancreatitis follows removal of the gallbladder, prolonged drainage will be necessary. In such cases cholecystoenterostomy is the procedure of choice. If the gallbladder is removed in the presence of infection of the bile passages, drainage of the stump of the cysticus or of the choledochus with a rubber tube is essential; this is better than draining into the duodenum. In doubtful cases drainage is preferable to removal of the gallbladder, the dangers in the latter operation being always far greater than in the former. Cholecystectomy is always indicated for dropsy, cancer, or other new growth, calcareous degeneration or fibrosis of the gallbladder. If the fundus alone is diseased it should be resected and the remaining portion drained.

**10. The Indican Reaction as Evidence of Enterogenous Intoxication.**—Houghton offers the following working rules: 1. Urinary indican is a product of intestinal putrefaction. There may be putrefaction without the production of indol, but there can be no indicanuria without putrefaction. 2. A maximum excretion of indican, of 100 or more on Frolin's scale, indicates excessive intestinal putrefaction, and the consequent intoxication. 3. A maximum reaction with an index under 100 may be significant, but its interpretation should be guarded by the oxidizing and excretory capacity of the patient. 4. A heavy indican reaction which subsides under treatment indicates intoxication to a lesser degree, but minor variations in the color index have no significance with our present knowledge. 5. No interpretation can be placed upon a negative reaction, as there are too many unsolved factors in the problem.

#### ANNALS OF SURGERY

April, 1908.

1. The Direction of the Jejunum in the Operation of Gastroenterostomy, By B. G. A. MOYNIHAN.
2. Transfusion and Arterial Anastomosis, By R. OTTENBERG.
3. On the Thymus Gland Treatment of Cancer, By F. GWYER.
4. The Parathyroid Glands, By N. P. GEIS.
5. Acute Dilatation of the Stomach and Arterioesenteric Ileus, By W. B. LAFFER.
6. The Removal of Gallstones from the Second and Third Portions of the Common Bile Duct, By F. G. CONNELL.
7. The Reduction en Masse of Strangulated and Non-strangulated Hernie, By E. M. CORNER and A. B. HOWITT.
8. Diagnosis of Renal Disease and Sufficiency, By B. A. THOMAS.
9. Multiple and Consecutive Operations on the Kidneys for Calculi, By W. W. BABCOCK.

**2. Transfusion and Arterial Anastomosis.**—Ottenberg suggests the following points in technique: 1. The vessels must be handled gently, never with toothed forceps. The best instrument is a fine bent forceps. 2. The part to be cufted back is cleaned of its connective tissue by pulling the connective tissue sheath over the cut end of the vessel and cutting it off with scissors. On the end of the other segment much connective tissue should be retained. 3. During the operation the vessels must be

kept moist with salt solution. 4. One should expose one half inch of the vessel to be cuffed and a similar length of the vessel which is to be pulled over the cuff. If the vessels have branches they must be tied close to the vessel with fine silk. 5. The lumen of the ring for clamping the vessels must be as large as the outer diameter of the unopened vessel which is to be cuffed back. The ring must be placed on the smaller of the two vessels. 6. There must be no tension, as in all plastic operations. 7. The part operated on must be immobilized after operation. 8. Temporary blood stasis is best obtained by Billroth's harelip clamps covered with rubber tubing. 9. If the muscular sheath of the vessel contracts it may be relaxed with hot saline solution, or dilated with a small hæmomatic forceps. 10. Absolute asepsis is necessary.

### 3. Thymus Gland Treatment of Cancer.—

Gwyer makes a second report on this method of treatment. His cases, with one exception, were in an advanced stage and inoperable. The following points were noted: 1. With the exception of two or three patients they showed temporary improvement, less pain, reduction in the growth, prompt improvement in the general condition. 2. Several of the patients have died or will soon die. 3. In many of the fatal cases there was no great loss in weight, no pallor and cachexia, no local increase in the tumor. Some of the cases showed marked improvement in general appearance, with no evidence of metastases. 4. The deaths were attributed to progression of the cancer, to the effects of the thymus treatment, or to the effects of some substance liberated by the ingested thymus which was not eliminated. Probably no deaths were caused directly by the ingested thymus, but its continued use may have caused the development of an antibody of such toxicity, persistency, and quantity as to produce the condition which preceded death. The treatment consisted mainly in the use of the dried gland in the form of a powder, the usual dose being two drachms three times daily.

### AMERICAN JOURNAL OF OBSTETRICS.

April, 1908.

1. The Significance of Pain in Pelvic Disease, By E. NOVAK.
2. The Diagnosis of Nonpuerperal Pelvic Infections, By H. J. BOLDT.
3. Ætiology of Acute Nonpuerperal Pelvic Infection, By C. R. HYDE.
4. The Treatment of Nonpuerperal Infections of the Pelvis, By F. R. OASTLER.
5. Report of a Case of Impacted Breech Presentation Treated by Hæbotomy, By B. H. POMEROY.
6. Temporary or Apparent Disproportion Between the Fœtal Head and the Maternal Canal, By M. McLEAN.
7. Disproportion Between the Fœtal Head and the Maternal Pelvis and Its Management, By J. D. VOORHEES.
8. Ectopic Pregnancy in the Stump of an Excised Tube Causing Attacks of Intestinal Hæmorrhage, By H. N. VINTHROPE.
9. Ear Disease in Infancy and Childhood, By J. A. KENTZKE.
10. The Use and Abuse of Salt Solution, By E. A. BALLOCH.

### 11. Chloroform versus Ether at Columbia Hospital for Women, By J. ABBE.

#### 1. The Significance of Pain in Pelvic Disease

Novak offers the following suggestions: 1. A careful physical examination is of first importance in the diagnosis of pelvic disease, but interesting in

formation will also be derived from the character and distribution of the pelvic pain. 2. The exact nature of the disease should be determined in a given case, as nearly as possible, and not the advisability or inadvisability of an operation alone. 3. Pain in the pelvic viscera is governed by the same laws which apply to the causation of pain in the other abdominal viscera. 4. Neurasthenia may develop from neglected pelvic disease, with diffusion of pain and characteristic symptoms in other parts of the body. 5. Persistent neurasthenia following pelvic operations is frequently responsible for the continuance of unpleasant symptoms. 6. Hysteria with pelvic symptoms has the same characteristics as when associated with other diseases. 7. The removal of normal ovaries for pelvic pain is now regarded as unjustifiable. 8. Fibrocystic ovaries are often found in women who are in perfect health. Operation on such organs should be conservative. 9. Pain is the resultant of a lesion and a patient and in order to understand its significance both these factors must be carefully studied.

#### 10. The Use and Abuse of Salt Solution.—

Balloch reaches the following conclusions: 1. Physiological salt solution is a fluid which is isotonic with the plasma of the blood. 2. Its field of therapeutic usefulness is in conditions which cause alterations in the quantity or quality of the plasma. 3. The quantitative alterations are chiefly those which are caused by hæmorrhage and obstruction of the upper bowel. The qualitative alterations are caused by the various toxæmias. 4. The exact percentage of salt in the solution is important, and extemporaneous solutions are to be condemned, owing to the danger of hæmolysis. 5. The subcutaneous tissue forms the most useful avenue for the introduction of the fluid. The intravenous route may be used in emergencies, and for postoperative purposes the rectum is most serviceable. 6. Its use for irrigating purposes in abdominal surgery will not prevent the formation of adhesions, and it is probable that its use for washing away pus blood and debris is no more effective than dry sponging.

#### 11. Chloroform versus Ether at Columbia

Hospital for Women.—Abbe thinks advances in general and local anæsthesia in the past few years have been as great as in any branch of medicine. Local anæsthesia now suffices for many minor and major operations, a weak solution of cocaine, with one or more adjuvants, being entirely efficient. Spinal anæsthesia has undergone improvements and is satisfactory for operations on the legs and lower portion of the abdomen. General anæsthesia, following hypodermatic injection of morphine and hyoscine, requires very little of the inhalation anæsthetic. In some conditions, especially in obstetrics, the hypodermatic injection takes the place of the inhalation anæsthetic. New drugs have been proposed for inhalation anæsthesia. Ether and chloroform are still supreme, however, notwithstanding their disadvantages. The features to be eliminated in anæsthesia are: (1) The disagreeable features of administration. (2) Irritation of the mucous membrane of the air passages and the dangers of inhibiting the reflexes of respiration and of cardiac action during the anæsthesia. (3) Postanæsthetic poisoning as shown by nausea, vomiting, suppression of urine, nephritis, acidosis, and pneumonia.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*One Hundred and Second Annual Meeting, Held in  
Albany, January 27, 28, 29, and 30, 1908.*

The President, Dr. FREDERIC C. CURTIS, of Albany, in the  
Chair.

(Concluded from page 714.)

**The Mosquito: Its Relation to Disease and Its Extermination,** was the title of a paper by Dr. A. H. DOTY. In addition to malaria and yellow fever, he said, the mosquito was also charged with the dissemination of elephantiasis, and to some extent bubonic plague, and still all the habits and history of this pest were but incompletely known. It had been shown that they breed only in water, and this they must have present for at least two weeks, usually not in large bodies of water, but in small, stagnant pools, tin cans, broken crockery, etc. The mosquito did not wander far from its breeding place, and one was capable of producing from one hundred to two hundred eggs at a time. The larvæ were commonly known as "wigglers," and they had to rise at intervals to the surface of the water in order to obtain air. After about ten days they became larger, particularly the head, and in a few days more burst their envelope and became winged mosquitoes.

He believed petroleum to be the most effective means of extermination, as it suffocated the larvæ by forming a film upon the water, which the air tube could not penetrate. A pint of oil was advised for every twenty-five square feet, and the application was to be repeated every ten days or two weeks. Bichloride of mercury, carbolic acid, and other such agents were often used, but were pronounced dangerous to both men and animals, and uncertain as to result.

**The Relationship Between Bovine and Human Tuberculosis.**—In this paper Dr. STOWELL stated that there were 120,000 deaths annually from tuberculosis; that sixteen per cent. of all cattle tested suffered from it, and that cows were thought to be one of the chief sources of the disease. All animals, and especially young children, were susceptible to it, and it might enter through an abrasion, through the respiratory passages, or through the intestinal tract.

He referred to a children's hospital which was supplied with milk in part from the average New York City milk and in part from a particular herd of thirty cows, which were afterward found to be suffering from tuberculosis. In the wards which had been supplied by the farm milk there had developed no more cases of tuberculosis than in those supplied by the ordinary city milk, and so he concluded that tuberculosis was not so frequently transmitted by milk as was ordinarily supposed.

**Oxygen in Surgery.**—In this paper Dr. WILLIAM S. BAINBRIDGE said he believed that the profession had long overlooked the medical properties of this valuable agent, and he hoped to stimulate investigation and place it upon its proper basis. In surgery oxygen had its most promising field, and

he recommended its use in wounds and injecting it into the abdominal and pleural cavities, joints, etc. It should first be warmed to 85° or 90° F. and passed through a tube into the cavities mentioned. In the pleural operation the tube should be attached to the end of an aspirating needle. It stimulated the pulse and respiration and gave to the blood a better color.

He cited seventeen cases of infection, most of them peritoneal, in all of which there had been marked improvement after its use. He believed the possible fields of usefulness for oxygen to be as a stimulant to muscular contractions in intestinal paresis; after all laparotomy operations, especially with pus; to lessen pain; as a general stimulant; as a means of lessening shock after the perforation of typhoid fever; to reduce to a minimum the danger of acute dilatation of the stomach; to be of value in shock, asphyxia, hæmorrhage, ascites, and peritonitis.

Dr. GOTHMAY stated that this plan of treatment certainly did straighten out the pulse, relieve nausea and vomiting, and stimulate the patient generally. A few days ago he tried to kill an animal by over-distending the abdomen, but the pulse and respiration remained in an even line and not depressed. The animal came out of an anæsthesia of two hours and fifteen minutes in five minutes. Thus he concluded that there was no danger from overdistention.

Dr. BAINBRIDGE said that in his talk he did not mention the thoracic cavity, but that he had used it in bleeding from the lung to compress and collapse that organ, but he observed that the oxygen was absorbed almost too quickly to act as an efficient lung compressor.

**The Significance of Uterine Bleeding.**—In this paper Dr. JOHN A. SAMPSON asserted that the modern improved results in diphtheria and many other conditions were due for the most part to more accurate diagnoses. In no department of medicine was an early diagnosis so essential as in gynecology. Uterine bleeding was often a symptom of malignancy, polypi, abortion, and many other conditions, and the purpose of the paper was to show how these various conditions might be recognized.

An early diagnosis saved the patient from the symptoms resulting from the bleeding, such as anæmia. In ectopic gestation the mucosa of the uterus underwent the same changes as occurred in normal pregnancy, and a decidua was formed. At the sixth, eighth, or tenth week bleeding might occur, and pieces of decidua were often found in the discharge. From a lacerated cervix slight and inconstant hæmorrhage might occur, especially upon straining or during the congested state of pregnancy.

He referred to the frequent association of retroflexed uterus and an hypertrophied condition of its mucosa. Under such conditions the menses would be prolonged, profuse, and possibly painful. The type there was seen to be a menorrhagia, characterized by slight bleeding in the intervals.

A polyp was defined as a localized hypertrophy of the mucous membrane, which caused symptoms quite similar to those of the previous condition. When they formed in the cervical canal they were



seen to extend down into the vagina and bleed upon straining, even in the interval. A subserous myoma did not cause any hæmorrhagic disturbances.

Inasmuch as cervical cancers were easily injured, bleeding often occurred early. If it was of the inverted type, an ulcer was the common result, and this was very prone to hæmorrhage. On the other hand, bleeding might be slight and inconstant, and not observed till late in the disease. This last type of cancer was seen to be much more malignant, and when profuse bleeding did occur it was apt to indicate metastasis.

**Acute Flexures, Angulations, of the Sigmoid and Colon** was the title of a paper by Dr. J. P. TUTTLE (see page 479).

**Aerotherapy in Certain Toxæmias of Childhood.**—Dr. F. W. LOUGHRAN, in this paper, quoted many textbooks on the treatment of different conditions, all of which seemed to consider an even temperature of from 60° to 70° F. indispensable. The open air treatment had long been recognized as a cure, especially in chronic diseases. He did not believe this fresh air a "cure all," and thought that drugs were often necessary in conjunction.

**Vascular Crises.**—In this paper Dr. H. L. ELSNER stated that arteriosclerosis might exist for years and give rise to no symptoms whatever, or it might cause marked symptoms of an acute nature. These might subside and not return for years. In young subjects he believed the disease to be due to syphilis as a rule. A person apparently normal might suddenly have an attack of angina pectoris, recover, and never suffer a relapse, and arteriosclerosis was usually discovered accidentally, especially in old people.

By the vascular crises referred to he meant the acute symptoms following a sudden spasm or possibly sudden dilatation of the small bloodvessels. The cause of it might be an extra tax upon the organ involved, such as the unusual amount of work required of the heart when a patient took a rapid walk after a hearty meal. The closure of a coronary artery in the heart did not, in his opinion, cause death, but if both were obstructed a fatal result was inevitable. He believed Adams-Stokes disease, or heart block, due to arterial spasm which in some way influenced the nutrition of the bundles of His, and the symptoms were due to a repeated shutting off of nutrition to the heart muscle.

Angina of the heart might in some cases give rise to symptoms below the diaphragm, and abdominal angina and coronary angina might alternate with each other or be associated. A person might be apparently in good health and suddenly be seized with aphasia or even hemiplegia, and in four or five minutes recover slowly. Such a condition, in his opinion, was due to vascular spasm. Such patients were especially predisposed to cerebral hæmorrhage, because spasm of the cerebral vessels was always found to be associated with diseased arteries. Many painful affections of the limbs were seen to be due to vascular spasm. In examinations of patients he advised an investigation of the arteries as well as of the heart itself. The prognosis and treatment were not given as satisfactory, but light, nutritious diet, rest, and vasodilators would give the best result.

**The Causes and Treatment of High Arterial Tension.**—Dr. L. F. BISHOP, in this paper, took up the diagnosis of high arterial tension, and said that for this purpose no instrument could ever replace the fingers, but by this crude method low tension appeared lower than it really was. He described an instrument of his own invention for the determination of blood pressure.

Dr. JACOBÍ said that he considered every one over thirty-five years old more or less a sufferer from arteriosclerosis. It often did not begin uniformly, but in the kidneys, brain, periphery, or heart. When it started in the heart it caused angina. He advised the physician always to examine the urine and kidneys of a man or woman over forty years of age. A slight trace of albumin was said to be normal, but this was not so. Such patients should be examined frequently and kept under observation; they were undoubtedly sufferers from high arterial tension, and arteriosclerosis was seldom seen without Bright's disease. He declared casts and epithelial cells to be evidence of arteriosclerosis. The remissions he believed to be due to a wavering in the nutritive circulation of the nerves, the sudden improvement that took place after an attack to be due to the establishment of a collateral circulation, and the temporary aphasia described in the paper to be due to thrombosis of the minute bloodvessels in that area of the brain. As treatment for this condition, he recommended regular light diet containing but little calcium, hygiene, and alkalies, nitrites and lactates.

**The Diagnosis of Pulmonary Tuberculosis by Tuberculin and Other Methods.**—Dr. L. BROWN, in this paper, stated that all to-day were agreed upon the importance of an early diagnosis in tuberculosis, because only in those cases where an early diagnosis had been made could a favorable reaction to treatment be hoped for.

He believed that the family history had been given too much weight; if positive it was of value, but if negative it was of no weight, and a history of exposure to the disease, of anxiety, overwork, debility, anæmia, or excesses was of greater importance.

He had observed that symptoms often came on before any definite physical signs could be made out, such as a slight but constant rise of temperature, persistent rapid pulse, increased nervousness, some loss of weight and strength, cough, expectoration, dyspnoea, hæmoptysis, and fistula in ano. All these, taken in connection with a history of exposure, were most conclusive. In case of any suspicious the patient should be instructed to bring an early morning specimen of sputum. If the tubercle bacilli were found it denoted ulceration, and the disease was then no longer in its early stage. The opsonic index was not deemed practical. Examination of the feces might be important, especially in patients who would persistently swallow the sputum. The injection of the sputum into guinea pigs was given as a valuable means of diagnosis.

In the physical examination of the patient he should be instructed to breathe out, cough, and breathe in. By this method râles could often be heard at the apices of the lungs. Percussion was not so important as auscultation. Patients concerning whom there was any doubt should be reexamined.

ined at frequent intervals. On the other hand, the absence of physical signs did not conclusively prove the absence of tuberculosis.

As a last resort tuberculin was used when other means had failed. The first dose given was always to be one of sterile salt solution to exclude any nervous reaction. Other diseases had been said to react to tuberculin, but this had yet to be proven.

The diagnosis from bronchitis, malarial disease, nervous dyspepsia, etc., was said to be extremely difficult at times. He emphasized the fact that tuberculosis was a widespread and contagious disease from which our own friends and family were not exempt.

**Œsophagoscopy and Bronchoscopy.**—Dr. HALSTED exhibited a case of instruments for the examination of the upper digestive and respiratory systems. Cocaine or general anesthesia might be used. The object of the paper was to show a means of directly examining the œsophagus, trachea, etc.

**The Emmanuel Church Movement of Boston and the Treatment of Psychoneuroses.**—This paper, by W. C. KRAUSS, was read by title.

**County Laboratories and Their Uses** was the title of a paper by Dr. ORLANDO HALLENBECK. He referred to the inadequate means of information available to practitioners remote from large centres, and believed that if every county had its own bacteriologist and laboratory it would be a profitable investment for the people at large. He asked how many cases of inflamed throat were diagnosed as diphtheria, quarantined, etc, and *vice versa*, and in how many cases of tuberculosis a similar mistake occurred.

He thought, as the people were to derive the benefit, that they should pay the expenses of the institution, when an individual alone would be benefited by any examination of specimens, etc., that he should pay a small fee in return, and that the entire enterprise could be carried out for \$1,500 per annum. He believed that the laboratory should be inspected at regular intervals, and the bacteriologist in charge be required to render reports, and stated that the cost of the building would be about \$1,000 and that of the equipment about \$400.

He asserted that many specimens would be examined that would never be sent to a State laboratory or one at any great distance, and believed that these laboratories should operate with the State Health Department for the good of the general public.

Dr. BUSH said that, following the example set, the county of Chemung had started legislation which would give the board of supervisors power to establish a laboratory and employ a bacteriologist. And he thought that possibly a general bill should be pushed which would give all the counties of the State the same privilege. He asked the sentiment of the meeting in regard to the matter.

Dr. SCHOONMAKER, of Clifton Springs, stated that he had visited the laboratory referred to in the paper, and that it was in every way complete and efficient. He had observed a better and more scientific tone in the general practice of the county.

Dr. JACOB stated that every legislator in the State should have a copy of Dr. Hallenbeck's paper, and he did not believe that any one of them could resist

the suggestions and appeals embodied therein; a resolution should be framed to that effect.

Dr. W. R. TOWNSEND, the secretary, replied that he would frame the desired resolution.

Dr. STRANAHAN stated that in the course of a conversation with Dr. Potter he had been shown a bill that would shortly be introduced which will meet all the requirements of Dr. Bush.

A resolution was framed by Dr. Townsend that a committee be required to see that the paper of Dr. Hallenbeck be printed at an early date and copies sent to each member of the Senate and Assembly of the State of New York, with resolutions endorsing the paper.

Dr. BUSH said that he did not think that the resolution went far enough, that it should endorse a general bill, that the society should take immediate action, and that sentiment should be made in favor of each county possessing its own laboratory. So Dr. Bush moved the amendment, which Dr. Townsend accepted, that the Committee on Legislation be instructed to use its influence for the passage of a law for the establishment of laboratories and the office of bacteriologist all over the State.

The PRESIDENT spoke of two things which had impressed him during the reading of the paper: That it was a pattern for all the counties of the State to follow; that a body of men had convened and done something; that there was nothing that a county society or the State society could fail to accomplish provided it was sane and reasonable.

**What New York Is Doing for Its Crippled Children.**—This paper, by Dr. N. M. SHAFFER, was read by title.

**The Intracranial Complications of Middle Ear Suppuration.**—Dr. S. J. KOPETZKY read a paper in which he stated that the pus might reach the cranial cavity either through natural anatomical channels or by passages formed pathologically by necrosis, and that by extension might affect the jugular vein or the semicircular canals. He believed that complications occurred usually from one to five years, more often in males than in females, between the ages of four and six years. The course of the acute disease was from two to four weeks; of the chronic, from fifteen months to seven years. Any of the fossæ at the base of the skull might be involved, thus giving rise to symptoms referable to each.

Meningitis of extradural origin was one of the most common complications. In cases of abscess, lumbar puncture did not always show the cerebrospinal fluid to be under tension.

**Chronic Middle Ear Deafness.**—In this paper Dr. W. SOHIER BRYANT referred to the importance of the potency of the Eustachian tube and to the difference between middle ear suppuration and middle ear catarrh. He believed all forms of middle ear disease but the congenital were amenable to treatment, and the improvement following treatment in all other cases justified the effort.

**Medical Libraries for Small Centres.**—In this paper Dr. SMITH BAKER said that the scientific reading of the average practitioner was very limited, owing to routinism, arrest of enterprise, or lack of books. The establishment of libraries would be a



source of benefit not only to the profession, but indirectly to the public as well. He believed the present system of every one's buying his own books to be wasteful and inefficient, and instead of each man's buying practically the same books, physicians should assume a fraternal spirit and have a common library which would avoid duplicates and thus have a greater degree of efficiency. He quoted Dr. William Osler as saying: "It would be hard for me to speak of libraries in terms which would not appear exaggerated."

He said that such libraries might be kept in the offices of the physicians interested, each in turn, or when it became too cumbersome, a part of a local city or town library might be devoted to medical books, and the State library at Albany might co-operate with the smaller libraries for the distribution of medical literature.

Dr. A. M. VANDER VEER said that, as he understood the paper, its purposes were threefold—to stimulate among the practitioners of smaller towns and villages the desire to obtain the current medical literature; to establish in connection with local libraries a medical department; and to secure the cooperation of the State library at Albany in the carrying out of these purposes. The library at Albany was now in a position to send out books as a circulating library, and many more volumes, now boxed up, would be available as soon as the new library building, now under construction, was completed.

Dr. JACOBI spoke of the existence of the Association of Medical Librarians, and stated that it could do more and better work with increased membership; that for a number of years the exchanges had been copious, but that they could be more so. He advised physicians in towns that had no library to become members of that association.

**Instruction in Physiology and Hygiene in the Public Schools.**—Dr. GEORGE MILES, in this paper, said he believed that there was much printed matter, and there were many confused ideas upon just what should be taught in the public schools, but that it was better to teach nothing at all than that which was untrue. All physiological teaching seemed to hinge upon the evil effects of alcohol and narcotics upon the body. He believed that temperance and self control should be taught, but also the effects of heredity, exercises, sanitation, etc., and that such education should be honest and sound. Most children got but very little physical instruction at home, so they should get it in school. Oral lessons should be given before the regular lessons, and the teachers themselves should be taught to adapt themselves to this method.

He criticised most school textbooks upon physiology as giving too much space to the bones and muscles and not enough to the special senses, and said that children should be taught the care of the eyes and what wholesome foods were and how to see, hear, feel, talk, eat, and walk properly. What was taught should have higher ends than the mere accumulation of facts; it should give knowledge of how to keep well. He asked of what good were Greek and Latin when the child knew nothing of the laws of his own body, and of what value were science and languages when the health was gone. He advised teachers not to let the evils of alcohol and

narcotics overshadow instruction as to how to live properly, and to instil one point at a time into the minds of the children, so that when they grew up they would be of value to them, and so that in after years they might look back and call their teachers blessed.

**The Nature and Cause of Colic.**—This paper, by Dr. G. F. SCHIELDS, was read by title.

**Closing Remarks by the President.**—Before adjourning the meeting, the PRESIDENT made a few closing remarks. He said that he felt honored in the position which he was about to vacate, because of the illustrious men who had preceded him and also because of his successor, Dr. Trudeau. He believed that the past year had been one of great value to the society in fixing it along better ways than ever before. He referred to his duties as grateful tasks, and wished to thank the various officers and committees for the cheerful and efficient assistance tendered during the past year.

Dr. JACOBI said that while he was chairman of the Committee on Prize Essays for the past few years he had been kept very busy doing nothing, and he urged men capable of writing essays to take up this work. He believed, in fact, knew, that the president was entirely too modest in giving credit to various officers and committees when the greater part of it really belonged to Dr. Curtis himself. He spoke of the long, active, and valuable career of the retiring president in the State society, and called for a vote of thanks to him for his most successful administration.

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## Letters to the Editors.

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### THE HAVERSTRAW COLONY.

319 EAST TWENTY-THIRD STREET, NEW YORK.

April 10, 1908.

*To the Editors.*

The Senate Finance Committee has reported on the bill for the purchase of the Haverstraw Colony site with the appropriation cut nearly in two. The site is a narrow valley protected by steep hills from intrusion on three sides. The commission selected only such plots as were indispensable to secure the strategic control of the valley, the water supply, the clay pits for brick making, and the railroad siding.

With the reduced amount now proposed (\$100,000) the colony will be flanked by a fringe of summer boarding houses, and along the railroad directly in front of the administration group will spring up a row of saloons, hovels, and the usual surroundings of the brick making industry, which even now is trying to acquire the clay pits.

Inmates could not be allowed to work or stay outside of buildings without close surveillance, which means increased cost to the State for attendants and curtailment of the happiness and industrial efficiency of the patients. This is the unfortunate condition now existing at the Newark Asylum, from which, in spite of constant vigilance, several helpless women inmates have been enticed away by intruders, against whom the institution has not even adequate fence protection. At Haverstraw the entire colony is



safely isolated, or may be, if the whole site recommended (costing \$188,575) is purchased.

This argument is entirely aside from the fact that, given ample land for tillage, the institution can raise much of its own supplies, with great benefit to the health of the inmates. There is every reason, both of business economy and of humanity, why the full site should be secured now. It will be next to impossible to get it piecemeal later.

The press all over the State has already cooperated very generously with us in getting the facts before the public. I hesitate to urge you to give further space to a matter of relatively minor public interest, but if we do not speak out for these broken lives, and do it now, it may mean to thousands of them the difference for life between being cooped up in an overcrowded institution and living and working out in the open, under conditions almost as happy and natural as if they were normal citizens. Surely the State can afford the little extra land needed to accomplish the latter result.

HERBERT S. BROWN.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Conquest of Cancer.* A Plan of Campaign, being an Account of the Principles and Practice Hitherto of the Treatment of Malignant Growth by Specific or Cancerotoxic Ferments. By C. W. SALEEBY, M. D., F. R. S. (Edin.). New York: Frederick A. Stokes Company, 1907. Pp. xxiv-361.

It is with some trepidation that one takes up for notice this aggressive volume of Dr. Saleeby's. The writer is so convinced of the importance of his message, he is such a militant advocate, and he is so cocksure of the efficacy of the trypsin treatment that his attitude will hardly admit of questioning without bringing upon his hapless critics a storm of indignant abuse. It is perhaps not without significance that the book has been more favorably received by the newspapers than by the profession and the medical journals. We are convinced that, whatever may be the merits of the trypsin treatment, it will be given a fair trial, and that Dr. Saleeby is unjust in assuming that physicians generally are prejudiced against the use of any measure which promises relief for so frightful a scourge as cancer. He certainly has not a monopoly of unselfish and humane interest in this large subject, and it is difficult for us to understand how a writer who has had a medical education can so far forget the best traditions of his profession as to directly charge surgeons with indifference or hostility to the trypsin treatment from interested motives. Dr. Saleeby is fond of drawing a parallel between the struggle of trypsin for recognition and the reception accorded in the beginning to Christianity, the reforms of Savonarola, and the scientific truths of Giordano Bruno and of Galileo. If this doughty champion is really the herald of an important new truth he will not in this age be either crucified, burned, or imprisoned, but will, we believe, live to see it uni-

versally accepted if it has only half the value he alleges for it. His judicious friends will, however, regret the acrimonious and controversial tone he has adopted in his advocacy of it.

*An Introduction to the Study of the Infant's Stool.* By PAUL SELTER, M. D., Solingen, Germany; Translated by HERBERT M. RICH, B. L., M. D., Detroit, Assistant in Diseases of Children, Detroit College of Medicine. The Detroit Medical Journal Company, Detroit, Mich., 1907.

This pamphlet presents in an easily accessible form a systematic account of the study of the infant's stools. It is a translation of a German monograph which appeared in the beginning of 1905.

The author, Dr. Paul Selter, of Solingen, Germany, intends to demonstrate that we are able to determine some very important facts from the examination of the infant's stool; we can tell whether any food element is properly digested and assimilated, and in many cases we can decide which element is not so disposed of. We then may correct the faulty feeding and thus improve the general condition of the infant.

The booklet is well translated and will certainly appeal to every physician whose practice brings him into contact with infants.

*Kurzes Lehrbuch der organischen Chemie.* Von WILLIAM A. NOYES, Professor der Chemie an der Universität Illinois. Mit Genehmigung des Verfassers ins Deutsche übertragen von WALTER OSTWALD, und mit einer Vorrede von Professor WILHELM OSTWALD. Leipzig: Akademische Verlagsgesellschaft M. B. H., 1907. Pp. xxiv-722.

Professor Noyes's standard textbook on organic chemistry appeared for the first time about five years ago. It was so well received that Professor Ostwald, of the University of Leipsic, proposed to the author a German translation. This version now has been published. The contents of the English original are so well known that we shall not refer to them. The translation leaves nothing to be desired; in fact, the book reads more like an original composition than like a translation. Some changes have been made to adapt it to the use of German students. Of great advantage is a full index.

*A Textbook on Uric Acid and Its Congeners.* With Special Reference to its Physical and Chemical Properties and Accumulation in the Organism. Together with the Disease Processes Arising Therefrom and Their Etiological Therapy. For Medical Students and Practitioners. By GEORGE ABNER GILBERT, M. D., Member of Local, County, and State Medical Societies of Connecticut, etc. First Edition. Danbury, Conn: The Danbury Medical Printing Company, 1907. Pp. 310.

The author has studied with great industry the uric acid question as it appears to him and as it is treated in the medical literature of to-day. He has thus brought together from all available sources the results of the experimental work of American, English, French, German, Russian, and Swedish investigators. He comes to the conclusion that uric acid is one of the waste products of the human organism most frequently retained and responsible for many of the common ills. We should therefore "endeavor to prevent the body from becoming highly charged with uric acid," a dictum of Minowski in *Die Gicht*, who suggests trying to effect this desirable object by decreasing the formation of uric acid, by furthering its excretion, by hastening

the further oxidation, and by increasing the solubility of uric acid in the blood and tissues. This will be best achieved by the alkaline eliminant mode of treatment.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

An Aid to Materia Medica. By Robert H. M. Dabarn, M. D., Professor of Surgery and of Surgical Anatomy, New York Polyclinic Medical School, etc., Fourth Edition, Revised and Enlarged, by Eden V. Delphay, M. D. New York: The Macmillan Company, 1908. Pp. xi-338. (Price, \$1.75.)

Climate Considered Especially in Relation to Man. By Robert DeCourcy Ward, Assistant Professor of Climatology in Harvard University. Illustrated. New York: C. E. Putnam's Sons. London: John Murray, 1908. Pp. xiv-372.

Thirty-first Annual Report of the Board of Health of the State of New Jersey for the Year 1907, and the Annual Report of the Bureau of Vital Statistics. P. 432.

The Submucous Resection of the Nasal Septum. A Detailed Description of the Flap Method. By Otto T. Freer, M. D., Professor of Rhinology and Laryngology, Chicago Polyclinic, etc. With Twenty-four Original Illustrations. Chicago: Journal of Ophthalmology and Otolaryngology, 1908. P. 51. (Price, 50 cents.)

Die Hautkrankheiten. Von Prof. Dr. A. Jarisch. Zweite, vermehrte und unbenutzte Auflage. Mit 7 Abbildungen im Texte. Bearbeitet von Prof. Dr. Rudolf Matzenauer, I. Hälfte (Vorwort, Inhalt und Bogen 1-38). II. Hälfte (Bogen 39-60 und Register). Wien und Leipzig: Alfred Hölder, 1908. Pp. 1110.

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending April 17, 1908:

Smallpox—United States			
Places.	Date.	Cases.	Deaths.
Alabama—Huntsville, vicinity.....	January-April.....	50	1
California—Los Angeles.....	March 21-28.....	7	1
California—San Francisco.....	March 21-28.....	7	1
District of Columbia—Washington.....	March 28-April 4.....	15	1
Georgia—Augusta.....	March 24-31.....	2	1
Illinois—Chicago.....	March 21-April 28.....	9	1
Illinois—Rock Island.....	March 21-28.....	4	1
Illinois—Springfield.....	March 26-April 2.....	5	1
Indiana—Elkhart.....	March 28-April 4.....	2	1
Indiana—Evansville.....	March 28-April 4.....	1	1
Indiana—La Fayette.....	March 19-April 6.....	1	1
Indiana—Munich.....	March 19.....	1	1
Indiana—Muncie.....	Feb. 29-March 7.....	4	1
Iowa—Cedar Rapids.....	March 19.....	9	1
Kansas—Kansas City.....	March 28-April 4.....	6	1
Kansas—Lynch.....	March 28-April 4.....	9	1
Kentucky—Lewis County.....	March 8-April 4.....	15	1
Louisiana—New Orleans.....	March 28-April 4.....	1	1
Maine—Limestone.....	April 3.....	1	1
Michigan—Detroit.....	March 28-April 4.....	1	1
Michigan—Grand Rapids.....	March 28-April 4.....	10	1
Minnesota—Winona.....	March 28-April 4.....	2	1
Montana—Butte.....	March 19.....	2	1
Nebraska—Nebraska City.....	March 28-April 4.....	6	1
New York—Niagara Falls.....	March 28-April 4.....	6	1
North Carolina—Charlotte.....	March 21-April 4.....	2	1
Ohio—Cincinnati.....	March 20-April 3.....	28	1
Ohio—Dayton.....	March 28-April 4.....	1	1
Ohio—Toledo.....	Jan. 16-March 4.....	11	1
Ohio—Troy.....	March 28-April 4.....	1	1
Ohio—Warren.....	March 28-April 4.....	1	1
Ohio—Zanesville.....	March 19.....	1	1
Tennessee—Nashville.....	March 28-April 4.....	1	1
Tennessee—Fayette.....	March 21.....	1	1
Texas—Galveston.....	March 21-April 3.....	3	1
Texas—San Antonio.....	March 28-April 4.....	1	1
Washington—Spokane.....	March 21-28.....	1	1
Washington—Tacoma.....	March 21-28.....	1	1
Wisconsin—La Crosse.....	March 21-April 4.....	1	1
Wisconsin—Marshfield.....	March 21-28.....	1	1
Wisconsin—Racine.....	March 28-April 4.....	1	1
Wyoming—Laramie.....	March 5-April 1.....	1	1

Smallpox—Foreign			
Arabia—Aden.....	March 29.....	1	1
Brazil—Rio de Janeiro.....	March 18-25.....	38	23
Canada—Halifax.....	March 21-April 4.....	2	1
Canada—Hantsdon.....	March 1-31.....	3	1
China—Shanghai.....	Feb. 16-March 8.....	5	1
and 23 deaths native.			
Egypt—Cairo.....	Feb. 27-March 4.....	4	1
Formosa.....	Feb. 8-March 1.....	5	1
France—Paris.....	March 14-21.....	9	1
Great Britain—Edinburgh.....	March 14-21.....	2	1
Great Britain—Leith.....	March 14-21.....	1	1
India—Bombay.....	March 3-10.....	42	1
India—Calcutta.....	Feb. 15-22.....	9	1
India—Madras.....	Feb. 29-March 6.....	1	1
Italy—General.....	March 10-26.....	17	1
Italy—Catania.....	March 10-26.....	5	3
Japan—Kobe.....	Feb. 29-March 7.....	79	1
Japan—Nagasaki.....	Feb. 29-March 7.....	47	1
Japan—Osaka.....	Feb. 29-March 7.....	29	1
Java—Batavia.....	Feb. 15-22.....	4	1
Mexico—Agua Calientes.....	March 22-29.....	4	2
Mexico—Matamoros.....	March 28-April 4.....	4	1
Mexico—City of Mexico.....	Feb. 15-22.....	1	6
Mexico—Vera Cruz.....	March 14-21.....	3	1
Russia—Libau.....	Feb. 14-21.....	2	1
Russia—Moscow.....	Feb. 29-March 14.....	56	24
Russia—Odessa.....	March 14-21.....	2	1
Russia—Riga.....	March 14-21.....	9	1
Russia—St. Petersburg.....	Feb. 29-March 14.....	44	11
Russia—Warsaw.....	Jan. 18-Feb. 1.....	23	1
Spain—Denia.....	March 14-21.....	6	1
Spain—Valencia.....	March 15-22.....	25	2
Straits Settlements—Penang.....	Feb. 15-22.....	1	1
Turkey—Bagdad.....	Feb. 15-22.....	42	9
Turkey—Constantinople.....	March 8-15.....	3	1

Yellow Fever—Foreign			
Barbados—Bridgetown, vicinity.....	March 7-11.....	2	1
Brazil—Para.....	March 7-21.....	14	10
Trinidad—Port of Spain.....	Feb. 29-March 7.....	1	1
Cholera—Foreign			
India—Bombay.....	March 8-10.....	2	1
India—Calcutta.....	Feb. 15-22.....	112	1
India—Madras.....	Feb. 29-March 6.....	7	1
India—Rangoon.....	Feb. 22-29.....	5	1
Plague—Foreign			
Brazil—Rio de Janeiro.....	March 1-8.....	2	1
India—General.....	Feb. 15-22.....	6,842	5,502
India—Bombay.....	March 3-10.....	29	1
India—Calcutta.....	Feb. 15-22.....	29	1
India—Rangoon.....	Feb. 22-29.....	50	1
Japan—Osaka.....	Feb. 29-March 7.....	1	1

#### Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending April 15, 1908.

CARRINGTON, P. M., Surgeon. Granted leave of absence for four days, from April 8, 1908, under paragraph 189, Service Regulations.

COBB, J. O., Surgeon. Relieved from duty at Cairo, Ill., and directed to proceed to Milwaukee, Wis., assuming charge of the service at that port.

GOLDBERGER, JOSEPH, Passed Assistant Surgeon. Granted leave of absence for seven days, from April 9, 1908.

GUITERAS, G. M., Surgeon. Directed to proceed to Pascagoula, Miss., for special temporary duty, upon completion of which to rejoin his station, at Mobile, Ala.

JACKSON, J. M., Acting Assistant Surgeon. Granted leave of absence for ten days, from April 4, 1908.

JAMES, W. F., Acting Assistant Surgeon. Granted leave of absence for thirty days, from July 1, 1908.

McINTOSH, W. P., Surgeon. Directed to proceed to Boston, Mass., for special temporary duty, upon completion of which to rejoin his station, at Portland, Me.

MEAD, F. W., Surgeon. Granted leave of absence for ten days, from April 12, 1908.

NYDEGGER, J. A., Passed Assistant Surgeon. Granted leave of absence for two days, from April 11, 1908, under paragraph 191, Service Regulations.

OAKLEY, J. A., Passed Assistant Surgeon. Granted leave of absence for one month, from April 15, 1908.

RICE, W. E., Acting Assistant Surgeon. Granted leave of absence for fourteen days, from May 1, 1908.

SCHERESCHESKY, J. W., Passed Assistant Surgeon. Directed to report to the Bureau, Washington, D. C., for special temporary duty, upon completion of which to rejoin his station, in Baltimore, Md.

SCOTT, E. B., Pharmacist. Granted leave of absence for two days, from April 11, 1908.

STIMPSON, W. G., Surgeon. Directed to assume temporary charge of Port Townsend Quarantine Station during

the absence of Passed Assistant Surgeon Oakley, on leave for one month from April 15, 1908.

WICKES, H. W., Passed Assistant Surgeon. Relieved from duty at Stapleton, N. Y., and directed to proceed to New Orleans, La., reporting to the medical officer in command of the Marine Hospital, for duty and assignment to quarters.

WILSON, R. L., Passed Assistant Surgeon. Relieved from duty at New Orleans, La., and directed to proceed to Cairo, Ill., assuming command of the service at that port.

#### Board Convened.

A board of medical officers was convened to meet at Seattle, Wash., April 13, 1908, for the physical examination of an alien. Detail for the Board: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. R. Underwood, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending April 18, 1908:*

ASHFORD, B. K., Captain and Assistant Surgeon. Ordered to report at Army Medical Museum Building, Washington, D. C., for examination for promotion.

CARSWELL, R. L., Captain and Assistant Surgeon. Left Depot of Recruits and Casuals, Angel Island, Cal., on leave of absence for two months.

CHAMBERLAIN, W. F., Captain and Assistant Surgeon. Ordered to report at Army Medical Museum Building, Washington, D. C., for examination for promotion; granted leave of absence for one month and ten days, with permission to ask an extension of twenty days.

DELOFFRE, S. M., First Lieutenant and Assistant Surgeon. Ordered to report at the expiration of his leave of absence at the Army Medical Museum Building, Washington, D. C., for examination for advancement.

FORD, J. H., Captain and Assistant Surgeon. Ordered to report at the Army General Hospital, San Francisco, Cal., for examination for promotion.

LAGARDE, L. A., Lieutenant Colonel and Deputy Surgeon General. Granted leave of absence for two months.

PAGE, Henry, Captain and Assistant Surgeon. Ordered to report at the Army General Hospital, San Francisco, Cal., for examination for promotion.

POWELL, J. L., Lieutenant Colonel and Deputy Surgeon General. Left Fort Ethan Allen, Vt., on leave of absence for ten days.

SCHREINER, E. R., Captain and Assistant Surgeon. Ordered to report at the Army General Hospital, San Francisco, Cal., for examination for promotion.

TRUBY, A. E., Captain and Assistant Surgeon. Ordered to report at the Army General Hospital, San Francisco, Cal., for examination for promotion.

WHALEY, A. M., First Lieutenant and Assistant Surgeon. Ordered to Jackson Barracks, La., for temporary duty; on completion, to return to station.

WILSON, W. H., Major and Surgeon. Returned to Fort Hamilton, N. Y., from accompanying troops to San Francisco, Cal.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending April 18, 1908*

BROWN, H. L., Passed Assistant Surgeon. Detached from the naval station, Cavite, P. I., sailing from San Francisco, Cal., about May 5th.

CHAMBERS, W., Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia, Pa.

DICKSON, S. H., Medical Inspector. Detached from the navy yard, Norfolk, Va., and ordered to the marine barracks, Washington, D. C.

ELY, C. M., Passed Assistant Surgeon. Detached from the naval recruiting station, Buffalo, N. Y., and ordered to the *Hartford* when commissioned.

HAINES, B. F., Acting Assistant Surgeon. Resignation accepted, to take effect April 15, 1908.

LANGHORNE, C. D., Surgeon. Detached from the marine barracks, Washington, D. C., and ordered to the naval station, Honolulu, H. I., sailing from San Francisco, Cal., about May 5th.

LEACH, B., Surgeon. Ordered to the *Hancock*.

MCDONELL, W. N., Passed Assistant Surgeon. Detached from the *Hancock* and ordered to the naval recruiting station, Buffalo, N. Y.

MCLEAN, A. D., Passed Assistant Surgeon. Detached from the navy yard, Portsmouth, N. H., and ordered to the *Chester* when commissioned.

SHIFFERT, H. O., Passed Assistant Surgeon. Detached from duty at marine at Camp Elliott, Isthmian Canal Zone, and ordered home to wait orders.

SMITH, C. G., Passed Assistant Surgeon. Detached from the naval station, Honolulu, H. I., and ordered home to wait orders.

STERNE, C. F., Assistant Surgeon. Ordered to the Naval Hospital, New York.

## Births, Marriages, and Deaths.

### Married.

FELLOWS—LOVE.—In Des Moines, Iowa, on Wednesday, April 8th, Dr. Joseph T. Fellows and Miss Estelle Love.

GEYSER—HIGBIE.—In New York, on Wednesday, April 15th, Dr. Albert C. Geyser and Dr. Annie S. Higbie.

HALL—PAGE.—In Brookline, Massachusetts, on Wednesday, April 22d, Dr. Gardner Wells Hall and Miss Elizabeth Hancock Page.

JONES—AUSTIN.—In Philadelphia, on Wednesday, April 22d, Dr. Isaac H. Jones and Miss Emily L. S. Austin.

PETTY—MELLERSH.—In Philadelphia, on Wednesday, April 8th, Dr. Orlando H. Petty and Miss Marcie Mellersh, daughter of Dr. A. H. Mellersh.

SAVAGE—INGERSOLL.—In New York, on Saturday, April 11th, Dr. William B. Savage, of Central Islip, and Miss Adele L. Ingersoll.

SCHULTZ—LIST.—In Philadelphia, on Wednesday, April 15th, Dr. Howard F. Schultz and Miss Maud List.

STRAETEN—ROOT.—In Washington, D. C., on Saturday, April 11, Dr. Renier J. Straeten, United States Navy, and Miss Emeretta Root.

SYKES—BERGAN.—In Philadelphia, on Wednesday, April 15th, Dr. Henry Sykes and Miss Elizabeth M. C. Bergan.

VOGT—NICHOLS.—In New York, on Wednesday, April 8th, Dr. William H. Vogt, of St. Louis, Missouri, and Miss Edna Jeanette Nichols.

### Died.

BROWN.—In Georgetown, Kentucky, on Monday, April 13th, Dr. George O. Brown, aged sixty-seven years.

CLISBE.—In Coldwater, Michigan, on Tuesday, April 7th, Dr. Stephen H. Clisbe, aged sixty-five years.

CROOK.—In New York, on Thursday, April 16th, Dr. James King Crook, aged forty-nine years.

CRUMB.—In Norwich, New York, on Thursday, April 16th, Dr. De Witt Crumb.

GOODMAN.—In St. Catherine's, Ontario, Canada, on Thursday, April 9th, Dr. Edwin Goodman, aged seventy-five years.

GORE.—In Charlotte, North Carolina, on Thursday, April 9th, Dr. J. W. Gore.

HUBBARD.—In Essex, Connecticut, on Sunday, April 12th, Dr. Charles H. Hubbard, aged seventy-two years.

KELLAR.—In Lexington, Kentucky, on Thursday, April 9th, Dr. David Kellar, aged eighty-nine years.

KENNEDY.—In Springfield, Massachusetts, on Friday, April 10th, Dr. Catherine M. Kennedy, aged sixty-four years.

LA COUNT.—In Wausau, Wisconsin, on Sunday, April 12th, Dr. David La Count, aged seventy-nine years.

LEWIS.—In Huntsville, Alabama, on Saturday, April 4th, Dr. P. H. Lewis, aged eighty-five years.

MCDOWELL.—In New York, on Wednesday, April 15th, Dr. Alexander B. McDowell, aged forty-four years.

RICHARDS.—In Glastonbury, Connecticut, on Friday, April 10th, Dr. George C. Richards.

ROBIE.—In New York, on Wednesday, April 15th, Dr. John Wilson Robie, aged seventy-one years.

THOMPSON.—In Boston, on Saturday, April 11th, Dr. George E. Thompson, aged fifty-nine years.

WADE.—In Danbury, Connecticut, on Saturday, April 11th, Dr. J. Alexander Wade.



# New York Medical Journal

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### Original Communications.

#### A BRIEF CRITICAL REVIEW OF A YEAR'S PROGRESS IN TROPICAL MEDICINE.\*

BY JAMES M. ANDERS, M. D., LL. D.,  
Philadelphia,

Professor of Medicine and Clinical Medicine in the Medical College; Consulting Physician to the Jewish Hospital; Consulting Physician to the Widener Home for Crippled Children, etc.

It has been an honor, highly appreciated, to serve as the presiding officer of a body so distinguished as that of the American Society of Tropical Medicine during the year just ended. Before taking up the theme of my brief discourse, I desire to convey to the officers, more particularly to the efficient secretary, Dr. Swan, whose enterprise deserves unstinted praise, my grateful acknowledgment of the singular zeal manifested in the executive work of this society. Especial commendation is also due the members for increased activity and greater fruitfulness of results in the individual study of tropical affections during the past year. The growing importance of this special field of medicine is becoming rapidly evident, and it is equally clear that a thorough and systematic investigation of this class of diseases in the immediate future is vital to the progress of medical science and art in America; and to appreciate this truth it is only essential to grasp the changed conditions—social, industrial, hygienic—growing out of the acquisition of our new dependencies.

The present state of affairs has already called forth a practical rearrangement of the themes pursued, and labors of, governmental officials, sanitarians, clinicians, and research workers. But the present activities in the domain of tropical medicine may be regarded as being but a feeble foretaste of what the future inevitably conceals. Tropical diseases have been among the last to engage the serious attention of trained scientific investigators, although many members belonging to this extensive group have been imperfectly known and described from the remotest antiquity. Among the influences that will count for much in determining the extent and nature of this work to be carried forward in the immediate future for the better service of our science and art, the American Society of Tropical Medicine should, and doubtless will, take conspicuous rank. If I mistake not, this new society, with the light of dawn still upon it, is gripped with a

high purpose, and destined to fulfil its great promise.

In devoting attention to the elucidation of the subject, the undertaking should have reference to well defined points of view—e. g., ætiological, pathological, clinical, therapeutical. In order to achieve satisfactory and permanent results, these different phases should receive separate consideration, although an intimate and practically important interconnection between them must be recognized. The earlier work should aim to obtain sure ætiological and pathological facts or evidence, for in the absence of a knowledge of the necessary causes of tropical diseases and a clue from their pathology we shall continue to remain ignorant of, or, at all events, incapable of interpreting their clinical behavior. On the other hand, systematic, uniform, and properly directed investigations cannot fail to achieve much needed information available for practical uses.

In the case of the infective diseases, at all events, the practical solution of the issues involved must come from ætiology and pathology. No large measure of professional opinion, expressed or entertained on any medical subject can receive adequate support either from clinical observation or therapeutical tests alone. Considerable thought, therefore, should be given to the order of development of the vast field of research in question, and to the thread of connection between the different aspects of the complicated subject.

This, then, is the pathway to be trodden, my learned coworkers, if we would venture to hope to bring this extensive field of investigation into that state of forwardness which characterizes our positive knowledge of many nontropical diseases. Much has hitherto been discovered and announced to the scientific world, but more is still enveloped in obscurity, to be elucidated, as intimated before, by appeals to bacteriology, parasitology, morbid anatomy, and morbid physiology, through the aid of which the clinical symptoms manifested may be rationally interpreted.

Whilst the year just ended has witnessed but few, if any, epoch-making discoveries, the net gain may be said to have been considerable, and is an augury warranting the most favorable predictions for the future. It is to be recollected that the magnitude and complexity of the problems awaiting solution can scarcely be appreciated by an enlightened profession, as yet imperfectly acquainted with the manners, habits, and customs of the peoples of our newly acquired territories.

To attempt to give a complete review of the pro-

\*Address of the president delivered at the Annual Meeting of the American Society of Tropical Medicine, held at the Hotel Hamilton, New York, March 28, 1908.

gress actually made during the previous year would lead beyond the scope of this address: I shall, therefore, be constrained to content myself with a brief chronicle of the more important advances gained during that short period of time. Mere theoretical expressions, unsupported by proof, will be rigorously omitted.

Foremost among tropical affections comes plague, and magnificent recent work has been done in relation to the ætiology, more especially the modes of conveyance of the bacillus. The recognition of the fact that the plague bacillus may be carried from one rat to another by the rat flea resulted from the labors of the British Plague Commission working in India.<sup>1</sup> During 1907, the previous experiments of the commission have been entirely confirmed, and additional observations, which have contributed much to systematic science, have been conducted.<sup>2</sup>

It was conclusively shown that rats could be infected by feeding them with the viscera of dead plague rats, and that in such cases the site of the bubo was the mesentery. *Per contra*, cervical bubo is the rule in naturally infected rats, hence it is obvious that natural intestinal infection rarely, if ever, occurs. Evidence to show that the infected faces of the flea may carry the infection to the flea bite sustained by man has been advanced.

It was proved that the Indian rat flea (*Pulex cheopis*), under certain circumstances, will readily bite man—a fact which has long been the subject of controversy. Rothschild has pointed out that this species of flea is the commonest one found on house and port rats in many parts of the world, and that it is identical with the *Pulex palidus* found in Australia and the *Pulex philippinensis* found in Manila—localities where plague has repeatedly appeared. The *Pulex irritans* and *Ceratophyllus fasciatus* were also shown by experiment to be capable of infecting animals in a few instances, and it is of prime importance that their exact influence in the transmission of plague from rat to man should also be determined.<sup>3</sup>

So strongly has the entire medical profession become impressed with the truth of the view that the principal, if not the only, means of transmission has been accurately determined to be the flea, that no invincible obstacle to the serious business of the United States Public Health and Marine Hospital Service and State and municipal authorities in applying antiplague measures will, it is hoped, be permitted to exist in future. Granted that every facility be provided for the operation of these organized bodies, the impracticability of absolute prevention must, owing to the peculiar mode of transmission, appear evident. Finally, the necessity for united action with a view to exterminating rats and fleas in infected localities will be universally acknowledged.

Haffkine<sup>4</sup> has recently described the present position of inoculation in an important address delivered to the Epidemiological Society of London on the Present Methods of Combating Plague. His conclusions were:

1. "The races of Indians more susceptible to plague than Africans, Europeans, and some other races, but the inoculation treatment reduces the liability to attack to less than one-fifth of that in non-inoculated." 2. "In one-third of the

cases which occur in the inoculated the recovery rate is at least double that in the noninoculated, the ultimate result being a reduction in the plague mortality by about 85 per cent. 3. All the cases of plague in inoculated Europeans have ended in recovery. 4. Inoculation is applicable to persons already infected and incubating the plague and prevents the appearance of symptoms, or else mitigates the attack. 5. In natives of India the degree of immunity conferred by inoculation, though it gradually diminishes, lasts during several outbreaks of the plague. 6. In Europeans the effect has not yet been seen to disappear since its introduction in 1897.

Reference should be made to the exhaustive studies of Richard Strong<sup>5</sup> in plague immunity. This observer doubts the protective value of Haffkine's prophylactic, while certain Indian physicians emphasize its great value in lessening plague incidence and plague mortality. For example, W. J. Simpson,<sup>6</sup> in the Croonian Lectures on plague, stated that one injection of three cubic centimetres of Haffkine's prophylactic is sufficient to protect during an existing epidemic:

Inoculation is powerless to arrest the disease in those in whom the symptoms have already appeared or develop in a few hours after inoculation. Inoculation mitigates or aborts the disease in those who are in the incubation stage or have been infected three or four days previously.

Strong advocates the injection of attenuated living cultures of *Bacillus pestis* as a method of immunization. He found natural plague aggression effective in animal experiments, but owing to the great difficulties encountered in its preparation this will probably not be generally adopted. Strong also demonstrated the fact "that the development of the immunizing substances is quite independent of that of the agglutinins." Strong arrives at the conclusion that in sera possessing immunizing power no bactericidal action can be shown to exist. He insists that inoculation against plague with suitable cultures is not infallible on account of individual variations in susceptibility to infection and in natural resistance. There is a consensus of opinion that inoculation is powerless to influence the general course of the disease after it is well characterized clinically.

The work of Ashburn and Craig,<sup>7</sup> in connection with *Filaria philippinensis*, is especially worthy of notice, and among the conclusions reached are the following: (a) That the complete development of *Filaria philippinensis*, discovered by them in 1906, has been followed in the mosquito, *Culex fatigans*; (b) that the *Filaria philippinensis* is distinguishable from other filariæ "both in the blood and during the developmental cycle within the mosquito"; (c) that as regards the time of its occurrence in the blood, this organism presents no periodicity. The same observers have, by their persistent investigations into the ætiology of dengue, thrown an important sidelight upon that subject. Of their conclusions, a few merit enumeration here:

(a) The specific cause is most probably ultramicroscopic in size, neither bacterium nor protozoon being demonstrable in either fresh or stained specimens of dengue blood by the microscope or in bouillon blood culture; (b) the disease is characterized by a well marked leucopenia, the polymorphonuclear leucocytes being decreased, as a rule,

<sup>1</sup>Journal of Hygiene, Extra Plague Number, July, 1907.

<sup>2</sup>Journal of Tropical Medicine and Hygiene, August, 1908.

<sup>3</sup>Journal of Tropical Medicine and Hygiene, December, 1907.

<sup>4</sup>Journal of Tropical Medicine and Hygiene, January, 1908.

<sup>5</sup>Philippine Journal of Science, June, 1907.

<sup>6</sup>Journal of Tropical Medicine and Hygiene, August, 1908.

<sup>7</sup>New York Medical Journal, October 15, 1907.

<sup>8</sup>New York Medical Journal, June 11, 1907.

while the small lymphocytes are decidedly increased; (c) dengue can be transmitted by the mosquito, *Culex fatigans*, hence it is probably not contagious, but infectious in the same manner as is yellow fever and the malarial fevers. It should be pointed out that Schaudinn, Novy, and others suspect that both dengue and yellow fever are caused by protozoan parasites.

Musgrave<sup>9</sup> has observed seventeen cases of paragonimiasis, eight of which came to necropsy, in Manila, during the year 1906 and the early part of 1907; he has contributed an exhaustive study of this infection, based partly upon the post mortem findings and partly upon close clinical studies of the cases observed. The course of the disease is usually chronic, although an acute form is recognized with secondary infection, as a rule. Again, the condition may be either generalized or localized. An assured diagnosis rests solely on the finding of the ova of the trematode in the sputum, in the feces, the scraping from ulcers, or in fluids and tissues removed at operations. Until more is known of the life history of this parasite, satisfactory prophylactic measures cannot be indicated. The subject is of distinct importance to this body, since imported cases have been met with in the United States and will probably be more commonly found in the future.

Concerning the ætiology of yellow fever, the results of recent investigations, while failing to demonstrate the presence of any organism having ætiological significance, are strongly suggestive that the disease is due to a spirochæta. In the *Public Health Reports* for May 3, 1907, Stimson describes an organism which he observed in the kidney of a yellow fever patient, following the method of Levaditi, its general appearance suggesting a spirochæta. But though specificity cannot be assigned to this organism, without ample confirmation, it is undoubted that the blood picture closely resembles that of diseases known to be caused by protozoan parasites.

During August, 1907, a few cases of yellow fever were reported from Cuba, but, as was to be expected, no widespread epidemic was kindled thereby. An important lesson is taught the medical profession by these recurring outbreaks of yellow fever and other infectious diseases; it is that the final eradication of pestilential diseases is practically beyond human power. Again, such visitations indicate clearly enough the necessity for constant vigilance or the constant application of active measures calculated to serve as preventives, more particularly in the warm months or period of the year during which our territory is continually menaced.

Professional zeal, amounting to anxiety, to learn the specific cause of that interesting form of multiple neuritis, beriberi, has failed to receive an encouraging impetus within the past year; both the bacillus of Hamilton Wright and the cocci of Okata and Kokubo have been shown to bear no ætiological relation to the disease. The ætiological position of the organism discovered by Tazizuki<sup>10</sup> still lacks the needed experimental proof.

Hewlett and de Korte<sup>11</sup> have advanced a new

tentative hypothesis, namely, that beriberi is the result of a protozoan infection, the invasive agent being eliminated through the urine, which conveys the contagion. In the urine of beriberi patients were found three varieties of refractive cells, believed to be degenerate cells, or protozoa. These observers also carried out investigations bearing on the pathology of beriberi. They found a disease in monkeys showing marked similarity to beriberi; the animals were anæmic, the knee jerks either exaggerated, diminished, or absent, with œdema of the face and genitalia in some cases. The urine showed hyaline casts and highly refractive cells (supposedly protozoa), but no albumin. The animals succumbed to the disease, and post mortem section revealed changes similar to those met with in the human kidneys in this disease.

In the recent past numerous excellent articles concerning the ætiology and nature of beriberi have appeared in medical literature. There are not a few modern writers who contend that the disease is of dietetic origin, more particularly from the ingestion of rice and fresh fish. While the controversy as to whether beriberi is a microorganismal disease or the food theory is to be ultimately accepted, the balance of testimony would appear to be favorable to the infectious nature of the disease, although it must be owned that the specific cause still remains in doubt.

Among the advances in experimental therapeutics is to be mentioned the use of vaccine prepared from cultures of *Micrococcus melitensis* freshly isolated from the spleen during life. Bassett-Smith<sup>12</sup> reports two series of cases, the first series consisting of twenty-two cases, with marked improvement in fifteen, the second consisting of twenty-three patients, with marked improvement in sixteen. He restricted its use to the more chronic condition, in which there was a mild, seasaw temperature without marked hectic symptoms. Fortunately, although Malta fever is regarded as an acute infection, most cases pursue a chronic course. It is important to recollect that the addition of further quantities of artificially produced toxine to a patient in the acute phases of an infectious process is likely to act detrimentally. In view of the results thus far obtained, the method of treatment under consideration deserves more extended trial.

During the past year the bacteriologists have continued to bestow much attention upon the subject of the ætiology of intestinal diseases, attended with the symptom complex, known as dysentery. Ashburn and Craig,<sup>13</sup> in a study of tropical diseases as they occur in the Philippine Islands, report, under date of June 15, 1907, that they have examined one hundred healthy men, of which seventy-two, or seventy-two per cent., have shown *Entamoeba coli* in their feces. These men were all American soldiers serving at the division hospital, Manila, P. I., with no dysenteric symptoms since residing in the Philippines. They contend that it is possible to distinguish *Entamoeba coli* as they occur in the feces of

<sup>9</sup> *Memoria International de Neurologia*, R. Medical Sciences, March, 1908.

<sup>10</sup> *Ann. Inst. Pasteur*, August 11, 1906.

<sup>11</sup> *Journal of Tropical Medicine and Hygiene*, October, 1907.

<sup>12</sup> *Journal of Tropical Medicine and Hygiene*, May 11, 1908.

<sup>13</sup> *Ibid.*



man, from the morphological appearance of the amœba, and cite two cases which were fully corroborated by information concerning their previous history, elicited subsequent to the bacteriological examinations.

Dr. Jesse Weston Fisher<sup>14</sup> has recently made a bacteriological study of normal and diarrheal stools for the detection of organisms belonging to the dysentery group; he employed thirty-seven patients. Of these eighteen were healthy, and nineteen suffered from mild diarrhoea. The evidence, as it stands from these investigations, leaves little room for doubting that diarrheal cases in which blood or bloody mucus are found in the stool, all show the presence of the *Bacillus dysenteriae* of the Flexner type. Thus but two exceptions of mild grade were noted in Fisher's series; one of these showed a bacillus of the Shiga type and the other of the Duval lactose fermenting type. It is worthy of notice that the Shiga type may be the exciting cause of mild diarrhoeas, but it is not found in normal stools. On the other hand, a "dysentery like organism" called *Bacillus F.* was recovered from 44.4 per cent. of normal stools, "from the stools of 10.5 per cent. of cases of simple diarrhoea, and from the stools of 0.01 per cent. of cases of dysentery." This organism was found to inhibit the growth of both the Shiga and Flexner types of *Bacillus dysenteriae* in test tube cultures, and in agglutination and absorption experiments the organism produced specific agglutins for itself, but not for types of dysentery, colon or typhoid.

Two cases of gangosa—a destructive ulceration and gangrenous disease of the palate and nose—have been reported within the past year, one by Stitt,<sup>15</sup> observed at a naval hospital at Canacoa, and the other (a fatal case) by Musgrave and Marshall,<sup>16</sup> occurring in a male Filipino, who had never been away from the island of Luzon. A bacteriological examination of the scrapings from the lesions proved negative in its results. Musgrave and Marshall give the details of the histological examination of the tissues; they regard the condition as distinct from syphilis, yaws, and tuberculosis, although finding themselves on difficult ground, owing to the absence of any organism having ætiological significance, a positive expression of opinion is wisely withheld.

Since the recent publication of the article by Yount and Sudler<sup>17</sup> on the subject of human myiasis from the screw worm fly, considerable interest has been awakened in the subject. The disease is believed to be not rare, and the twenty-three cases reported by the authors occurred during a single summer. In man its results are always serious or fatal if not early and properly treated. The disease attacks many lower animals—e. g., horses, cattle, sheep, hogs, and it has been observed in many countries, islands of America, North America, Cuba, Mexico, Brazil, Venezuela, Chile, and New Holland. According to Snow, it is common from Argentine Republic to Canada. In the vast majority of cases, the site of the attack is the nasal

mucosa, where it produces ulceration often associated with necrotic or gangrenous changes.

These observers point out that "a chronic rhinitis or otitis or even uncleanliness attracts the female fly, as does any exposed wound or ulcer." It is also noteworthy that sleeping in the open air gives the fly an opportunity to deposit its eggs, after which the larvæ are capable of boring into healthy as well as diseased tissue. Yount and Sudler present the symptomatology and diagnosis of the condition in the article referred to, and it is interesting to observe that chloroform employed in the form of a spray is counselled for diagnostic purposes, as it serves to bring the parasites to light, and also as the most effective measure of treatment.

Among the more important tropical and sub-tropical diseases stands uncinariasis, which has received a large share of professional attention, and the recent work of E. C. Shattuck,<sup>18</sup> of Manila, on this disease is worthy of elaborate mention. The hospital system, consisting of Bilibid Prison, with 3,800 prisoners, a hospital of 150 beds for general purposes, and a quarantine pavilion in which all recent admissions to prison are kept for a period sufficient to develop any latent infection, furnished ample opportunity and scope for systematic and satisfactory observation. All new admissions were regularly examined for intestinal parasites, and appropriate treatment instituted in infected cases.

Approximately 1,000 examinations of quarantine cases have been made to date. Of 530 prisoners admitted to the hospital for treatment, there were 243 cases of uncinariasis, sixty-three of amœbic dysentery, three of *balantidium coli* infection, 186 of ascariis infection, seven of tenia, and the remainder acute dysentery.

There is a tangible basis for the belief that thorough, careful observations on this broad line will lead to the discovery of points of great interest and importance for practical purposes. As Shattuck pertinently remarks, however, the work on uncinariasis is hardly more than begun, although the prompt recognition of the condition, from the microscopical examinations referred to before, has doubtless already contributed materially to the marked decrease in the death rate during the past half year. Extended investigations have been carried out simultaneously in connection with the treatment, and as the result preference is given to eucalyptus rather than thymol, which was formerly the generally accepted remedy.

Authors are in agreement that prevention of uncinariasis must lie in two directions: First, personal cleanliness, and, second, the prompt disinfection of the faeces. Of less, though considerable import, is the question of the prevention of faecal deposits in moist places and near to dwellings.

In the recent work on *Anæmia in Porto Rico*, by the Permanent Commission for the Suppression of Uncinariasis, it is estimated that ninety per cent. of the population suffers from this formidable scourge. The Commission treated 89,233 patients with the following result: Complete cure in 25.71 per cent.,

<sup>14</sup>Journal of Medical Research, May, 1907.

<sup>15</sup>Philippine Medical Bulletin, July, 1907.

<sup>16</sup>Philippine Journal of Science, August, 1907.

<sup>17</sup>Journal of the American Medical Association, December 7, 1907.

<sup>18</sup>American Medicine, December, 1907.

practical cure in 17.88 per cent., and 40 per cent. are still under treatment. Of those treated, 0.21 per cent. died. The treatment consisted in the repeated administration of thymol and betanaphthol, preceded and followed by a saline. Eucalyptol was tried, but was not found efficacious. At autopsies renal degeneration rather than inflammatory lesion was found.

An International Conference on Sleeping Sickness was held in London (June, 1907), and it is a matter of deepest regret that its deliberations and reflections can merely be touched upon in this place. Among the conclusions arrived at, based on present knowledge of the subject, is that sleeping sickness is due to the *Trypanosoma gambiense*, "propagated in main by the *Glossina palpalis*, or tsetse fly, although other species of flies, notably of the glossinæ, cannot be excluded."<sup>2</sup> Methods of prevention concerning both the patient and the fly were suggested and considered, and among the most noteworthy are: Police sanitation of infected individuals in order to prevent the transportation of the parasite, the avoidance of the establishment of camps or habitations in localities where the tsetse fly lives, particularly to keep clear of infected localities, attention to the borders of streams and lakes (clearing out the brush, etc.), the places inhabited by the flies, and, finally, the protection of houses, closets, etc., by mechanical means in order to keep out both glossinæ and various species of anopheles. From the therapeutic side, the conference approved the use of arsenic, which, by diminishing the number of trypanosomes in the blood, also diminishes the chances of contagion. Koch<sup>3</sup> has suggested that trypanosomiasis may be transmitted by sexual intercourse.

The formation of the International Society of Tropical Medicine during the Fourteenth International Congress of Hygiene and Demography, which was held in Berlin in September, 1907, was an event well worthy the serious notice of this society. The objects of the society are twofold: First, to bring together the societies of tropical medicine of different countries for the purpose of an exchange of views, and, second, to hold a congress of tropical medicine once in three years.

The affairs of the international society have been in the hands of a committee of management, composed of two representatives of each national society of tropical medicine, and the authorized members on said committee from the United States are Dr. H. G. Beyer, of the Navy, and Dr. Richard P. Strong, of the Government Biological Laboratories at Manila.

Mention should also be made of the establishment of two new journals, namely, *The Annals of Tropical Medicine and Parasitology*, published by The Liverpool School of Tropical Medicine, of which the first number was issued under date of February 1, 1907, and *The United States Naval Medical Bulletin*, published in Washington, the first number appearing in April, 1907.

1005 WALNUT STREET.

## SOME THOUGHTS ON THE ÆTIOLOGY, PROPHYLAXIS, AND TREATMENT OF THE SOCIAL ILL.\*

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As the title of my paper indicates, I have no intention to present to you suggestions for the complete solution of this momentous problem. All I expect or can hope to do is to call the attention of this audience to a few perhaps less known ætiological factors and point out some measures which, to my mind, may be added to those already in vogue in the prevention and treatment of this ill.

First, let me explain, not exactly as an apology for, but rather in defense of the innovation of speaking of the problem of prostitution; not, as is usually done, as a social evil or social crime, but simply as a social ill.

The general understanding of the word "evil" implies that the perpetrator of the act which is supposed to be an evil one is an evildoer or criminal. I believe it is neither just, humane, nor even consistent to call the offenders, male or female, criminals in every instance. Before an audience of this kind I do not need to state that there are numerous cases in which the unfortunate woman is really innocent, if not before the laws made by man, at least before the higher divine laws. That there are also instances when the other sex, the innocent and unknown youth, has fallen victim to the experienced, unscrupulous courtesan, often old enough to be his mother, is also too well known to need detailed mention.

When not applied to physical conditions, the word evil is usually understood as wicked conduct or criminal disposition, while the word ill or illness, when figuratively used, means a derangement and an unwholesome condition. By rights we should not even call prostitution *the* social ill, but only *a* social ill, as it is by no means the only one, for surely alcoholic intemperance and gambling must also be considered social ills responsible for fully as much misery as prostitution.

Presuming, then, that you will grant me the privilege of substituting the name "social ill" for "social evil," what definition would I wish to give of this term in order to convey in concise words my reasons for the change? I would say the social ill is an abnormal, or, figuratively speaking, a pathological condition which results from disturbances or failures of sociological functions of the individual, for which in few instances the individual alone, but in the majority of cases our social fabric, is responsible.

Let us now trace for a few moments some of the ætiological factors perhaps not usually or not sufficiently thought of by reformers. I cannot nor will I subscribe to the cruel statement made by some sociologists and syphilographers that many women are born prostitutes. There is no evidence for this assumption. All physicians know, of course, that just as there are boys born with an adherent prepuce, so are there girls born with an adherent clitoris. When these trifling physical defects are not

\*International Article, *New York Medical Journal*, September 11, 1907.  
<sup>2</sup>*Journal of Tropical Medicine and Hygiene*, February 1, 1908.

\*Read before the American Society of Sanitary and Social Prophylaxis, April 9, 1908.



corrected they may lead to the habit of masturbation in both sexes. When operated upon, the acquired pernicious habit usually ceases. But if, as is asserted by some authorities, this physical defect predisposes the female child to prostitution and the male child to corresponding abnormalities, then by all means let us make it a practice to have every child, male or female, carefully examined and treated for such possible defects by a competent physician.

Physicians of public nurseries, orphan asylums, boarding schools, etc., should make it a rule to examine every child under their care for possible defects or deformities which, when left uncorrected, might destroy the moral conception of what is right and wrong sexually.

We are educating in this country every year a goodly number of women physicians who should be best fitted for such work in girls' institutions, particularly when it is extended, and it should be to all public schools.

Hysteria is another disease, which, according to some authors, is predisposing to prostitution. Le-grand du Saulle observed that twelve per cent. of hysterical women took to prostitution out of sheer dilettantism, without any pressure from misery, and, according to Tarnowsky, the percentage is as high as fifteen per cent.<sup>1</sup> If that is true then let us examine every female child and treat it thoroughly for whatever hysterical manifestations may show themselves.

What other classes of children are there who, because they often enter the life of prostitution at the age of puberty, if not before, are for that reason classed by certain writers on the subject as born prostitutes? They are the unfortunate little ones born amid surroundings of ill repute or vice. While in such instances it cannot be denied that a predisposition to the social ill under consideration may be acquired, one can and should not speak even here of a born prostitute. This is shown by the very fact that many a woman whose lot has been cast among these unfortunate ones, on becoming a mother has often worked and sacrificed herself so that she might give to her offspring the chances of a purer and better life by placing the child in an institution or a responsible private home. A great many prostitutes are recruited among the children of widows and deserted wives, and perhaps an equally large number from children whose parents are incapable, shiftless, or dead.

In New York city we have a number of local charitable agencies intended to relieve misery caused to wives and mothers by the death or desertion of their husbands, but to find a truly far reaching remedy for these conditions we must look to the example of New South Wales. In that advanced community there exists a State Children's Relief Board, whose purpose it is to protect, first, the child without a parent; secondly, the child with an irresponsible, immoral, or wholly incapacitated parent. With the aid of the Children's Relief Act, the future citizens of New South Wales, male and female, who are deprived of the benign influence of intelligent and loving parents, are disposed of by being boarded with selected foster parents. If the mother

is a widow or a deserted wife she retains the children as boarders, an allowance from the State enabling her to do so until they have become self supporting.

I come now to one of the most painful subjects, which must be considered a strong ætiological factor of prostitution. I refer to that other horrible social ill which I have not yet mentioned, child labor. Permit me in regard to this to quote from John Spargo's book, *The Bitter Cry of the Children*:

The moral ills resulting from child labor are numerous and far reaching. When children become wage earners and are thrown into constant association with adult workers, they develop prematurely an adult consciousness and view of life. About the first consequence of the employment is that they cease almost at once to be children. They lose their respect for parental authority in many cases, and become arrogant, wayward, and defiant. There is always a tendency in their homes to regard them as men and women as soon as they become wage earners. Discipline is at once relaxed, at the very time when it is most necessary. When children who have just entered upon that most critical period of life, adolescence, are associated with adults in factories, are driven to their tasks with curses, and hear continually the unconstrained conversation, often coarse and foul, of the adults, the psychological effect cannot be other than bad.

In saying this I would not for a moment desire to cause a reflection on the general character of the working women or men within or without the factory. I believe their moral standard compares favorably with that which we call society. But with Mr. Spargo I say that for the plastic and impressionable mind of a young girl between the ages of ten and fifteen the moral atmosphere of the average factory is bad, and I know that none will more readily agree with us than the men and women who have worked in mills and factories.

But leaving aside the possible corruption of the child's mind, let us turn for a moment to the other features of child labor. Take a little girl of ten years of age, put her to work in a factory for ten hours a day, and let her live this humdrum existence to the age when she develops into womanhood, will she be able to resist the temptation of a life of ease and plenty if it is offered to her? That parents who make of their daughters slaves by enforcing child labor at home, by depriving them of their natural rights to play and recreation, compelling them to mind for hours and hours the smaller children, do house and kitchen work when not at school, are equally responsible for many a young girl becoming wayward and seeking freedom in what she thinks is a happier and more joyful life. Undue severity with children, especially with young girls, is as much to be condemned as lack of all discipline.

That great reformer and lover of children, Judge Lindsay, of Denver, has told us what not to do with children when they are seemingly in the wrong: "Do not punish a child at the time of offense; wait and cool down, otherwise you make yourself ridiculous and the child will fail to get justice." "Do not mistrust a boy or girl even if your confidence in him or her is weak; faith will work wonders." "Do not talk roughly or swear at a boy or girl; it is a trick of a coward."

We must do away with child labor in factories as well as at home. The excuse of some advocates of child labor, that the money the children earn is

<sup>1</sup> *Journal of the American Medical Association*.



needed to supplement the meagre earnings of the father, is rarely well founded. In the few instances where child labor seems to be necessary to help support the family our local Consumers' League comes to the rescue by according scholarships to the children.<sup>2</sup> On the other hand, in most communities where there has been enforcement of child labor laws, investigation has proved that in families where the father was sober and industrious child labor was not needed.<sup>3</sup> By saying this, however, I do not wish to exclude the, alas, quite numerous instances where the heads of families who are workers are underpaid. It is also true that if we could but convince working men and women that the intemperate use of alcoholic drinks is responsible for a great deal of their misery, privation, and want, the laboring man would be helped to make himself, his wife, his sons, and daughters happier, better, and nobler citizens.

It would lead too far to discuss here at length the second social ill, "alcoholism," the curse of our and so many other nations. We know that the excessive indulgence of alcohol dulls the moral senses of man and woman, and the child of an alcoholic parent is apt to become itself an alcoholic and inherit other stigmata of a degenerate type. Thus alcoholism indirectly predisposes to the social ill.

What remedy have I to suggest for the combat of alcoholism in order to combat the social ill at the same time?

Some time ago it was my privilege to read before the Society of Medical Jurisprudence a paper on the subject of Medicine and Law in Relation to the Alcohol, Venereal Disease and Tuberculosis Problems.<sup>4</sup> In it I suggested a few remedies to combat alcoholism, such as a law preventing the habitual drunkard from marrying, and the most rigid enforcement of the law which makes it a felony to sell liquor to a minor or to administer strongly alcoholic beverages to a child without the physician's prescription. The law which obliges the manufacturer of patent medicines to put on the label the exact alcoholic contents of the nostrum should be enforced with equal vigor. Rational educational movements instructing the people to be temperate in all things should be encouraged. And last but not least may I suggest an antitreaty club, so that when a drink must be taken in company with others, it should not, because of the time honored American custom, be multiplied according to the number of the company present.

I cannot help thinking that the establishment of more comfort stations would greatly reduce the necessity of many a man going into a saloon, where he feels obliged to take a drink in order to avail himself of the toilet facilities. There is no doubt in my mind that numerous sanitarily constructed and well kept comfort stations for both sexes throughout the city would greatly add to the physical comfort of many people and indirectly prevent a great deal of illness of all sorts. It is well known

that even syphilis and gonorrhoea have been transmitted to innocent adults and children because of badly and unsanitarily kept public comfort stations.

There should be more play, more sleep, and less work for our school children. I hold the highly nervous state of our children, which is produced by too much mental work at school and at home, and not enough sleep nor enough out door life, largely responsible for the readiness of our young people to acquire the alcohol habit.

Of the nefarious influence of child labor on the constitution of the growing girl and boy as a predisposing factor to the social ill I have already spoken. That a young man's or woman's nervous system, after being wrecked by child labor, is more ready to acquire the alcohol habit, with all its nefarious consequences, must also be evident. The seriousness of child labor in this country is, I am afraid, not well enough understood and appreciated. Let me hope that the gravity of the situation will be better understood by you when I tell you that, in spite of all the labors of many noble men and women, there are still, according to Mrs. Florence Kelly, the secretary of the National Consumers' League, well known for her noble work in this cause, no less than 2,000,000 children earning their living in factories and workshops in the United States.

Rational lessons in temperance should be taught in schools and adapted to the understanding of the child.

I believe in the Gothenburger system, which consists in the manufacture and sale of alcohol by the government, and giving the dispenser of alcohol a salary, so that no benefit shall accrue to him from the amount of alcohol he sells, but I fear this system is not as yet practicable in our country. Perhaps even a law limiting the manufacture of alcoholic beverages is not yet feasible, but I believe in the possibility of limiting the number of licenses of saloons and even elevate their standard by eliminating that type of saloons which police records show to be centres of crime. There should be State institutions for the treatment of alcoholism to which the habitual drunkard could be committed by law, and to which the man desiring to free himself from the craving for alcohol could commit himself voluntarily.

Bad housing, unsanitary and unclean, overcrowded tenements, with no room for the children to play or for young people to meet in innocent and wholesome enjoyments, and with no place for recreation for the adult, are factors in predisposing men and women, young and old, to both alcoholism and the social ill.

Who will dare to deny that the thin partition walls and the often promiscuous mixing of the sexes in the crowded quarters tend to the demoralization of the young girl blossoming into womanhood? It is my firm conviction that the building of more model tenement houses, where comfortable and healthy quarters can be obtained at the same and often more reasonable rates than are now demanded for rooms hardly fit for human habitation, the remodeling of bad tenements, the making an open playroom of the roofs of all tenements, old and new, by fencing them in with strong wire netting, the

<sup>2</sup>The amount of the scholarship is varied, equalling approximately what the child could earn if it were not for the fact that it is not permitted to work in the family saloons. These scholarships have been given to a number of our children, to enable them to attend the public schools and to secure credit in the receipt of a certificate of regular attendance from the school principal.

<sup>3</sup>See page 7, *The Father's Role in the Problem of Alcoholism*.

<sup>4</sup>*Medical Jurisprudence*, June 1, 1907.

creation of more parks and playgrounds within the most crowded sections of our city, and the establishment of healthy places of amusement, open Sundays and weekdays, where the laborer can partake of very light or nonalcoholic drinks and enjoy the society of his friends, will do more to do away with alcoholism and diminish the social ill than anything heretofore tried.

My studies in relation to tuberculosis and the housing problems in large cities, and particularly in our own, have, of course, convinced me that, with the constant increase of our population, the building of new tenements and the remodeling of old will not suffice to do away with all the congestion, the causes of tuberculosis, other diseases, and the social ill. Something in the line of the work of the Garden Cities Association of England and also of this country will have to be done on a large scale. For those who are not familiar with the object of this movement I wish to say in brief that its object is to advocate and to further the removal of families and individuals, particularly of the industrial and working classes, from overcrowded cities to the country, where each family may have its own comfortable home in surroundings and under conditions which shall unite, so far as possible, the attractions both of the city and of the country. To obtain this end, these associations work toward the founding and developing of model industrial towns and villages, or so called "garden cities," wherein factories, stores, and other forms of business may be established, with space for air, beauty, convenience, and room for growth.

To many of you this may seem a dream, but those who have visited the Congestion Exhibit last month and were privileged to listen on the opening evening to our distinguished governor's address, will grant me that I do not stand alone with this view of the solution of the congestion problem with all its attending evils and ills. If I understood Governor Hughes correctly, he said that night that distribution of the people in more tenements on the island would not in itself suffice, but that there must be also a large distribution of centres of work. Besides improving existing tenements in accordance with the tenement house law and building new model tenement houses on the still unoccupied and healthful sections of Manhattan Island and the neighboring boroughs, we should do all we can to encourage garden city movements. That even the city and State would be the financial gainers if they would come to assist in such enterprises, I hardly need to dwell upon before an audience which has made the study of social medicine its main object. The cost of wretchedness as it now exists is greater than would be the cost of prevention. To emphasize this still more let me repeat to you the exact words of the governor from that impressive address: "Who pays the bill? The city and the State are paying for the crime, for the disease, for the wretchedness that comes from those congested conditions."

The social workers in the districts of the poor will tell you that the disreputable dance halls are perhaps one of the greatest sources of danger to the young, unsophisticated girls of the tenement house districts. We have learned recently through our daily press that a vigorous crusade has been in-

augurated against these places, where many a young girl, often while yet in short skirts, has been enticed with fatal consequences.<sup>5</sup> All of us will endorse this crusade against such dangerous resorts, but must we not also think of the necessity of providing in their stead places of amusement where the young girl could safely go and be shielded from all danger? Young people love and need enjoyment; they love to dance and love to be merry. Let some philanthropist think of this, and by a munificent gift help the social settlements, the People's Institute, and similar institutions to enlarge their work in this field or create new fields for legitimate enjoyment and rational recreation for the young workers.

The next most important feature to be considered is, of course, education as a prophylactic means. To educate first the lawmakers where such education is still needed would seem of prime importance. I refer first to the wisdom of enacting laws such as are already in vogue in Michigan, which forbid the issuing of a marriage license to individuals afflicted with venereal disease, and, secondly, to the necessity of a federal law to make obligatory the instruction of recruits to the United States army and navy and pupils of naval and military academies concerning venereal disease, personal hygiene, etc. It is for the purpose of educating the masses, the young, the adolescent, and the adult regarding the sexual problem and the prevention of venereal diseases perhaps more than for any other reason that the American Society of Sanitary and Moral Prophylaxis has been founded.

You are all familiar with the fact that the prime mover in the magnificent work is the distinguished gentleman who presides over this assembly to-night, Professor Prince A. Morrow. He has not only given us the fruits of his lifelong experience as a physician and teacher, but has favored us at the very beginning of our career with a number of lectures,<sup>6</sup> here and elsewhere, which have been most helpful in starting such associations in other cities.<sup>7</sup> It is to be hoped that soon every city in the United States, nay even every hamlet of any size, will have such a society, or at least a centre from which literature, approved of by the society, could be distributed. Thus far three educational pamphlets have been issued, and already thousand of copies of them have been distributed. They are entitled (1) *The Relation of Social Diseases with Marriage and Their Prophylaxis*, (2) *Educational Pamphlet for Teachers*, (3) *The Young Man's Problem*.<sup>8</sup>

I think the time has now come for the issuing of an educational pamphlet entitled *The Young Woman's Problem*. Perhaps one of our distinguished lady members of the society will undertake this task. I am willing to confess that the issuing of

<sup>5</sup>A bill to do away with some of the worst evils of the dancing academies, dancing schools, and dance halls has been introduced by Mr. Graubard and has already passed the assembly.

<sup>6</sup>*The Control of Syphilis and Venereal Diseases. The Society of Sanitary and Moral Prophylaxis: Its Objects and Aims, Social Disease and Marriage. Results of the Work Accomplished by the American Society of Sanitary and Moral Prophylaxis.*

<sup>7</sup>Such societies have been founded or are in progress of formation in the following cities: Baltimore, Md.; Boston, Mass.; Brooklyn, N. Y.; Chicago, Ill.; Denver, Col.; Detroit, Mich.; Jacksonville, Fla.; Philadelphia, Pa., and the City of Mexico.

<sup>8</sup>This literature can be obtained by applying to our secretary, Dr. Edw. L. Keyes, Jr., 109 East Thirty-fourth street, at the following rates:

(1) 72 pp., 45 cents; 5 copies \$1; 25 copies \$5.  
(2) 10 cents; 50 copies \$3; 100 copies \$5.  
(3) 32 pp., 10 cents; 50 copies \$3; 100 copies \$5.



such a pamphlet has already been under consideration, but we who belong to the strong and fearless sex have not yet had the courage to undertake it. It is strange that nearly all of us hesitate to write or speak plainly on one of the most vital subjects which concern the human race. There exists an excellent article by Dr. Woods Hutchinson on the subject of *The Economics of Prostitution*.<sup>1</sup> I have read and reread it, but no passage has impressed me so much as the following, which may well serve as a guide to the author of the educational pamphlet to be entitled *The Young Woman's Problem*:

The freedom of intelligent, refined conversation upon sexual subjects ought to be broadened; it should no longer be considered indecent to speak plainly. Most of the flavor of obscenity which hangs about the discussion of sexual matters is due to this very restriction. No excuse or danger should be left for boys and girls on the grounds of ignorance of this important function. In other words, intelligence, altruism, true refinement, should be promoted by every possible means, and Nature will continue to assist us by emphatically discouraging their opposites.

Besides the educational pamphlets which should be carefully distributed, nothing is so valuable as the carefully prepared popular lecture. But it is not always easy to speak the language of science in the language of the people, and to lecture on the subject under consideration with the necessary force and clearness will require much tact and skill. But I have faith that the executive committee of our society will choose the right men and women for that purpose. When they are chosen I trust that our supervisor of lectures, that great popular educator, Professor Henry M. Leipziger, will realize the importance of educating the adult population as well as the younger generation regarding this great problem, and will inaugurate a series of popular lectures on the prevention of this ill, as he has done for the prevention of other ills.

I cannot leave the subject of education without saying a word as to what can be done in the line of educating the school child in regard to the sex problem. We have had in this society from time to time men and women who have told us that it is quite feasible to teach the children, according to their age and understanding, what they should know of this. At one of our recent meetings we had the privilege to listen to Mr. Curtis, the superintendent of the Curtis School, who has made it a practice to educate children under his charge in all that is necessary and useful to have them think and act rightly in regard to this vital problem. From the interesting literature he was good enough to send me I will quote only a few sentences:

There is nothing in the world half so powerful as right knowledge to suppress impurity of thought, word, and deed. Whoever is responsible for the training of children and is unwilling to instruct them about the meaning and the sacred relations of sex takes an untenable position. He practically confesses that ignorance is better than knowledge. The child with its healthy instincts unconsciously repudiates this assumption, and will forever continue to do so. The whole subject, rightly studied, is in itself so essentially beautiful and so ennobling in all its relations to character that one cannot untold it step by step to children without finding in it new impulse to delicacy of thought and to elevation of purpose. . . . It was recently written that it is a cardinal sin to allow a son to reach manhood years without knowing all that pertains to good,

pure, refined womanhood—all that chastity, wifehood and motherhood means to a woman.

But we may say that it is also a cardinal sin to allow a daughter to grow up and blossom into womanhood without knowing all that she should know as a woman, as a prospective wife, and a future mother. The home is the ideal source of such information, but as yet few homes give it. It is left for the schools that dare to do so to instruct children on these vital themes. Neither must the teacher be satisfied with this partial performance of his duty; he must reach out beyond the child, and touch public sentiment in order to elevate it.

Those who have carefully studied the many causes which make girls with a fair education and a good home training enter the life of prostitution will know what a large contingent comes from the workers employed by manufacturers of women's, men's, and children's garments, in factories or tenements, and that perhaps an equally large number come from the underpaid girls working as clerks or saleswomen. It is often said that their great love for finery leads them to ruin. This may be so at times, but surely this is not the most frequent cause. For the girl without a home it is hard to live on \$4 a week. With her it is want for bread and not finery which drives her to despair.

This is not the place to discuss why women should be paid so much less for their work than men. A few weeks ago I saw, at the Congestion Exhibition, various articles manufactured by the children, young women and mothers of the tenements, as for example: Infants' dresses, 6 cents a dozen; rate of earning, 3 cents an hour, or 42 cents in 14 hours. Glove finishing, 6 cents to 15 cents a dozen pairs; 3 persons work for 60 cents a day. Artificial flowers, \$1.25 a gross sprays; average, 3 persons one-half gross a day. Small hot water bottles, 1 cent a dozen; 20 an hour by expert. Men's neckwear, 55 cents a dozen for lining and hand sewing; average, \$4 per week.

You all know—and if you do not know you ought to know—of the work of the Consumers' League of the City of New York, which should have its counterpart in every city of this fair land. You should be familiar with what this league has termed a "standard of a fair house." It means, in substance, equal pay for work of equal value, irrespective of sex, reasonably short hours, and sufficient attention to the physical and moral comfort of the women employed.

The Consumers' League publishes a white list which the governing board recommends to its members and to all others interested in the welfare of working women and girls. In this white list all the retail houses are mentioned which deal justly by their employees and approach nearest to the standard of the league.

A little propaganda among men, or better yet, for the stronger sex to join as active cooperators with the ladies of the Consumers' League against the sweatshop system would also seem to me timely.

I cannot leave this subject without also saying a word to all the manufacturers and heads of department stores and other large establishments, many of whom are even philanthropically inclined. Let all who have not yet complied with the standard of

<sup>1</sup> *International Medical-Surgical Bulletin*, August, 1907, p. 384.



the "fair house" remember one thing: It is a greater philanthropy to pay the girls in their employ living wages while they are still among the living, so that the temptation to err will be removed, and to have an active interest in their employees' physical and moral welfare, than to leave millions in their last will and testament to cathedrals, churches, hospitals, and similar charities.

We must acknowledge that much has been done of late in various States to curtail the curse of sweatshop and child labor, but there is much more to do. It would seem that all regulation of child labor, woman and sweatshop labor in general in tenements is futile, and that prohibition, direct or indirect, of work in living rooms is the only rational solution of the problem which is responsible for so much disease, misery, and physical and moral deterioration of the laboring population, and particularly of women and children.

The young girls who fall victims to the social ill do not, however, come only from the cities. A large contingent of them comes from the smaller towns and villages. We all know that the attractions of city life have led many a young girl and also young man to leave the healthful home surroundings for the complex and often dangerous city life. These young people, tired of the humdrum existence in the village, flee to the city, thinking that there they will find joy and pleasure and much less work than they are obliged to do at home. If the young man fails to succeed, has indulged in pleasures in which he would not dare to indulge at home, or even if he has done greater wrong, he may nevertheless return home, be again respected and honored, and marry a good, pure young woman.

How different with the girl! She may have loved but once, though not wisely, and upon her are suddenly thrust the responsibilities of motherhood, and in this condition she may be alone in a strange city, without friends or means. She does not dare to return to her home. Though she may be innocent in the eyes of a higher judge, she knows that human society at large will condemn her, and often her very family disown her. For the sake of being able to support her child, whom she loves as all mothers do, the girl thus abandoned finds it hard to find honorable employment, and thus not infrequently enters the ranks of what society is pleased to term "fallen women." More of such work as is done by the New York State Aid Charity Organization, providing homes for mother and child and employment for the former, is urgently needed in our own and other American communities.

Alas! woman herself not infrequently joins in the denunciation of her unfortunate sister, and helps to stamp the mark of an outcast upon her. A little more humanity, a little more sisterly love, a little more compassion is needed here. Let woman be more womanly toward her sister who may have fallen, but nine times out of ten through no fault of her own. A helping hand stretched out to the unfortunate child-mother will often prevent her from becoming a prostitute.

What remedy have I to offer to combat the unfortunate tendency of young people in villages and small towns to migrate to large cities with an uncertain prospect of being able to make an honest living?

Practical philanthropy cannot do the work alone here. If we wish to stem the tide of migration from village to city, and perhaps at the same time reverse the tendency as far as is in our power, thus helping to relieve the congestion and tenement evils already referred to, both practical philanthropy and practical statesmanship must come to our aid. By judicious and wise laws farming should be made more profitable, and thus offer more attractions to the rising generations than it has been doing during the last few decades.

Philanthropists should aid the statesmen by endowing institutions for instruction in scientific and profitable agriculture, and also by providing healthful amusements, good libraries, and other educational institutions in country districts, thus making living in the country more interesting and attractive to the young people.

A large contingent of the unfortunate women in the larger cities, about which we are speaking, is sent there by importation from the interior of the country and from abroad. All social workers are familiar with what is known as the "white slave traffic." Our laws seem to be too elastic or their enforcement too lax to make any impression on this disgrace to civilization. It was recently my privilege to listen to an address on *The Protective Work of the Travelers' Aid Association* by Miss Grace Dodge. If there is any movement which needs strengthening, co-operation, and support, it is this. One of the most important features of the noble work of those actively engaged in this movement is to meet the lonely woman traveler on her arrival in a great city and protect her from falling into the hands of the persons who may have enticed her to come to the city under promise of lucrative employment, but whose interest is to make of the unfortunate victim a slave.

We come now to that part of our subject which I believe is the most difficult of all to discuss, namely, treatment. How shall we deal with prostitution as it exists to-day, with its widespread ill, known as venereal disease? You all know that neither prostitution nor its concomitant physical diseases are a product of modern times. Herodotus (484-424 B. C.) tells us of prostitution in ancient Babylon, and venereal disease seems to be almost as old. Emancipation of woman, which has been slow but sure, has, in my humble opinion, certainly done something in improving conditions, and when we compare the history of prostitution of old with that of to-day we can still say it is better now. Nevertheless, it exists, and whether it still flourishes because of man's passion, or because of our social fabric, which only permits too few and too late marriages, or because of injustice of man to woman, or because of lack of the divine in all of us, or because of all these causes combined, I do not pretend to be able to say.

I have said in the beginning of my address that I look upon the situation as a disease, which, after everything has been done in the line of prevention, must be treated. This is the attitude which every physician takes when he is in the presence of illness. In my humble opinion, the disease with which we are confronted at this time can be treated in the present state of civilization by three methods only, namely, first, by repression; secondly, by giving to all

those who are diseased the best, most thorough, and scientific medical treatment; thirdly, by offering to all those who wish to leave the ranks of prostitution shelter, protection, and work.

Let me, in conclusion, dwell for a few moments on each of these three therapeutic topics. In reference to the first, let me defend my position, which is for repression and not for oppression, and repeat what I have said once before on the occasion of addressing the Society of Medical Jurisprudence: "I doubt the wisdom of our lawmakers, city fathers, and reformers in perpetually hounding the unfortunate prostitute. These women are driven away from one part of the city only to turn up in another, and, instead of confining the evil to one section, it is spread all over. I have the strongest doubts that the social ill as such can be suppressed in a city like New York by no matter how strict a police regulation. It has been said by authorities who have studied this subject very thoroughly that there is always a natural tendency to segregation, just as there is a tendency to segregate among other trades. It certainly would seem that if some kind of segregation could be accomplished by passive or even by active measures, so as to limit this social ill to some portion of our city which could be properly controlled by an efficient police, it would stop the concomitant thievery and robbery and greatly diminish that still greater crime of having men live on the shame of women. Remove by sensible and just laws the necessity of bribe giving, and the bribe giver will cease to exist. I do not like this perpetual cry of some against a corrupt police, an inefficient judiciary, etc., etc.

"Let us make laws that can be enforced. Remove the ridiculous character of some of the laws, and you will find the vast majority of our policemen true guardians of the peace and willing to perform their duty, and our judiciary you will find as spotless as any."

I have mentioned as the second part of my program of dealing with the social ill the most thorough, scientific medical treatment. There is not a physician in New York, from our distinguished president down to the young graduate serving in a public dispensary, who will not tell you that, while venereal disease must be considered one of the most prevalent of all infectious, contagious, and communicable diseases, for its treatment there is an almost total lack of facilities and system in this as well as in most cities of the United States. From statistics gathered by Dr. Armstrong and published by Dr. Mewborn in a paper read before this society, the lamentable condition has only been too plainly demonstrated. The City Hospital and the Metropolitan Hospital are the only two institutions in this great metropolis which have beds for the treatment of venereal diseases. The combined capacity for this purpose consists of one hundred and twenty beds for male and thirty-three beds for female patients. The evident need of many, many more hospital facilities to treat this class of patients must be evident even to laymen, especially when the physician tells them that hundreds and hundreds of cases of people, and particularly women of the unfortunate class under consideration, are now walking the streets of New York knowingly or unknowingly spreading the

disease broadcast and causing untold misery and suffering. If hospital facilities would be provided for them I am quite sure a goodly number would avail themselves of the opportunity to be cured. There is, however, one condition on which I would insist in providing such hospital facilities. There should be no special hospital, but there should be special pavilions or special wards attached to a general hospital. If we wish to induce the afflicted to go there we must avoid the stigma which would attach itself to the name of a special venereal hospital. It has been said by advocates of licensing and regulation of prostitution that more cases would be treated and cured under such a system. I have no evidence that this statement is correct, but, if statistics are reliable, the disease under consideration would seem as frequent in some countries where there is regulation as where there is none. But it is difficult to see why, among women suffering from venereal disease, a large number would not gladly avail themselves of the opportunity to be examined, treated, and cured. To this end our dispensaries for the treatment of venereal diseases should be multiplied and they should be so managed that any woman or man, fearing to be infected, could be assured of humane consideration and scientific and thorough treatment. Who will dare to deny that much sorrow and much suffering would thereby be spared to the community at large?

Would it not be wise to offer to all these unfortunates an opportunity to at least regain their physical health, and thus stop at the same time a source of infection to others? If it was only to save the lives of the innocent and prevent the blindness of thousands of little children by saving them from gonococcal infection, it would be a vast economy to a community to treat as many of the infected adults as possible.

I come finally to the third and last of the remedial agents I have to offer. It is a shelter to receive all those who voluntarily wish to leave the life of prostitution and who fear to return home or are not able to make an honest living, or, worse yet, fear that individual who does not deserve the name of man for having lived on the shame of woman.

All those who have studied the problem without bias and with only the view to help where help is needed will realize the need of such an institution. You may be pleased to learn that, owing to the inspiration and indefatigable energy of Miss Maude E. Miner, probation officer of the city magistrates' courts, such a home has been started already on a small scale. Most gratifying to all those interested in this work was the endorsement of the city magistrates. At a recent meeting they unanimously voted their approval of the establishment of a home for girls released from court on probation. Funds are coming gradually, and those of us interested are full of hope that ere long we may be able to put it on a sound financial basis, and make this home large enough to receive girls whom the probation officers from all over the city courts may choose to bring to it.

It was my privilege recently to spend the hours from 9 p. m. to 3 a. m. at the side of the city magistrates' court of the night court. I had not been converted that night to the need of such an institution, the two

incidents related to me by Miss Miner would certainly have convinced me of the need of shelters and homes for the unfortunate women who are seeking to be freed from the life of shame. Let us use Miss Miner's own words:

A young German girl was arrested recently for soliciting on the streets and was placed in my care. Two months before she had been working regularly and living a good, honest life. With tears and sobs she told me her sad story—how she had met the man who lured her from her work, how she had gone to live with him, and then how he had forced her, four weeks later, to go on the streets and support him by her immoral living. She declared that she wanted to give up the wretched life and was willing to go with me to any home to which I might take her. It was with great difficulty that I succeeded in finding a place for her.

Another girl was pregnant, and had been forced to solicit because she had not a cent for food, had no home. The institutions at whose doors I knocked refused to admit her, so that my only solution was to take her with me to my home.

It is Miss Miner's ambition, and it should be ours, to have many such homes and in the various cities of the United States, and thus by interchange facilitate the reentrance into proper and honest spheres of life any girl who voluntarily leaves the ranks of prostitution.

I have endeavored in this feeble effort to point out to you a few of the most urgent things which must be done if we wish to deal with this all important problem intelligently. We must approach the subject of prevention and treatment of this social evil with no sentimentality, but practically, prepared even to be disappointed now and then, yet remain charitable and continue the work without fear and on the principles of the broadest humanity.

To those who are afraid to deal with the subject or think themselves above it, to those who fear to touch it because it is too dark and too sad, as well as to those who are willing to help their unfortunate sisters, let the words of the Great Physician be their inspiration and reward: "Inasmuch as ye have done it unto one of the least of these ye have done it unto me."

16 WEST NINETY-FIFTH STREET.

## THE PSYCHIC PHENOMENA OF INTESTINAL TOXÆMIAS AND THEIR TREATMENT.\*

By J. CARLISLE DE VRIES, M. D.,  
New York.

The treatment of indigestion is of peculiar interest to the members of the medical profession, especially in view of the fact that the profession is divided as to the advocacy of surgical intervention in these cases. Operative procedure is not as successful in producing the ultimate end as sound, common sense scientifically applied.

I have been placed for the past six months in an admirable position to study this class of cases, during which time I have been in daily attendance upon at least forty to fifty cases of some form of indigestion either primarily or as an accompanying symptom of some other disease.

I will cite at length one or two illustrative cases of this character. The first one is that of a very learned reverend gentleman, whose history I append

in his own language; the next is that of a very prominent physician, at the present time in practice in Utica.

CASE I: Rev. W. H. O., age thirty-four.—"The first attack of intestinal toxæmia from which I suffered occurred about the middle of July in the year 1901. I had eaten heartily of crab *farc*i one day, and awoke the next morning suffering from a most violent vertigo, which was followed by diarrhoea and nausea which continued almost incessantly for a period of nearly one half hour and ended with the emission of bile of a dark, green color. As this vertigo was typical of all the attacks which followed, I will describe it in some detail. It was objective, and the things around me—tables, chairs, pictures, and pattern on the wall paper, etc.—rotated with extreme rapidity in circles with a radius of about eighteen inches, in vertical planes. For several days after this attack I was exceedingly unsteady on my feet, and my head was heavy, although at this time I did not experience that subsequent trouble with my vision which I had at a later period following these attacks, and by which things appeared to me blurred and indistinct, and I saw as if through a curtain of unreality.

"My second attack occurred in February of 1905 after eating a club sandwich with rhine wine and soda. This attack was comparatively light and of short duration and with only slightly pronounced after effects. I did not suffer again from the trouble until the 15th of June, 1906. During the winter of 1906 I had been extremely busy and also very nervous, suffering in addition to nervous anxiety with a difficulty with my right ear, which has since been pronounced to have been in no way an attack of Ménière's disease. In April of 1906 I left New York and became rector of a parish in one of the suburbs of the metropolis. Here I was not only extremely busy, but had many things of importance and difficulty to worry and annoy me. I ate quite inordinately of everything that was set before me; with particular heartiness of strawberries and things made of chocolate. I recollect, however, that I felt extremely well on Sunday, the 17th of June. Early next morning I awoke with a slight attack of vertigo such as I had had in 1901 and 1905. This soon passed off, and I fell into a profound sleep such as in many cases followed later attacks. I breakfasted that morning as usual, and suffered a slight return of the vertigo after breakfast. I went to New York, however, where I had some matters of pressing business to attend to. All went well until I was within a few blocks of the Grand Central Station, where I was seized with a most violent attack of vertigo and fell in the street as if I had been shot. A policeman with great kindness and apparently sincere attention took me to a club of which I was a member, in the neighborhood. Here I was seized with nausea and diarrhoea, and experienced a most profuse perspiration which struck completely through to the back of my coat. I received medical attendance, and was able to return to my home that night. The following morning I again had a slight attack of vertigo, and following that day for nearly two weeks I was extremely ill, having many and still more violent attacks of the vertigo, a pulse of 46 for several days and temperature considerably subnormal. It was almost impossible for me to keep any food upon my stomach, and I began to be attacked with very pronounced nervous symptoms. Those of my family who were with me said that I spoke and acted in a very peculiar manner. The slightest unexpected movement in the room or the sudden entrance of a person into the room caused me to start as if I had heard the report of a revolver. In course of time, however, I was able to be about, and then began a sensation which was hardest of all for me to bear, and which has taken the greatest while, nearly a year, for me to overcome. This sensation I should describe as being similar to that experienced when skating upon rotten ice or when on board a ship which was rolling considerably. I cannot, however, tell if it was objective or subjective. For many weeks it was with difficulty that I could walk straight upon the sidewalk, and I felt under the necessity of dodging all the lampposts and telegraph poles I saw.

The shock of my fall in the street was such that for many months I was unable to go about unaccompanied without the strongest sensation of fear.

By September of 1906 I seemed to be quite well, and by the 1st of October appeared to be enjoying that good health which had been practically unbroken for the pre-

\*Read before the Tri Professional Medical Society of New York, January 10, 1908.



vious seventeen years. On the night of October 10th, however, I ate heartily of fried pan-fish, and about one half hour after supper I had a slight attack of vertigo, which was followed by a pronounced renewal of the dreaded unsteadiness. All of this wrought upon me so that by the middle of November I seemed to be a complete nervous and physical wreck, and was obliged to withdraw from my work. I again experienced attacks of vertigo followed by the usual conditions; my temperature reached a lower point than in any of the previous attacks, and my pulse was still slower; the action of my heart seemed to be extremely irregular, and I could not concentrate my thoughts nor use my mind without experiencing sensations of pressure upon my head and temples and rushes of blood to my face. My nervous condition was deplorable; I could hardly speak or think, and yet, curiously enough, I never once, either then, before, or since, suffered in the smallest degree from insomnia. For several weeks I lay under a most awful calamity to occur, and can only describe this sensation by saying that it was such as I would imagine one to experience who saw a dear friend advance unconsciously in front of an express train going at full speed, and was the while utterly unable to prevent the approaching tragedy.

About the middle of January, 1907, I began to improve, and my progress was most surprisingly rapid until March, when I very foolishly ate heartily of some chocolate fudge, and next morning woke up with the vertigo. I was very ill for nearly two weeks and suffered from my old symptoms. Yet it is interesting to note that while these attacks of toxæmia were far less severe than those I had previously experienced, the nervous after effects were, if possible, even more violent.

To make a long story short, it was absolutely necessary for me to withdraw from the presence of my church and church work. I went to England, hoping that quiet and change would benefit me, but the result was quite the reverse. I returned to America in July, 1907, and while on the steamer again suffered an attack of toxæmia, less violent, quite truly, than I had had before, but accompanied by the same distressing symptoms.

"I am not writing at all for the sake of advertisement, but I believe that the treatment which I have undergone has been successful in relieving me of the dreaded toxæmia with the after effects and in rebuilding a physical condition greatly depleted, thereby enabling the weakened and poisoned ganglia of my sympathetic nervous system to resume their work, which is so necessary for the maintenance of the human organism."

CASE II: Dr. E. V. D. G., age forty-one.—"It is almost impossible for me to say positively exactly when my peculiar physical ailment originated. As a boy I was of a rather stocky build, rugged and hearty. I had the usual diseases of childhood; but, to the best of my recollection, I had no serious disease, with the exception of a light attack of pneumonia, until I was about seventeen. During that summer I was taken ill with what the medical men in attendance called a 'spell of fever.' This is not a very definite diagnosis from a medical standpoint, but it is the best I can give for the reason that this is all the said medical men told my family. All I remember of this illness is that I had been feeling badly for some time, and finally had to give up. I was in bed for about a month, and it was another month, and so I was out of the house. Severe frontal headaches, acute sensitiveness to light and noise, fevers, and delirium followed by extreme and prolonged lassitude, are all the symptoms which I now recall, and these are none of our family at the present writing at hand to refresh my memory. I do remember, however, that on a few occasions when I was quite a child I suffered from what my elders called 'fainting spells.' These spells never lasted long and to the best of my recollection I never actually lost consciousness."

"I did not attain my full growth until my twenty-first year. My height is now six feet and three inches, and I am about as slender as I am tall. Previous to twenty-one I never lost my appetite. From that age I dropped the scale of life."

While these facts may not be of great importance, I mention them, as it has occurred to me that perhaps my rather rapid growth between the ages of sixteen and twenty-one may have undermined my general physical condition, particularly as, during those years, instead of con-

tinuing my studies I was clerking in a business which required of the employees of its wholesale department much hard physical labor and heavy lifting.

"At the age of twenty-one, I commenced the study of medicine. There was no provision for the feeding or lodging of the students at that time at the institution of learning which it was my privilege to attend, so that the men were obliged to obtain lodgings where they could find them and eat when and where their means would allow them."

"I had a room near the college, but I obtained my meals at first one place and then another, frequently changing, for as we all know, the menu of even the best boarding house soon falls upon one, and student boarding houses are not particularly noted for being of the highest class. Perhaps the irregular life I led during this time had its influence upon my alimentary tract."

"With these preliminary statements, I will now endeavor to give an account of the (to say the least) unpleasant attacks to which I have been subjected for several years past, and of my present physical condition."

"It was in the spring of the year 1889 that my attention was first very forcibly called to my state of health. The spring term of the college year had closed, and I was visiting a relative who lived in the same city in which the college was located. There was to be a dinner of my class or fraternity. I had dressed preparatory to going to the place of meeting, and was about leaving this relative's home when, without warning, a peculiar feeling came over me. I cannot accurately describe this feeling even now after the lapse of all these years, and after having gone through many similar attacks of greater or less severity, few of them greater, almost all of them less. Suffice it to say that the very first sensation is one of dread, not fear, but dread of something. Exactly what that something is I never have been able to discover. Quickly following this feeling is a condition in which my brain seems to be groping around in semidarkness in a vain endeavor to grasp some very faintly defined thought which constantly eludes the pursuit. My pulse becomes rapid and irregular, and my heart seems to come up as a lump in my throat and choke me. During this period I am conscious of what is going on around me, although I feel weak, my hearing is dulled, my sight is dim, and it is only by the greatest effort that I can speak, and then my speech is thick and jumbled. My instinct is to lie down perfectly flat, loosen all my clothing, especially about the chest and throat. I should also say that my breathing is somewhat difficult."

"Now, if I can get some stimulant at the proper moment, right at the start, the attack will almost invariably end at this stage, in fact it will be cut short before it is necessary for me to give up and lie down. I have tried aromatic ammonia, whiskey, etc., but whiskey taken straight and followed by a little water seems to do the work best."

"If I had followed the treatment which I adopted (I might say instinctively) upon the onset of my first attack, that is, had I laid down, or even kept quiet for a while, probably what occurred would not have happened. But I was new to this sort of trouble, I was young, and I was anxious to get to that dinner and enjoy myself; so as soon as I felt somewhat better I left the house. My destination was some distance away. I was already late for my appointment, and my natural course of action would be to board a car, but I did not do so, why, I cannot say, except that I did not feel quite right, and I shrank from coming into close contact with my fellow-creatures. Right here I ought to say that this feeling is and always has been present at these times. I prefer being instantly alone to having any strangers with me. Later on, after some memory of my really bad attacks and of the nature of these attacks, I did not object to their presence as much, although even while I was suffering I have always sympathized with their feelings (those felt for them), for I have realized that it must be the same feeling, especially in a form as it must be at those times to witness another suffer, and even to die in this life."

"I had one well-remembered time that I got into these black fits on a train before the passenger agent had returned with my ticket, and I was compelled to leave. There are other times when I have been alone at home, and I have found myself in a room by myself, and I have been completely alone. My own feelings are all that I have, and I am conscious of the most mysterious and unaccountable things about myself, yet I could not dream of them at the time."

"Seems now appalling, I went out to the street to find a doctor, but the doctor I remembered until my illness

later. It seems that just as I reached the car I lurched forward and fell, striking my head upon the car step and cutting a gash in my forehead. A policeman was summoned, who called an ambulance, and I was taken to a hospital. In some ways it was fortunate for me that I had received the cut, as otherwise I doubtless would have been treated as a plain drunk, for, as I afterward learned, the odor of whiskey was very plain upon my breath.

"It was some hours later that I came to myself, and then it was to find several physicians and nurses standing around my bed. I was in evening dress and there was nothing upon my person by which to identify me. The doctor commenced to question me, but I was still dazed and found speech very difficult, and it was some time before I was able to give an account of myself. By the time I was able to do so I had recovered my strength to some degree, and I was put in a carriage and sent home. The family were naturally very much frightened; a physician was sent for at once, who gave me some sedative and left. The next day he and two others examined and questioned me, held a consultation, and decided that it was a case of brain fag from overwork, and advised that I should get out in the wild and live an open air life for some months. Accordingly, I was sent into the mountains of the south, where just at this time an attempt was being made to open up some of the iron and manganese mines which had been shut down since the civil war. In this region I remained for about fifteen months, living a rugged out of door life—in short, roughing it. During this time I grew hearty and apparently well, and yet at intervals of varying lengths I would suffer from these peculiar attacks, but not nearly so frequently the latter part of the time as at first.

"This brings me to the autumn of 1890, at which time I returned north and again resumed my studies, being graduated in the class of '92.

"Winning my appointment on the house staff of a certain hospital, I served my term and started on the active practice of my profession. To me it seemed a rather strange fact that although during my last two years of college I suffered from several severe attacks, during the eighteen months of my hospital service I had only a few attacks, and none of these severe. Not once were my duties interfered with, and yet, as we all know, the life of a house physician or surgeon is neither an easy nor a regular one. Nor, for a while after I started in private practice was I much troubled, but as my work and responsibilities increased, especially the night work, I found that the curse of my life was again being visited upon me, and the attacks grew more frequent and more severe.

"In May, 1903, I suffered a serious accident, being run over by a cab and rendered unconscious. I was home five weeks, the first three of which are a total blank. My nights were the worst part of the twenty-four hours, as then I was particularly restless and irritable. I had received a blow on my head and the fifth and sixth ribs on my left side were fractured; I was a year getting well, and during this time I was out of the city at a summer resort, and did not even have the slightest suggestion of an attack, and the following winter but few, and these of a mild character, but shortly after again taking up practice their frequency and severity increased, and I became more and more nervous, my appetite became poorer and poorer, and my digestion even worse, with much flatulency. I have never been a great sleeper, but insomnia became a very marked symptom, and I would go for weeks with not more than from three to five hours' sleep at night and very frequently would pass the night with none at all. I found it difficult to concentrate my mind, and seemed to be unable to grasp the meaning of what I read. My memory became so poor that often I could not even recall events of importance after the lapse of a short period of time.

"Being unconscious during an attack, I cannot describe the symptoms and my actions during one, except that I frequently vomit a great deal of bile and afterwards pass much mure from the bowels. An intensely severe headache invariably follows and lasts hours and sometimes days. Pain in the abdomen, especially in the gastrohepatic region, is another symptom always present, and the abdominal muscles become rigid. If there has been a convulsion all the voluntary muscles are tense and some afterward, and my right hand is found placed over the liver."

What causes the awful depression, the dread, fear? Is it the undigested food that remains in the intes-

tinal canal, is it the toxins produced thereby, or is it the lack of entire absence of peristalsis? I have seen cases with perfect peristalsis and normal bowel movements, and yet these same morbid symptoms persist.

Take the suicide statistics. They either kill themselves because of financial reverses, broken hearts, or other causes; yet the physician in attendance, it questioned, will say that almost the last symptom of the patient was constipation or indigestion.

I must now call your attention to a case in point; the main symptom in his history was chronic constipation and indigestion. He said that he had not had a normal bowel movement in twenty years, thought he never would get well, had delusions, was inordinately depressed, in constant fear of a twisted gut, and thought the best way out of his misery was suicide. It seemed his one thought.

Another case is that of a prominent lawyer of Rochester, who was rapidly going insane, as he termed it, because his bowels would not move, because he could not digest his food, because his intestines were dilated with gas during the night, and at this time his morbidity was much increased. He passed out of my hands, and has since made away with himself.

Another case, the wife of a former State treasurer of Pennsylvania, who, when her digestion was perfect and her bowels regular, complained of nothing, notwithstanding the fact that she had Bright's disease and arteriosclerosis, and yet when she became constipated in the slightest degree, or when any part of her meal did not agree with her, her depression was absolute, suicide being her only topic of conversation.

The great indication in the treatment of this awful condition is to remove the cause.

Nervous anorexia, or a complete absence of the sensation of hunger, associated with loss of appetite, is a very difficult condition to combat. This symptom of neurosis usually follows some great depression, family troubles, or some other cause. The onset of the symptoms is gradual, the patient first discarding the heavier articles of food; later almost every form is refused. The diagnosis is not difficult if one sees the patient at the very commencement of the disturbance. On the other hand, if you see the patient after emaciation has become marked and no history can be obtained, diagnosis is obscure. It may resemble tuberculosis, and the symptoms, no appetite, anemia, pallor, asthenia, may also resemble cancer. However, loss of appetite from organic disease of the stomach, whether due to catarrh or cancer, is almost always accompanied by fear and dread. In nervous anorexia the patient seems to be totally indifferent to this as well as other changes in his environment. In this condition food should be given at frequent intervals and should be varied. Some one of the bitter tonics given a half hour before meals is helpful. Later, after emaciation has resulted and the condition is chronic, residence at a health resort for several weeks is necessary. Depression of spirits is very marked. The high frequency current, and occasional forced feeding and hydrotherapy consisting of a salt rub, a needle bath, Charcot douche, an electrothermal bath, with an occasional massage, usually effects a cure in these cases.



The term *neurasthenia gastrica*, or nervous dyspepsia, implies those vague, incompletely defined disturbances which occur during the digestive act. The patients show no demonstrable change in the stomach. Many and varied clinical symptoms with no organic lesions are present in this disease. This unbalanced state may follow debilitating or chronic diseases, sexual excesses, abnormal conditions of the genitourinary organs, great and sudden nervous shocks and breakdowns.

The patient experiences discomfort after food, a sensation of fullness, slight burning, belching, drowsiness, and fullness in the forehead. These symptoms often continue through the period of digestion and are followed by sensations of dizziness and weakness. In many cases the patient will be uncomfortable at all times, whether the stomach is empty or full. The intestines are not free from apparent disturbance. The patient says that he feels that his abdomen is filled with gas, and he is usually constipated. Nutrition may become involved, and the patient loses weight. We are not justified in diagnosing nervous dyspepsia if we find food in the stomach six hours after a dinner consisting of mixed foods. The absence of blood is a strong point favoring the existence of nervous dyspepsia.

Pain usually disappears on pressure when due to nervous dyspepsia, and is increased if due to ulcer. If nervous dyspepsia is associated with neurasthenia we find typical tender spots.

Where the diagnosis is not certain, the patient should be subjected to the rest cure, as the best results are brought about by this course. Cold baths, shower baths, and occasionally a hot brine sponge and the vibrator are very efficient.

Ichthylol in divided doses to be continued for an indefinite period, or ichthalbin (ichthylol albuminate) in combination with one of the valerianates is one of the best mediums for the absolute relief of the neurasthenic type of intestinal derangement.

How many of these cases report that they are feeling fine, that their bowel evacuation was abnormally large and satisfactory, and that the relief they experienced was perfect, and then within twenty-four hours they experienced a return of all the old symptoms. Does not the toxemia stimulate before it prostrates? I have found this to be the case in many patients. I have also found a very rapid pulse in one attack and a slow pulse in another in the same patient, all due to a variation in gas pressure on the pneumogastric nerve.

100 LEXON AVENUE.

# WHO ORIGINATED THE METHOD OF RAPID PARAFFIN IMBEDDING? A REPLY TO DR. POND.

BY ARTHUR STEIN, M. D.,  
New York.

On November 19, 1907, there appeared in this journal among the original articles one by A. Pond entitled *Improved Rapid Method of Imbedding Histopathological Specimens in Paraffin*. Dr. Pond describes a method by means of which it is possible to make paraffin sections of fresh patho-

logical specimens in one and a half hours. As he mentions no literature on the subject it would appear he was the originator of the method. Even if he developed it independently of those who worked along these lines, it would have been no more than just to refer to their publications, especially as these date back several years. The latter fact in itself goes to show that the method described by Pond is not a "new or improved one." Moreover, it would have been an easy matter to obtain information of this kind in Schmorl's book, which is universally acknowledged as one of the best on the subject.

As I have been using the rapid method of preparing paraffin sections for several years, I take the liberty of summarizing what I wrote concerning it in 1903.<sup>1</sup> At that time I stated that I had been using the method for one and a half years and that I followed the verbal directions of my teacher, Lubarsch:

The fresh specimen is first fixed in a 10 per cent. formalin solution for about five minutes, when it is put into 95 per cent. alcohol for another five minutes, and then transferred to absolute alcohol in which it remains ten minutes, the absolute alcohol being renewed once. After having been in absolute alcohol it is immersed in perfectly clear aniline oil until it has become entirely transparent, a process taking on an average from fifteen to twenty minutes. From the oil the specimen is brought into xylol, in which it remains until the xylol no longer becomes discolored yellow (this takes about fifteen minutes if the specimen is small). Finally it is placed in melted paraffin for from ten to thirty minutes at a temperature of from 58° C. to 60° C. I wish to emphasize especially that the vessels containing the various fluids are kept in the incubator. In this way the specimen is impregnated much more rapidly than if the fluids were kept at room temperature.

To recapitulate, Lubarsch's method of rapid hardening and rapid imbedding (under which name I described it, and by which name it has since been referred to in medical literature) consists of the following steps: 1, 10 per cent. formalin for about five minutes; 2, 95 per cent. alcohol for about five minutes; 3, absolute alcohol (renewed once), ten minutes; 4, aniline oil until the specimen is entirely transparent, fifteen to twenty minutes; this is to be done in an incubator at 122° F. to 125.6° F.; 5, Xylol, changed two or three times, about fifteen minutes; 6, melted paraffin, from ten to thirty minutes, depending upon the thickness of the specimen. All this is to be done in an incubator at 136.4° F. to 140° F.:

One can readily see that the entire process takes no longer than one and a quarter or one and a half hours, which is less time than Gutman's method (Schmorl's) requires. Of course, it is only suitable for pieces of tissue from one to three millimetres thick (Schmorl), thus being especially adapted for currettings. Nevertheless, tissue from any organ, as already pointed out by Gutman, can be thus imbedded provided the piece has the required thinness.

As regards the durability of the specimens prepared in this way, I can confirm, after several years' more experience, what I stated in 1903 after a trial of only one and a half years. They are durable and in no way inferior to those prepared by the slow imbedding process. My own experi-

<sup>1</sup> *Journal of the American Medical Association*, Chicago, Ill., 1903, p. 1003.  
<sup>2</sup> A. Stein, "The Schmorlizing and Schmorlizing of Histopathological Specimens," *Journal of the American Medical Association*, Chicago, Ill., 1903, p. 1003.



ences have been similar to Schmorl's, who says (*loc. cit.*, page 58):

If we are in a great hurry to examine pathological specimens, i. e., in cases in which tissue is removed for diagnostic purposes, we can use the method of rapid hardening and imbedding, first suggested by Lubarsch, to great advantage. It has recently been recommended by various pathologists and has given excellent results in my own experience.

Let me now quote from Pond's article<sup>3</sup>:

The chief objection heretofore advanced against the use of paraffin as imbedding material was the length of time required to properly harden, dehydrate, and clear the tissue in preparation for the impregnation of paraffin, this process usually requiring from thirty-six to seventy-two hours.

Then follows "Pond's method": 1, 10 per cent. formalin, five to fifteen minutes; 2, 95 per cent. alcohol, five to fifteen minutes; 3, absolute alcohol, not less than ten minutes, and no longer than twenty minutes; 4, aniline oil, ten to twenty-five minutes; all four proceedings to be done in incubator at 122° F.; 5, Xylol, fifteen minutes, changed three times; 6, paraffin, ten to thirty minutes, in incubator at 140° F.

On comparing this "improved method" with Lubarsch's, published by me in 1903, we cannot help but notice a striking similarity not only as regards the order of the separate fluids used, but also with respect to the time which the specimen has to remain in each fluid. With what wonderful accuracy the directions of both correspond! Pond's paper certainly invites one of two criticisms, it either shows a deplorable ignorance of medical literature or it represents an intentional plagiarism.

Any one interested in the different methods of rapid hardening and imbedding may consult the writings of Lubarsch<sup>4</sup> and Pick, as well as a more recent publication by Henke and Zeller.<sup>5</sup>

I have already referred to Schmorl's opinion, which practically confirms Lubarsch's favorable experiences. As far back as 1903 the latter said:

"I can assure you that the specimens prepared in 1889, when I first came to definite conclusions as regards my rapid method, have undergone no change. After using both the rapid and slow method of imbedding for almost fourteen years I cannot detect the slightest difference as regards stain or durability in the sections prepared by the two methods."

I have been told that Weigert himself used Lubarsch's method frequently and successfully. This in itself is sufficient reason to recommend it to Americans. It is especially adopted for pathological laboratories where many specimens have to be examined and where it is important not only to make a rapid microscopical diagnosis, but also to obtain durable sections.

My sole object in writing the foregoing has been to set forth the truth and to give the credit to whom it belongs, namely, to Lubarsch.

36 WEST FIFTY-NINTH STREET.

<sup>3</sup> *New York Medical Journal*, November 26, 1901.  
<sup>4</sup> *Zeitschrift für Schiffs- und Tropenkrankheiten*, 1903, 1, 1.  
<sup>5</sup> *Deutsche Medizinische Wochenschrift*, 1904, p. 96.  
<sup>6</sup> *Zeitschrift für Schiffs- und Tropenkrankheiten*, 1904, p. 96.  
<sup>7</sup> *Deutsche Medizinische Wochenschrift*, 1904, p. 96.

## THE ABSTRACTION OF CALCIUM SALTS FROM THE MOTHER'S BLOOD BY THE FŒTUS.

*A Cause of Dental Disease in the Former.*

BY JENNIE G. DRENNAN, M. D., C. M.,  
St. Thomas, Ont., Can.

In an article published in the *New York Medical Journal* of September 28, 1901, I stated that the abstraction of calcium salts from the mother's blood by the fœtus would be a cause of osteomalacia in the former, provided that the diet was poor in such salts, as it would be among the ill fed mothers of the peasant and slum classes; for osteomalacia is a disease the result of a poverty of calcium salts in the blood of the mother, by which her osseous tissues are deprived of this calcifying element. If her diet had been rich in these salts there would be a sufficiency for both mother and fœtus. At the present day, among the better class of patients, one finds a condition analogous to osteomalacia, only on a lesser scale and affecting a tissue which may be artificially replaced by the dentist, viz., the noncalcification or soft condition of the tooth, leading to caries of the dentin and enamel and also to destruction of the pulp. The fœtus requiring calcium salts for the development of its own osseous tissues, abstracts from its mother's blood all the available calcium salts—parasites usually fare better than their hosts—and this leaves none or very little of this material for the mother's organism to replace the wear and tear in her osseous structures, the teeth being one of the first to suffer, probably partly on account of their position, where other deleterious factors are at work—fermentation and putrefaction of particles of food, the presence of secretions which contain germs, and the acid vomit from the stomach coming in contact with them.

If the mother's diet was rich in calcium salts there would be sufficient of this material for both her child and herself; but, as is too often the case, her appetite is extremely capricious, and she does not eat that which she should. At the present day, with life in an apartment and its attending lessened labor, the woman has not the same hearty appetite as had the woman of the forest or the plain; food is not so rich in calcium salts, for much of our prepared vegetable food—cereals—is adulterated, or, at best, so refined as to have removed from it that which is most necessary to the human organism. During pregnancy and lactation the mother's food should be richer in calcium salts than at any other time, because she is then to supply such salts to two organisms—herself and her fœtus or infant, the latter being greedy for such material.

A certain degree of softening or noncalcification in some of the mother's bones at the time of delivery is rather advantageous in aiding in the easy delivery of the fœtus, but faulty calcification of tooth tissue is of no benefit; then, also, a certain degree of noncalcification of bone tissue favors the greater production of blood cells in the marrow of bone, for unstable osseous cells readily break down and are converted into blood cells. This to a certain extent is perfectly physiological, but becomes pathological when the mother's osseous structures

suffer and become incapable of maintaining her in a condition of health. Pregnancy is tending to become a pathological condition.

Caries of the teeth of the mother is due to the fact that they are deprived of their normal amount of calcium salts by the fetus. The calcification of tooth tissue should be normal, but it is not so if the mother's blood is not rich in calcium salts, for the fetus will have its share by depriving the mother; this is then a pathological noncalcification. In the dentine and enamel, as in all other osseous structures, there is constant wear and tear, which must be replaced, and for this replacement calcium salts are needful. By a poor supply of this material the dentine and enamel will lack their normal degree of firmness, and will, in their state of faulty calcification, be easily acted upon by the secretions, fermented and putrefied food, acid diet (of which pregnant women are so fond), and acid vomit. Hard enamel protects the dentine, soft does not. This decay oftener commences from within the tooth—tooth tissue is formed from within out. If the new cells formed in the interior of the tooth for the replacement of worn out cells lack sufficient calcium they break down easily and also tend to approach a lower type of animal cell, one which multiplies and dies more easily and forms putrescent dead matter in the tooth cavity; this causes pain and decay of contiguous tissue—dentin and enamel.

Such a condition may be averted by giving the pregnant woman a diet rich in calcium salts and also by administering to her these same salts in the form of medicine—to-day pregnancy tends to pathological conditions. The fruit diet fad for pregnancy has its drawbacks in that it produces soft bones for mother and child, and the teeth being really appendages, are the first osseous structures to suffer. Children produced on such a diet are prone to late eruption of their teeth and to walk late in infancy. I have just such a case in my mind of a child, seventeen months of age, who has only four teeth and has just walked; otherwise apparently healthy. The mother has poor osseous and muscular development, and lives principally upon a fruit and vegetable diet, not being fond of milk. A mixed diet is necessary for human beings, for they are of the omnivora; from this diet the mother prepares nutriment for the fetus during pregnancy and the infant during lactation. Milk and eggs are both animal products and are rich in osseous forming elements.

Carelessness in the toilet of the mouth, along with the other factors already mentioned, tends to destroy the teeth, but the primary cause is the lack of available calcium salts for her osseous tissues.

Dr. Branth, of New York, in the *New York Medical Journal*, of August 10, 1901, wrote an article entitled Cleft Palate and Its Association with Harelip, in which he mentioned the fact that lionesses fed on flesh containing bones too large for mastication, gave birth to offspring with cleft palates; but, he added, lack of a meat diet and insufficient calcium phosphate in the human mother's case would not cause the same result in her offspring, as the fetus would draw upon her tissues for its calcium salts if there were not a sufficiency by

ingestion. From this statement the question occurred to me—may not this very abstraction from the mother's tissues be the cause of osteomalacia in her? But the question to be first settled is, does the fetus abstract calcium salts from her tissues, or does it do so from her blood and thus appropriate what by rights should go to nourish her osseous structures? This seems to me to be the correct view.

## HYSTERECTOMY OF A FIVE MONTH GRAVID UTERUS FOR CARCINOMA UTERI.

### RECOVERY.

BY WILLIAM H. DUKEMAN, M. D.,  
Los Angeles, Cal.

On March 26, 1907, I was consulted by Mrs. W. H. L., of Yuma, Arizona, age thirty years, and a native of Peru, South America.

She was a lean, wiry person, five feet in height, and weighed ninety pounds. Her general appearance was one of frailty, very anemic, and of an exceedingly nervous temperament. She was the mother of one child, a daughter eleven years old, by her first husband. She had been married to her present husband less than six months. Her menstruation was regular up to five months ago, when she missed for three months. For the past two months she has noticed at frequent intervals, a menstrual discharge of a darker color than formerly, and at times of a foul odor. She complained of a dull burning pain in the vagina which caused her to grow very nervous and restless, causing much insomnia. Her appetite, however, was good, digestion normal, tongue clean, and bowels regular. Pulse 104, temperature 99.5°, respirations 20. Her family history was good, and her mother, a healthy Irish lady, aged sixty years, accompanied her. Patient had been engaged as a concert singer every night up to midnight or later for past several years.

Examination revealed the following condition: The abdomen presented the appearance of a pregnant woman at about the sixth month. The fetus, however, could not be distinctly outlined, and there were no fetal movements nor heart sounds perceptible. On bimanual examination with fingers in the vagina, the cervix felt like one very extensively lacerated transversely, deeply excavated with a cauliflower like surface, and bled very readily. The uterus was enlarged, as noted before, quite fully movable, except on the left where it was attached to a solid mass about the size of an orange. The speculum was then inserted into the vagina and the cervix presented the appearance as I have described it.

Diagnosis: Carcinoma of a gravid uterus containing dead fetus of about five months growth, and a tumor in left side of the pelvic cavity, in all probability an extension of the carcinomatous condition.

I advised operation by abdominal section and a removal of the whole mass if possible, as the only chance to prolong life. The gravity of the case was presented to her and family in every detail as to her chances of recovery as well as to the seriousness of so extensive an operation in her present condition. The patient was very anxious to recover so that she could resume her concert singing, and she, as well as her family, were very desirous and anxious that I proceed with the operation at the earliest possible time. I assented to do so, provided counsel were called and my diagnosis confirmed. I then called in Dr. H. W. Howard, who examined the case and confirmed my diagnosis. The vital organs were in good condition, and examination of the urine showed it to be practically normal.

The patient was sent to the Pacific Hospital and put in the best possible condition for operation. She was very anxious to have the operation over with, asserting her every confidence that she would recover. Four days later, on the morning of March 30th, I operated upon her, Dr. Howard and Dr. Godin assisting. An incision was made from the umbilicus to the pubes, and on opening the abdomen, the pregnant uterus presented, and the fetus could then be outlined, but no signs of life were discernible.

I did a total hysterectomy as speedily as possible without

encountering any great difficulty or mishap, and found that the tumor in the left pelvic cavity was entirely separate and not adherent to the uterus as supposed. After the gravid uterus was removed in its entirety, I decided to remove the tumor. It seemed to fill the deep posterior cavity or hollow of the sacrum, apparently solid and immovable. Dr. Howard suggested that I better not attempt to remove it owing to its critical location, but I felt that the operation was not complete unless at least a very decided attempt should be made before concluding the operation.

By carefully breaking up adhesions by blunt dissection with my fingers I soon succeeded in loosening up the mass sufficiently to get my left hand well under it, when my forefinger of a sudden slipped into a spongylike cavity and about half a pint of creamy, cheesylike substance was compressed out. The greater part of it found its way out through the vaginal opening made by the hysterectomy. The iliac and sacral glands were so extensively involved that any further endeavors would have been fatal to the patient. The parts were thoroughly cleansed and the cavity packed with gauze, and drain carried down through the vagina.

The operation was then concluded in the usual manner by suturing the raw edges of the peritonæum from side to side, covering in all raw surfaces, the abdominal cavity thereby being completely closed, leaving the glandular cavity to drain through the vagina. The abdominal wound was closed in the usual manner in layers. The patient was under the anæsthetic two hours, but left the table in remarkably good condition. She came out of the anæsthetic with little or no shock and without any vomiting.

The fœtus in the meantime had been extracted from the uterus and it had apparently been dead for some days. It was well nourished and in the sixth month development.

A section of the cervix as well as a specimen of the broken down mass was sent to the pathologist who later reported: Carcinoma of the cervix and broken down epithelium of the large cell variety, showing the involvement of the deep iliac and sacral lymph glands.

The patient at the first did exceedingly well. The abdominal wound healed by immediate union, and the stitches were removed on the twelfth day. The vaginal drainage was quite profuse during this time. The patient continued to have a good appetite and good digestion, but seemed to be growing extremely nervous, when in the third week she showed symptoms of derangement of her mind. She became very talkative and insisted on getting up. She got little or no sleep, and required constant watching day and night up to the end of the fourth week, when her mental derangement abated. Her appetite and digestion during this time continued good; secretion of urine was normal, but bowels were loose; pulse varied from 130 to 100; temperature 100° F. to normal up to this time; and she was entirely free from pain.

From this on she made a steady gain. She left the hospital at the end of the fifth week and was removed to the home of a friend. She continued to grow stronger, and by the end of the sixth week she was up and around and her mental faculties again normal. At the end of two months she was allowed to go to the beach at Ocean Park, where, with her little daughter and her attendant, she was enjoying herself and in better health than she had been for many months.

The vaginal opening in the meantime had almost closed, leaving a very small fistulous opening from which there was an occasional slight bloody discharge. Five months after the operation, while lying in the sand on the beach, she had a slight hemorrhage from the vagina. She was taken to her cottage, where it immediately stopped. Examination revealed nothing but a small fistulous opening leading to the site of the tumor. Next day she was allowed to be up and around again. One week later she was attacked with a severe coughing paroxysm followed by a profuse hemorrhage of the lungs, and succumbed in about one hour.

The drama of this case may be concisely stated as follows: Pregnancy in a malignant uterus; death of fœtus at five months; operation, hysterectomy; mental derangement for three weeks; recovery, great happiness and enjoyment of life for three months; at the end of five months, pulmonary hemorrhage, death.

44 GREEN BUILDING.

## ANGULATION OF THE SIGMOID.

By THOMAS BRAY SPENCE, M. D.,  
Brooklyn, N. Y.,

Surgeon in Chief to the Methodist Episcopal Hospital.

Angulation of the sigmoid flexure, causing intestinal obstruction, partial or complete, has been described by Dr. Delatour (*Annals of Surgery*, November, 1905) and by Dr. Loroque (*Annals of Surgery*, November, 1906). In an earlier paper Dr. Ries (*Annals of Surgery*, October, 1904) reported a case as volvulus of the sigmoid that, according to his description, may possibly have been the same as these later cases, some of which were proved to be angulation, and his observations on mesosigmoiditis throw some light on the ætiology of the condition. So little has been written on the subject that it seems justifiable and desirable to report any additional cases and to remind the profession of the existence of a remediable condition which is sometimes very distressing and sometimes exceedingly dangerous.

Strictly speaking, the case which is here reported does not correspond exactly with the condition described by Dr. Delatour, but it was so manifestly an angulation of the sigmoid that it will be necessary to make his definition a little more inclusive. He says: "By angulation at the sigmoid, we mean that the intestine is so bent upon itself, at either the upper or lower end of the sigmoid, that complete or partial obstruction to the passage of the fecal current is established." In my case the sigmoid was bent upon itself at the middle of the loop, and in this way three abnormal angles were made. Angulation is therefore not confined to "either the upper or lower end of the sigmoid," and there seems to be no good reason for creating a new class for angulation between these two points.

CASE.—My patient was a man, thirty-nine years of age, a policeman by occupation. He was well until two years ago, when he began to have pain in his left side, at the location of the descending colon. This pain was sometimes intense, at other times it was a dull ache. At the beginning of the trouble his bowels became constipated and continued so; his faces were either scaly or fluid, never normal in character, and the pain was more severe when the constipation was most marked. There was a loss of weight of twenty pounds during the first year, and very little after that.

One year ago the patient was operated upon in a hospital in New York for a suspected cancer of the bowel, but was told that nothing abnormal had been found. He naturally experienced no relief from the operation and continued with precisely the same symptoms as before. At a later date he was treated in the medical ward of the hospital, and the question of a renal calculus was thoroughly investigated, but uranalysis and the x ray failed to corroborate a suspicion of stone.

The man was sent to me by Dr. Webster, who encountered him in his duties of police surgeon. After watching him for two weeks I agreed to perform an operation, for it seemed certain there must be some condition causing a partial obstruction of the intestine. As the pathological condition must have existed at the time of the first operation we felt that we could rule out tumors of any kind and bands of adhesions caused by the operation. We both had known of Dr. Delatour's cases, and angulation of the sigmoid seemed to us the most probable cause of the trouble, as well as the condition most likely to have been overlooked by the surgeon at the time of the first operation. A ventral hernia was present at the site of the original operation, and it was found that pressure on the descending colon elicited the typical pain which had been complained of for so long a time.

The incision included the scar of the former operation, and many adhesions were found in the left side of the ab-



domen. An angulation of the sigmoid, as described before, was found, and a thorough search revealed no other lesions. The loop of the sigmoid formed by the angulation was held firmly by adhesions, and, even after the adhesions were torn loose, the sigmoid immediately fell back into its faulty position when it was dropped into the abdomen. Because of the difficulty in overcoming the angulation, and because of the possibility of further trouble from the numerous dense adhesions along the course of the descending colon, it was deemed wise to cut out the colon by a short circuit between the small intestine and the sigmoid. An anastomosis was accordingly done, connecting the lower limb of the sigmoid to the ileum at a point about twelve inches from the ileocecal junction. Two rows of sutures were inserted, the inner one being a through and through stitch. The hernia was repaired by imbricating the layers of the abdominal wall.

On the eighth day after operation the patient vomited a small amount of blood and on the ninth day a much larger quantity. On the tenth day a small enema brought away a large amount of black fecal matter. The loss of blood from the stomach and bowel affected the patient markedly, but he soon reacted and was able to sit up on the nineteenth day.

There has not been any of the old pain since the operation, and at the end of four months there is a complete return of health and strength.

The happy result in this case seems to justify the operative procedure adopted, though it has probably not been done for this condition before. Loroque divided a short mesosigmoid for angulation, and relieved the obstruction, but this seems to me a procedure not wholly without risk to the integrity of the intestinal wall, because of the diminished blood supply. Delatour successfully treated some of his patients by fixing the sigmoid to the abdominal wall, and that is without doubt the operation best adapted to angulation at the upper or lower end of the sigmoid, but it would not have been effective in the case here reported. An anastomosis between the upper and lower limbs of the sigmoid would probably have answered the purpose, but the presence of so many adhesions along the course of the descending colon determined the operator in favor of a communication between the ileum and the lower part of the sigmoid.

130 SEVENTH AVENUE.

**Physicians in Politics.**—Referring to a State convention in Ohio of one of the leading parties, to which one hundred and five physicians went as delegates, the *Journal of the American Medical Association* remarks editorially: If better conditions are to be obtained in municipal and State government, it must be through an appreciation of the fact that the proper work of government is administration and not exploitation of the public. With this in view, there is no reason why the physician should not prove as good an administrator as his brother the lawyer, to whom the lion's share of political duties and opportunities has been awarded in the past. Three fourths of the work of the average legislative body to-day has to do with questions of administration. There is nothing in the personality, training, or experience of the successful physician that would render him less effective in dealing with administrative problems than the lawyer or the business man; neither is there any reason why a physician should not demand and exercise his full rights as a citizen, especially since he is far better fitted by education and experience for dealing adequately with many of the problems of modern legislation than is the average lawyer.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far they have been decided upon, the further questions are as follows:

LXXXIII. How do you treat seasickness? (Closed April 15, 1908.)

LXXXIV. How do you treat sunstroke? (Answers due not later than May 15, 1908.)

LXXXV. How do you treat cholera infantum? (Answers due not later than June 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXXII has been awarded to Dr. J. Russell Verbruyck, of New York, whose article appeared on page 788.

### PRIZE QUESTION NO. LXXII.

#### THE TREATMENT OF FRACTURE OF THE PATELLA.

(Continued from page 792.)

Dr. L. F. Barrier, of Louisville, Ky., observes:

The treatment of fractured patella may be conveniently described under two headings, viz.: Non-operative and operative, each having distinct advantages in selected cases.

When the fragments are easily replaced and surroundings are such as to render technique questionable, I prefer the nonoperative method, and treat them after the following manner: If I see the case before there is marked transudate into the joint I seek to limit this transudation by an elastic bandage and cold packs. The rubber bandage may be used for this, or dry sea sponges can be bound tightly upon the knee while dry, and then the sponges are wet with cold water. The swelling of the sponges keeps an even pressure and limits transudation, and at the same time applies the cold. This method is also useful to promote absorption if transudation has occurred. In cases with extreme transudation the joint should be aspirated carefully.

After the swelling and fluid have been made to subside, the permanent dressing is put on. The knee is fully extended with a posterior splint and the thigh moderately flexed to relax the quadriceps extensor tendon. The fragments are now accurately adjusted and held firmly while the assistant tightly adjusts two inch strips of adhesive plaster by fastening the middle above the upper fragment and then attaches the ends spirally around to the calf of the leg. Another is attached in the same manner below the lower fragment and pulled upward, to be attached spirally to the posterior aspect of the thigh. After sufficient number of these strips have been firmly applied, a strip of plaster is well fastened over the top of the patella, so that tilting of the fragments cannot take place.

The splint is held in place by straps so as to allow the limb to be exposed for massage twice or three times daily for ten or fifteen minutes for the first few weeks. At the end of three or four weeks passive motion is begun. This must be very limited at first and not sufficient to separate the fragments, but just enough to prevent adhesions to the joint surface. The range of motion must be very gradually increased for several weeks, during which time the patient should be up on crutches with the limb encased in a plaster cast, which may be split and sprung off for passive motion, or in some form of splint that will permit easy removal.

At the end of eight or ten weeks the splint should be removed and the limb well bandaged, and the patient allowed to walk with a cane, but stair climbing or any sort of lifting must be avoided for several months.

This method gives good functional results in a large percentage of cases, but it requires much longer time for recovery than does the operative method.

The operative method is always to be preferred when surroundings are so that ideal technique can be had. The great danger lies in infecting the large serous sac of the knee joint.

In none save compound fractures should operative procedures be instituted until the acute reaction has been made to subside. Then with the most rigid asepsis the joint should be opened and washed free of blood clots with warm saline. The patella fragments are pulled together by hooks and the periosteal fringe removed from between them, and sutures of chromic catgut introduced through the fascia and tendinous structures and the periosteum, and rarely through holes drilled in the bone, so as to coapt the broken surfaces nicely. The method of placing the sutures will, of course, depend upon the line of fracture and the number of fragments. If the bone is fractured into several pieces the fragments can usually be held best by encircling the entire bone with the catgut.

The wound is now closed with catgut and the limb put upon a posterior splint. It is also well to put an adhesive plaster dressing on like the one described above, so the fragments cannot be accidentally torn apart.

Massage must be kept up, and at the end of two or three weeks gentle passive motion instituted, and the patient is allowed to be up on crutches with a light splint.

If the fracture is compound the joint must be well irrigated with 1 to 10,000 bichloride of mercury solution, followed by saline. The small, ill fitting fragments are removed and the others sutured in place and the joint drained for a time.

Occasionally the patella is so badly comminuted by direct force that it is better to remove it entirely than to attempt to unite the pieces. In a case of this kind the fascia is saved so far as possible and a tendinous flap made from a part of the tendon of the quadriceps, which is turned down and sutured to the ligamentum patella, and the fascia preserved after removal of the bone.

In these cases it is well to surround this lengthened tendon by fatty tissue, so as to form a sheath as free from adhesions as possible.

*Dr. G. H. Palmerlee, of Detroit, Mich., states:*

In the treatment of fractures of the patella there are three indications to be considered, no matter whether the treatment is to be operative or nonoperative. The first thing to do is to stop the hæmorrhage and effusion into and around the joint; second, secure the approximation of the fragments until union occurs; and, third, restore the function of the joint and overcome atrophy of the quadriceps extension muscle.

A good method to secure a quick absorption of the effusion indicated, no matter whether the further treatment is to be operative or nonoperative, is to apply a well padded posterior splint, elevate the foot, and bandage the knee from below upward with a rubber bandage, making firm and even pressure, but not tight enough to interfere with the circulation, leaving the bandage on for two days, then most of the blood or exudate will be absorbed. Massaging the knee twice daily for five minutes will often prove useful. Aspiration is sometimes employed, but does not prove altogether satisfactory on account of the blood clots present.

Various subcutaneous operations have been devised, and since it must be admitted that they incur some risk of infection without securing accurate apposition of the fragments, then it is obvious that if any operative procedure is undertaken, the open operation should be the one of choice, since by no other method can the fragments be accurately approximated.

Operative treatment is absolutely contraindicated unless the strictest aseptic technique can be carried out; and it is contraindicated in old people, or where the skin is much bruised and there is some doubt of not obtaining primary union of the skin wound.

It seems to be the consensus of opinion among surgeons who operate a good deal that the operative treatment gives the best results, as the hæmorrhage is at once relieved; the tear in the aponeurosis can be repaired better, the displacement of the fragments is overcome, and the chances for a bony union are more favorable.

Some surgeons prefer to wait a few days before operating, but it is safe to operate after the first twenty-four hours. A curved incision is made, the fascia cut through, and the fracture exposed. The joint should then be thoroughly washed out with a saline solution or sterile water; or if antiseptics are used they should be very weak, flushing the joint after their use with sterile water.

The torn aponeurosis and periosteum, which are turned over the edges of the fracture, are cut away and retracted. The patellar fragments and the aponeurosis may be united with silver wire, catgut, or kangaroo tendon. The tendency now is to use an absorbable suture, and it is of as great importance to suture the aponeurosis as it is to suture the patella itself. Unite the aponeurosis and periosteum in front of the patella with three sutures, and suture the lateral tears with at least two sutures. Silver wire inserted through holes drilled in the patella is still extensively used. It is not necessary to use a metal suture or unusually large catgut or kangaroo tendon, as it does not require much to hold the



fragments together, since we depend on a splint principally for immobilization.

Rubber gloves should be worn and the wound handled as little as possible; drainage is not used, and the skin is closed with silkworm or catgut. The leg should now be wrapped in sheet wadding from the heel to the hip; a plaster cast is then applied and left on for six weeks; at that time the fragments are usually firmly united; the cast should then be removed, massage and passive motion may be safely begun, and the patient allowed to go about on crutches, bearing but little weight on the injured leg, the injured joint being protected by a leather knee cap or elastic bandage.

Old cases, where the knee cannot be flexed to a right angle, or if it is impossible to extend the knee or walk without limping, a much better functioning joint can be obtained by operating; the fibrous tissue is dissected out, the edges of the fragments freshened, and sutured with number four catgut or kangaroo tendon, or it may be necessary to remove the fragments and suture the patellar ligament to the quadriceps extensor tendon; occasionally the upper fragment will have to be detached from the femur.

Perrassier's method consists in turning down a square flap of the anterior fibres of the quadriceps tendon over the broken patella, and suturing it to the patellar ligament below; this prevents eversion of the upper fragment.

The nonoperative treatment is indicated in very elderly people, and when the fragments can be easily approximated, and when circumstances do not permit of strict aseptic precautions, or when the surgeon is not accustomed to doing much operating, and not in the habit of daily asepsis. The injured leg should be placed on a well padded (particularly at the heel) posterior splint, extending from below the heel to the hip and elevated about six inches; the next important thing is to reduce the swelling; probably nothing will do this as readily as a rubber bandage, applied firmly, but not tight enough to interfere with the circulation. The application of an ice bag is of some service, not only in reducing the swelling, but relieving the pain. Massage is also of service in getting rid of the exudate. In a few days the swelling will have subsided, and not until then should an attempt be made to approximate the fragments. Do not apply a plaster cast until the fragments have united, since the joint cannot be inspected, and the fragments may become widely separated. The splint being applied, the upper fragment is held down by a strip of zinc oxide adhesive plaster passed just above the upper fragment, extending downward in such a manner as to pull the upper fragment down, the ends fastened to the splint; the lower fragment is now held in a similar manner, the adhesive strip placed below the fragment, extending upward and backward, and fastened to the splint; another strip is placed over the edges of the fragments, which prevents them from tilting outward after they are approximated; two or three strips may be used instead of one, overlapping each other a little; the plaster strips need not be removed until six weeks have passed. Union has usually taken place in that time.

If a plaster cast is used it should be split down

the median line before it hardens in order that it may be removed at intervals for massaging; at the end of six weeks the patient may be allowed to bear some weight on the limb, with the help of crutches, while wearing a removable splint such as a knee brace, or leather knee cap, and at the end of two months the patient may be allowed to walk with a cane. The knee should be protected by an elastic bandage for another two months, and sudden movements should be carefully avoided during this time, since there is a liability of refracture.

*Dr. Sidney J. Sondheim, of Reading, Pa., says:*

Upon having made the diagnosis of fracture of patella, two methods of treatment present themselves for consideration, operative and nonoperative. What are the influencing factors which should determine your decision?

1. Age and physical condition of patient. Operation unless open fracture of patella should never be performed in person over sixty, and if not in good health should not be performed at any age.

2. Environment as to modern hospital and expert surgical skill. Since we are dealing with one of the largest joints of the body, with its numerous synovial sacks and consequent danger of infection, operation in simple fracture should, as a rule not be performed unless in a hospital with all modern equipments and expert surgeon and assistant.

3. Occupation of patients. If a man's occupation is such that full use of his leg is a necessity to him for a livelihood, or if compelled to get back to work in short time, operative procedure when successful gives better and quicker results.

4. Character of fracture. All open fractures of patella should be sutured at once. Simple fractures, with wide separation of fragments and extensive lacerations of capsule or when comminuted, give, under favorable circumstances, better results when sutured. Secondary fracture of patella, long fibrous union in an old fracture, fracture healed so as to prevent motion of leg, all indicate operative procedure under favorable circumstances.

A decision should not result from consideration of any one factor, but of all of them. It is always to be remembered that with operative method, even under the best of conditions, there is danger of infection, with stiff joint, perhaps amputation, and death. With nonoperative procedure, if a failure, we can always resort to operative method at any time, although perhaps with less favorable local conditions.

Nonoperative method.—Whatever method of treating fracture we adopt we have the following indications to meet always: 1. Removal and prevention of swelling as far as possible. 2. Reduction and apposition of fragments. 3. Complete immobilization of fragments until union is secure. 4. Restoration of functions of knee joint.

If seen early swelling can often be prevented by equal pressure over joint by elastic rubber bandage or by sponges beneath a bandage, which are then saturated with water or lead water and laudanum, which will cause the sponges to swell and give equal pressure over joint. Elevation of leg and massage two or three times daily are routine measures.



These measures also apply to reduction of swelling when not seen early. If swelling is very persistent and effusion great, an incision or aspiration with needle with most careful precautions to prevent infection may be done.

The swelling having been reduced, we next consider reduction and fixation of fragments. To secure complete relaxation of quadriceps extensor muscle we extend and elevate the leg. A posterior or ham splint of plaster of Paris or wire extending from about one decimetre above the heel to the upper part of the thigh, held in place by three or four bands of adhesive, which go around the leg, and prevent its flexion, is next applied. The upper fragment is drawn down and held in place by traction of a strip of adhesive placed above the fragment and running obliquely down the leg below the fragment. The lower fragment is similarly fixed. As the swelling subsides the upper adhesive strap becomes loose and must be frequently adjusted. A third strip of adhesive is placed directly across the fracture and around the leg to prevent tilting of fragments. To facilitate action of adhesive a splint can be placed above the quadriceps. Lateral splints may now be applied and fastened and the leg elevated. The splints, except the adhesives, should be daily removed and the leg thoroughly massaged.

At the end of four to six weeks all dressings can be removed, and plaster cast extending from below fulness of calf to groin can be applied. This should be slit, so as to be readily removed for massage and bathing, and fastened again firmly after each such treatment. Slight passive movements of leg may now be adopted, and patient allowed to go about on crutches. At end of eight to twelve weeks patient may walk with cane, and passive movement should be increased. At the end of five to six months splint may be removed, bandages applied, and leg gradually used.

Operative treatment.—I shall dwell very lightly on this phase of the subject. There are two methods of fastening fragments by suture, subcutaneous method and open method. Each has its indications, advantages, and disadvantages. They are, briefly: When we can obtain good apposition with fracture transverse and in absence of most favorable operable conditions, the subcutaneous method is to be preferred. When we have wide separation or fragmentation and great swelling, with tearing of ligaments and modern hospital necessities, open method is to be preferred.

Subcutaneous method.—Under strict asepsis thrust a knife through the skin and ligamentum patellæ just below middle of lower fragment. Pass pedicle needle through this wound beneath patella, above upper fragment, through insertion of quadriceps, and through incision made in skin at this point. Thread with strong sterilized silk and draw out through lower opening, unthreading the needle, leaving the thread in place. Now pass needle through the same lower opening, above patella, to the upper opening, again thread needle, and draw through the lower opening. We now have the ligature looped about the patella. Displace any tissue which lies between the fragments by briskly rubbing them together, and tie suture tightly. Close wound, apply a posterior splint, and preferably fig-

ure of eight bandage, or adhesive plaster. Passive movements may be begun in from ten to fourteen days, and plaster of Paris dressing in three to four weeks.

Open method.—Unless an open fracture, when the joint should be widely opened, we may use three forms of incision—transverse, vertical, or oval incision (Cheyne). The latter two are preferable, since in former there is some danger due to flexion of the leg bringing tension along the line of incision, and certainty of opening prepatella bursa. With most careful aseptic precautions, the joint is opened by one of the methods cited. The clots are removed by flushing the joint with sterilized normal saline solution, or a 1 in 10,000 bichloride solution. Loose particles of bone are removed, and holes are bored in the patella from upper to fractured surface, both superficial and deep. Blood and fibrous tissue are now removed from the approximating surface, and suture material is introduced. If silver is used, after twisting and smoothing down, the torn capsule is sewed and fibrous tissue over patella is sewed. The skin suture is closed, and Post splint is applied until the skin incision is healed; then the knee is placed in plaster cast. Daily massage is employed, and patient can be about usually in three weeks in plaster cast. Movement of patella may be begun quite early to hasten the free use of the limb, which can, as a rule, be freely used in a few months.

(To be concluded.)

## Therapeutical Notes.

**Treatment of Red Nose.**—In reply to an inquiry regarding the treatment of red nose several contributors to *The British Medical Journal* for April 11, 1908, make suggestions. It is noted that each case requires treatment for the cause. A lady who had a very ugly red nose was treated with the following, which acted well:

R Sulphur. praecip., calaminae, .....ãã gr. xxx;  
Ac. carbol, .....℥ vj;  
Lanolin. pur., .....3j.

Sig.: After steaming the nose over boiling water, apply this ointment at night.

R Fer. am. cit., .....3j;  
Liq. arsenical, .....3j;  
Aq. chlorof., .....ad 5vj.

Sig.: 3ss three times a day after food.

In another case the administration of laxative doses of cascara sagrada every night, and the use of the following lotion, proved effective:

R Calamine, .....℞. N;  
Bismuth trinitrate, .....℞. N;  
Acid. hydrocyanic, dil., .....3ij;  
Pulv. tragacanth co., .....3j;  
Aq., .....ad 5j.

M. Sig.: For external use.

A little to be sponged over the nose every night at bedtime and allowed to dry. Another practical hint is always to use the tragacanth powder for cosmetic lotions instead of pulv. acaciae.

The pernicious habit of passing the smoke through the nostrils in cigarette smoking was blamed for the appearance of a glaringly red nose in a youth who was addicted to the habit.

**Medication by Cataphoresis.**—*The Prescriber* for April, 1908, gives a brief account of the cataphoretic method of introducing medicines into the system. Many applications of the principle are now in use. It is well known that when a current of electricity is passed through a solution of a chemical salt, the latter becomes decomposed or electrolyzed, the base as a rule going to the negative pole and the radicle to the positive pole. This is accounted for by the theory that the molecules exist as ions, or electrified particles of matter, those of the base and radicle carrying respectively their negative and positive charge of electricity. These ions are dissociated by the electric current which appropriates them to the corresponding complementary poles of the circuit. Advantage is taken of this principle to force medicinal substances in the ionic state into the tissues of the body. If a solution of, say, quinine sulphate be used to soak a pad covering the positive pole of a battery, this pole applied to the skin, and the negative pole so arranged that the current may pass through the tissues, the quinine ions will seek the opposite pole, and in so doing will pass through the tissues with the current. The ions thus forced into the body enter not only into the lymph spaces, but into the cells themselves, becoming a part of the protoplasm, and consequently their effects are much more pronounced. The principle may be shown experimentally by placing a piece of raw beef between the poles of a battery, the negative electrode being covered with blotting paper soaked in a solution of potassium iodide, and the positive electrode similarly treated with starch solution. On applying the current the iodine ions pass through the beef to the positive pole, the paper on which soon shows the blue color of starch iodide. This process, described as cataphoresis or ionic medication, has been tried with considerable success in the case of such drugs as break up into ions. Relief of tabes dorsalis by cocaine ionization was described in the *British Medical Journal* in January, 1905, and since then a number of cases have been successfully treated by this method. Dr. Lewis Jones (*The Hospital*, October 20, 1906) and Dr. Dawson Turner (*The Prescriber*, September, 1907) have both reported on cases of rodent ulcer cured by means of zinc ions. The process is extremely simple—a portable battery with wires has a disc or rod of zinc attached to the positive pole. The zinc is covered with a few layers of lint wetted with a five per cent. solution of zinc sulphate and applied to the ulcer previously cleaned. The negative electrode is either held in the patient's hand or placed in a basin of salt water in which the hand is immersed. The current is gradually raised to 40-60 milliamperes, or as much as the patient can bear, and continued for thirty seconds. The surface of the ulcer is now white and dry, and another application may be made in a week or a fortnight; two or three applications usually being sufficient. A burning sensation like that of a mustard plaster is felt, which in sensitive patients may be counteracted by means of cocaine. Other applications of the ionic treatment are suggested. Copper ions have been found efficacious in destroying the para-

site of ringworm, and magnesium ions have cured multiple warts on the hands. The chlorine ions have proved useful in fibrous ankylosis and sclerosis, and a case of Dupuytren's contraction, which had lasted fifteen years, was recently cured in the same way. The salicylic ion has been found to relieve tic douloureux which had proved refractory to other remedies. Giovine (*Riforma Medica*, November 2, 1907) records cases of gonorrheal arthritis and tabetic arthropathy of the knee, in which the iodine ions from potassium iodide gave good results, also a case of sclerodactylia, which was cured by application of chlorine ions. The difficulty in the way of treating lupus has so far lain in the fact that the bacillus contains a large proportion of fat, which is a complete nonconductor of electricity. In applying the ionic treatment it should be borne in mind that basic ions move from the positive to the negative pole, consequently the medicament must be introduced at the opposite pole. Acids move in the opposite direction. The limitations of the method are that the ions can be introduced only very slowly, and a prolonged application, possibly under chloroform, would be necessary to reach parts at great depth.

**Prescription for Obstinate Hiccough.**—The following prescription is recommended by *The Hospital* as being successful in cases of obstinate hiccough:

R Spirit of nitroglycerin, ..... viii;  
 Spirit of chloroform, ..... 5iv;  
 Water, ..... q. s. ad 5iv.  
 M. Sig.: One fourth part for a dose; to be repeated for three or four doses.

**Tannin in Postpartum Hæmorrhage.**—In the Vaud, where the women lead very laborious lives and have very large families, postpartum hæmorrhage, due to uterine inertia, is of very frequent occurrence, and the country practitioner is at times at his wits' end for an effective method of treatment. The usual means—ergotin, massage of the uterus, bimanual compression, ice, injections of hot water, with or without tannin, and even plugging with gauze or the fist—having failed him. In such a case Renaud (*Revue médicale de la Suisse romande; The Practitioner*, April, 1908) tried the effect of gauze powdered with tannin, and the effect was almost immediate, although the uterine contractions remained very weak. He thereupon had prepared some gauze, impregnated with ten to fifteen per cent. of tannin, which was cut into suitable lengths for packing the uterus, and then sterilized by high pressure steam. These are packed in parchment paper, which keeps them aseptic, portable, and ready for instant use. He has made an extensive use of this hæmostatic packing, and has always obtained a successful result, with rapidity and certainty in cases of postpartum hæmorrhage, and also in cases of severe metrorrhagia at the menopause, in which packing has been necessary. As the dressing is "hæmostatic" and not "antiseptic," every care must be taken in introduction to avoid soiling against the labia and external parts of the genital region, and the packing should not be allowed to remain in the uterus for more than from twelve to twenty hours. This allows ample time to insure final coagulation.

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## THE ARMY MEDICAL CORPS BILL SIGNED.

On April 23d President Roosevelt signed the bill enacted by Congress providing for the reorganization of the Medical Department of the United States Army. The measure was printed in the *New York Medical Journal* for April 18th, on page 763, and has already been commented on. The essential features of the bill are the provisions for a material increase in the number of officers—for a surgeon general with the rank of brigadier general, fourteen colonels, twenty lieutenant colonels, one hundred majors, and three hundred captains or first lieutenants, all of whom are to have rank, pay, and allowances of officers of corresponding grade in the cavalry arm of the service. Assistant surgeon generals are to be recommissioned, with the rank of colonel; deputy surgeon generals, with the rank of lieutenant colonel; surgeons, with the rank of major; assistant surgeons as captains and first lieutenants, the lieutenants to be promoted to the rank of captain after three years' service.

The reserve corps which is provided for in the measure is to be made up from surgeons in civil life, who will be given the rank of lieutenant, but without pay, save when assigned to active service. The bill will make thirty-two vacancies in the corps in addition to the twenty-seven already existing. Examinations will be held on May 4th and on August 3d to fill these vacancies. The bill providing for an increase in the pay of the officers and enlisted men of the army, including the officers of the medical corps, has not yet been enacted, some

objection having been made to its passage, although it seems probable that it will become a law before the close of the present session of Congress.

## THE CRAZE FOR NOVELTY IN BOOKS.

*Le roi est mort, vive le roi!* Hardly is the first demand for copies of a new medical book satisfied than its legitimately expected further sale is found to be almost impossible. The cry is set up that it is out of date, and many a copy that has been ordered is returned to the publisher with the more or less indignant comment by the person who ordered it that he will not put up with an old book. And yet the book may be a very recent one and quite abreast with progress in the subject with which it deals. The unreasonable purchaser demands that everything shall be "hot off the griddle"; he wishes to see the current year designated on the title page. In most instances the demand is utterly senseless. Every year there are issued many medical books which will never grow old in the sense of becoming useless. It is our own fault if we blink this fact and virtually force the publishers into the issuance of new editions, or what purport to be new editions, of such books. It must be admitted, of course, that in some of the departments of medicine a book really does get out of date, however satisfactory and complete it may originally have been, but the deficiencies of such a book may always be supplemented by recourse to the medical journals; to make up for such deficiencies is one of their chief functions.

So long as this demand for a new date on the title page exists publishers will find it expedient to resort to certain devices which are not always harmless. One of these is that of changing the date annually, whence great injustice to the author often results if he has not been allowed to revise the text. Fancy, for example, a medical dictionary dated 1908, but really published in 1900. Between those two dates multitudes of new words have come into use, and many fresh meanings have been given to old ones. Necessarily these verbal novelties do not appear in the book, and the unthinking revile the author and despise his careful and really meritorious work. A publishing house has been known to defend this misbranding procedure by professing that it had only desired to show that the book was a "live" one, whereas it was the real purpose of the house to galvanize a dying book into such a semblance of vitality as might lead to its continued sale.

Can we be censorious with the publishers for resorting to such a practice? Their fault, it seems to us, lies chiefly in their resorting indiscriminately to a device which, if applied only to certain books,



would work no real injustice, whatever might be thought of its abstract right or wrong. So called "new editions" are often only fresh printings, and the practice of printing the misleading announcement on the title page is even more detrimental to the author's reputation than the mere change of date to which we have alluded. We are glad to be able to say that publishers are resorting to these devices less and less, and that there are not a few houses which have never yielded to the temptation. Let us assist them in resisting it by showing ourselves permanently appreciative of good books, even if they are a few years old, for, save in a few fields, such as that of bacteriology and radiography, in which progress at the moment is rapid, the difference of a few years in the date of the edition of a book is not a serious matter.

#### SCHOOL CHILDREN'S EYES.

We are glad to learn that the Association of Women Principals of the Public Schools, of New York, has taken up certain important questions connected with the care of school children's eyes. Physicians have for years been convinced of the deleterious effects of the maddening glare given out by the glazed paper which is used in books when it is thought desirable to illustrate them with half tone engravings. In some foreign publications we find half tones handsomely printed on paper which is almost if not quite unobjectionable so far as glare is concerned. Our French and German exchanges, for example, afford ample evidence of this. For certain trade reasons, we suppose, such paper is not to be obtained here at all or only at prohibitive prices. So we imagine that the half tones will have to go if we are to get rid of the highly glazed paper.

Many of the half tone engravings are in a high degree artistic, and they have the advantage of presenting undeniable reproductions of photographic pictures, with all their good points and all their bad ones. For all that, however, we prefer woodcuts for most purposes. Where are the half tones that present such lucid depictions as are to be found, for instance, in the old woodcuts of Sappey's *Anatomy*? But the woodcuts must be of a high order of excellence, and to whom shall we turn now for such work in woodcutting as we were accustomed to a few decades ago? Doubtless a few accomplished wood engravers still survive, but their numbers must be steadily diminishing. Wood engraving, alas, is almost a lost art. As a rule an engraving on wood is more expensive than a half tone block, and doubtless that fact will stand in the way of a general return to the wood, but it ought not to prevent our taking all practicable steps to safeguard

the children's eyes. The semidiagrammatic is often wonderfully effective in the art of illustration, and it seems to be more readily attained by the wood engraver than by the process worker—effective, we mean, not solely from the artistic point of view, but also from that of instructiveness. Surely that consideration ought to weigh against the objection to woodcuts on account of their cost.

Another point brought out by the association is that of the strain on vision caused by following long lines of type, even if the type is large. Short lines with suitable leading permit of the use of comparatively small type with far less fatigue to the reader's eyes than must result from the employment of long lines. The difficulty comes in when the reader has finished a line and seeks to retrace his course so as to take up the next one; it is almost as trying as that of sighting a rifle fitted with a wind gauge. It is unjust to impose such a difficulty on any reader; in the case of a young child (studying, not reading for amusement) it amounts to cruelty. Evidently there are many of our school books which can be materially improved from the mechanical point of view, and we hope that the necessary improvement will not long be deferred. The same may be said with regard to medical books.

#### THE ÆTIOLOGY OF MYCETOMA.

Musgrave and Clegg (*Philippine Journal of Science*, December) report a case of Madura foot which they observed in Musgrave's clinic in St. Paul's Hospital. They succeeded in isolating a streptothrix from the tissues of the foot which has some morphological and cultural differences from actinomycetes and from *Streptothrix Madura* (Vincent), as well as from the streptothrix isolated from cattle in Guadeloupe by Fullerton, and from the streptothrix isolated from a brain abscess in man by Fullerton. Musgrave and Clegg have named the organism isolated by them *Streptothrix Freeri*, after Dr. Paul Freer, director of the Bureau of Science of Manila.

They have succeeded in killing monkeys, guinea pigs, and dogs by intraperitoneal inoculation of the pure cultures of the streptothrix. In monkeys a tumor is produced at the site of the inoculation which contains the organism. Death is apparently due to a toxemia. In guinea pigs metastatic abscesses containing the streptothrix were found in the liver, the diaphragm, the omentum, the mesentery, and the spleen, from which the streptothrix was obtained in pure culture. By inoculation of pure cultures of the streptothrix, and by inoculating material from the human foot, after amputation, into the feet of monkeys, a disease was produced in the

monkeys similar to that in the amputated foot. The disease is distinct from actinomycosis, and it appears from this report that the Madura foot of the Philippine Islands is due to an organism which differs in some respects from that causing Madura foot in India.

### TRAUMATISM AND TABES DORSALIS.

In many cases of mechanical injury sustained by a person in the performance of his work it is difficult to form a just estimate of what damages, if any, the injured individual is entitled to; but perhaps it will be easier when we have accumulated data concerning a large number of cases. One case that seems to be of considerable interest is recorded by M. Tourey-Piallat in *La Clinique* for April 17th.

On the 1st of March, 1906, a man employed by a railway company at the Bourgoin station was struck in the back by a piece of falling baggage, but not knocked down. The second article fell upon him and prostrated him. Then the third, a heavy wicker hamper, fell on his right leg and broke it. A surgeon in the employ of the company attended the man. In the course of the ensuing July, the injured limb being still rather weak and incapable of full power of motion, the man was sent to the Zander mechanotherapeutic institute at Aix-les-Bains. This was by the advice of the railway surgeon. In August there appeared pronounced signs of tabes. The patient was then taken back to Bourgoin, where the malady became more and more decided, at last rendering him quite incapable of work.

The victim, regarding his ataxia as the result of the fall, sued for damages to the amount of two thirds of his pay. The company, challenging his ability to establish a connection of cause and effect between the accident and the disease, estimated that twenty per cent. only of his disability was attributable to the injury, that being apparently the amount which the traumatic lameness added to the incapacity produced by the locomotor ataxia. A medical expert appointed by the court coincided in this estimate, and the court held accordingly. The expert reported that tabes of purely traumatic origin was not generally admitted, and that in the particular case under consideration the length of time that had elapsed after the man was able to rise and walk before the ataxia appeared showed that the traumatic weakening of one lower limb had simply somewhat aggravated the disabling effect of the tabes.

M. Tourey-Piallat thinks that the decision was a just one, and he intimates that it makes amends for the failure of the law to take antecedent morbid

conditions into account. If, he says, the injured person was previously affected with a latent disease or infirmity, and an accident hastened its evolution, the injury would be held to be the sole cause of the final condition. In the Bourgoin case the tabes could not with certainty be held to have been an antecedent morbid state, and its development could not, therefore, be looked upon as due to the injury. Thus, indeed, may the law secure something like an equalization of right and wrong in a general way, but it is not easy to see how it mitigates the sad lot of the poor Bourgoin employee. In this connection the reader may find it interesting to refer to the article entitled *Injuries and the Previous Condition* in our issue for April 25th, on page 795.

### A NOVEL VIEW OF THE MEDICAL LICENSE.

The *Lancet*, of London, puts forth the suggestion that authority to treat disease by drugs or otherwise be granted to unqualified persons upon payment of a license of 500 pounds. In defense of this suggestion it is pointed out that brewers, publicans, and tobacconists have to pay for a license now, though the state does not guarantee the purity of the articles sold by them. The *Lancet* despairs of the suppression of unqualified practice and quack medicines by law, offers the suggestion of a high license fee as a partial solution of the problem of regulating the practice of medicine by law, and seems somewhat surprised that so simple and, to the state, profitable a scheme has not been approved of. The suggestion will strike American readers as being both absurd and unwise. In fact it places the state in the attitude of reaping a benefit from the issue of licenses to do wrong and as being on a par with the sale of indulgences. To the medical profession on this side of the Atlantic the most surprising feature of the suggestion is that it should emanate from so sane and so conservative a source as the *Lancet*.

### THE LATE PROFESSOR CORNIL.

Victor Cornil, the great pathological histologist, died on April 14th at Menton, whither he had betaken himself in the hope of regaining his strength after a severe attack of bronchopneumonia. He was a little more than seventy years old at the time of his death. In this country we are accustomed to thinking of him mainly in connection with the *Manuel d'histologie pathologique*, which he wrote in conjunction with M. Ranvier. In the *Presse médicale* for April 18th M. Maurice Letulle justly

speaks of him as a master of pathological anatomy, a worthy successor of Cruveilhier, Lebert, Vulpian, and Charcot, all of whom had been his teachers.

It was not in science alone that M. Cornil achieved distinction. He was active in political life, and at a critical period in the affairs of the French nation Gambetta placed him at the head of a department. He served also in the Chamber of Deputies and subsequently in the Senate. After years of effort he and M. Brouardel had the satisfaction of seeing the Senate, in 1902, pass the public health bill which the Chamber had already adopted. With all his political activity, M. Letulle reminds us, Cornil never ceased from his devotion to scientific investigation. As a man renowned in medical science and as a statesman, he may fittingly be classed with Virchow. There have been few such men in the medical profession. There ought to be many more, for there is no incompatibility between the prosecution of science and the furtherance of political affairs.

### News Items.

**Changes of Address.**—Dr. Max Bernstein, to 2 East One Hundred and Seventeenth street, New York; Dr. Julius London, to 763 East One Hundred and Fifty-sixth street, New York.

**A Dinner to Professor Martin, of Berlin.**—A subscription dinner is to be given at the Hotel Astor on the evening of June 10th, as a farewell ceremony in honor of Geheimrat Professor August Martin, of Berlin.

**Medical Society of the George Washington University.** At a meeting of this society, held on Thursday evening, April 23d, Professor E. A. Schäfer, of Edinburgh, delivered a lecture on Internal Secretions.

**Medicolegal Society of Philadelphia.**—At a regular meeting of this society, held on Tuesday evening, April 28, Dr. F. X. Dercum read a paper on Expert Testimony.

**The Boston Medical Society** held its annual meeting recently and elected the following officers: President, Dr. William F. Gay; vice president, Dr. A. J. Hurwitz; treasurer, Dr. Rufus K. Noyes; financial secretary, Dr. Frederick J. Bailey; corresponding secretary, Dr. L. A. Herman.

**Atlanta School of Medicine.**—The annual commencement was held on April 22d, and forty-nine young doctors, representing twelve states and two foreign countries, received their diplomas. Dr. John C. Olmsted delivered the annual address.

**Vital Statistics of Minneapolis.**—During the month of March, 1908, there were reported to the Department of Health of Minneapolis 262 deaths from all causes, 154 males and 108 females. There were 22 still births. One hundred and forty-four marriages were reported and 517 births.

**The Kentucky State Association of Railway Surgeons.** The fourth annual meeting of this society will be held in Louisville, Ky., on May 12th and 13th. All who are desirous of taking part in the discussions will please notify Dr. Cuthbert Thompson, Broadway and Third street, Louisville, Ky.

**The Mercy Hospital of Canton, Ohio,** will soon be opened. It is to be a non-sectarian general hospital and will occupy the site of the home of President William McKimley. The property was purchased by Mr. Ross Klorer for \$20,000 and made over to Bishop Horstman for hospital purposes.

**Connecticut River Valley Medical Association.**—The annual meeting of this association will be held at Bellows Falls, Vt., on Tuesday, May 5th. Papers will be presented by Dr. F. M. Dinsmoor, Dr. A. L. Miner, Dr. N. P. Wood, and Dr. S. W. Hammond, which will be followed by discussions and reports of cases.

**Plague in Guayaquil, Ecuador.**—According to newspaper reports, plague has appeared in Guayaquil, and during the four days ending April 22d twenty cases of the disease, with nine deaths, were reported. Among those who have died of the disease is Flores Ontaneda, a chemist, who was engaged in preparing Haffkine's prophylactic.

**Laying of Corner Stone of New College of Physicians Building, Philadelphia.**—The ceremonies of laying the corner stone of the new building of the College of Physicians took place on Wednesday afternoon, April 29th. After prayer by Bishop Whitaker, the president, Dr. James Tyson, delivered a short address, and the corner stone was then laid by Dr. S. Weir Mitchell.

**Buffalo, N. Y., Academy of Medicine.**—A special stated meeting of the academy was held on Tuesday evening, April 28th, to consider the question of incorporating the academy and of securing a permanent home for the organization. The scientific programme of the evening was furnished by the Section in Obstetrics and Gynecology. The principal paper was entitled *My Obstetrical Experience*, and was read by Dr. J. W. Grosvenor.

**Richmond, Va., Academy of Medicine.**—The following papers were read at a meeting of this academy, held on Tuesday evening, April 28th: *Nature and Treatment of Fever*, by Dr. William S. Gordon; *Diagnostic Significance of Chills*, by Dr. P. D. Lipscomb; *Some Reflections on Scientific Mechanotherapy, So Called Osteopathy*, by Dr. V. Ulrich. Among those who took part in the discussion were Dr. J. N. Upshur and Dr. J. Garnett Nelson.

**The Annual Report of the Library Committee of the College of Physicians of Philadelphia** for the year 1907 shows that there were 75,616 volumes in the library at the close of the year. There were also on the shelves 8,807 unbound reports and transactions; 21,733 theses and dissertations, and 62,300 unbound pamphlets. During the year 3,344 volumes, 17,138 pamphlets, 28,109 numbers of medical periodicals, and 800 inaugural dissertations were received.

**Association of American Physicians.**—The twenty-third annual meeting of this society will be held in the New Willard Hotel, Washington, D. C., on May 12th and 13th. The programme contains a long list of papers, and the meeting promises to be one of interest and value. The officers of the society are: President, Dr. James Tyson, of Philadelphia; vice president, Dr. Victor C. Vaughan, of Ann Arbor; secretary, Dr. Henry Hun, of Albany; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia.

**Notice to Members of Tulane Alumni Association.**—All graduates of the medical department of Tulane University who intend to be present at the meeting of the American Medical Association in Chicago, on June 2d to 5th, are requested to write at once to Dr. Hugh B. Williams, 100 State street, Chicago, for information concerning the gathering of the alumni on June 2d. The headquarters for Tulane graduates will be at the Auditorium Hotel, and alumni are urged to call upon their arrival for information.

**Medical Association of Georgia.**—The fifty-ninth annual meeting of this society, which was held in Fitzgerald on April 15th, 16th, and 17th, was one of the most satisfactory in the history of the organization. Officers for the ensuing year were elected as follows: President, Dr. T. D. Coleman, of Augusta; first vice president, Dr. W. B. Armstrong, of Atlanta; second vice president, Dr. R. Lattimore, of Savannah; secretary and treasurer, Dr. Claude A. Smith, of Atlanta. Mason was selected as the place of meeting for 1909.

**The Medical Association of the Southwest.** This association, which embraces the states of Kansas, Arkansas, Oklahoma, Texas, and Missouri, will hold its next annual meeting in Kansas City, Mo., on October 20th and 21st. The secretary, Dr. F. H. Clark, of El Reno, Okla., is actively engaged in the preparation of an extensive programme, and the committee on arrangements is already making plans for the entertainment of those who attend. Dr. John Benton, 222 Albany Building, Kansas City, Mo., is chairman of the committee on arrangements, and will be glad to answer all inquiries relative to the meeting.



**Kansas Medical Society.**—The forty-second annual meeting of this society will be held at Elks Hall, Topeka, Kan., on May 6th, 7th, and 8th. A splendid programme has been prepared, and the meeting promises to be one of great interest. The officers of the society are: President, Dr. J. E. Sawtell, of Kansas City; vice presidents, Dr. Thomas Kirkpatrick, of Garnett; Dr. M. F. Jarrett, of Fort Scott, and Dr. George M. Gray, of Kansas City; secretary, Dr. Charles S. Huffman, of Columbus; and treasurer, Dr. L. H. Munn, of Topeka.

**The Canadian Hospital Association.**—At the annual meeting of this association, which was held in Toronto on April 21st, the following officers were elected for the ensuing year: President, Dr. W. J. Dobbie, of Weston; first vice president, Dr. A. D. MacIntyre, of Kingston; second vice president, H. E. Webster, of Montreal; third vice president, Miss I. C. Brent, of Toronto; fourth vice president, W. W. Kenny, of Halifax; fifth vice president, L. L. Cosgrove, of Winnipeg; secretary, Dr. J. N. E. Brown, of Toronto; treasurer, Miss Patten, of Toronto.

**The Society of Normal and Pathological Physiology, Philadelphia.**—A meeting of this society was held in the new medical laboratory of the University of Pennsylvania on Monday evening, April 27th. Dr. J. E. Sweet read a paper covering a report of the work accomplished in experimental surgery. Dr. D. W. Fetterolf read a paper dealing with the preliminary results of the analysis of diabetic foods. Dr. N. Gildersleeve read a paper entitled *Streptothrix Infections*. Dr. W. H. F. Addison read a paper on the Structure of the Cerebellar Cortex, and Dr. H. B. Wood read a paper on the Variability of the Parathyroid.

**A Dinner to Professor Schäfer, of Edinburgh.**—A dinner was given in honor of Professor E. A. Schäfer, F. R. S., of the University of Edinburgh, on the evening of April 22d, at the Shoreham Hotel, Washington, D. C. Among those present were President Buell, of Georgetown University; President Needham, of George Washington University; Dr. Barchfeld, Member of Congress; Surgeon General Wyman, United States Public Health and Marine Hospital Service; Dr. W. W. White, superintendent of the Government Hospital for the Insane; Professor Shields, of the Catholic University of America, and Professor Franz, of George Washington University.

**The Mississippi Valley Medical Association.**—The thirty-fourth annual meeting of this society will be held in Louisville, Ky., on October 13th, 14th, and 15th. Announcement has just been made that Dr. George Dock, professor of medicine in the University of Michigan, Ann Arbor, will deliver the address in medicine, and Dr. Arthur Dean Bevan, professor of surgery in Rush Medical College, Chicago, will deliver the address in surgery. The officers of the society are as follows: President, Dr. Arthur R. Elliott, of Chicago; first vice president, Dr. Florus F. Lawrence, of Columbus, Ohio; second vice president, Dr. Robert C. McChord, of Lebanon, Ky.; secretary, Dr. Henry Enos Tully, of Louisville, Ky.; treasurer, Dr. S. C. Stanton, of Chicago; chairman of the Committee on Arrangements, Dr. Louis Frank, of Louisville, Ky.

**Scientific Society Meetings in Philadelphia for the Week Ending May 9, 1908.**—*Monday, May 5th*, Philadelphia Academy of Surgery; Biological and Microscopical Section, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society. *Tuesday, May 5th*, Academy of Natural Sciences. *Wednesday, May 6th*, College of Physicians; Association of Clinical Assistants; Johns Hospital. *Thursday, May 7th*, American Therapeutical Society; Obstetrical Society; Medical Society of the Southern Dispensary; Section Meeting, Franklin Institute; Germantown Branch, Philadelphia County Medical Society. *Friday, May 8th*, American Therapeutical Society; Northern Medical Association; West Branch, Philadelphia County Medical Society. *Saturday, May 9th*, American Therapeutical Society.

**The Health of Philadelphia.**—During the week ending April 11, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 68 cases, 15 deaths; scarlet fever, 76 cases, 0 deaths; chickenpox, 34 cases, 0 deaths; diphtheria, 75 cases, 14 deaths; cerebrospinal meningitis, 5 cases, 2 deaths; measles, 244 cases, 2 deaths; whooping cough, 12 cases, 0 deaths; pulmonary tuberculosis, 109 cases, 62

deaths; pneumonia, 73 cases, 64 deaths; erysipelas, 7 cases, 1 death; puerperal fever, 2 cases, 5 deaths; anthrax, 1 case, 1 death; mumps, 37 cases, 0 deaths; cancer, 20 cases, 23 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 9 cases; diarrhoea and enteritis, under two years of age, 11 cases. The total deaths numbered 534 in an estimated population of 1,532,738, corresponding to an annual death rate of 18.10 in 1,000 of population. The total infant mortality was 123; under one year of age, 96; between one and two years of age, 27. There were 52 still births; 35 males, and 17 females.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending April 25, 1908:

	—April 18.—		—April 25.—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	444	189	439	180
Diphtheria	430	31	344	39
Measles	1,649	49	1,891	39
Scarlet fever	1,005	69	929	64
Smallpox	2	..	..	..
Variella	138	..	153	..
Typhoid fever	19	5	33	11
Whooping cough	13	3	14	1
Cerebrospinal meningitis	7	7	12	3
Totals	3,674	397	3,815	341

**The Mortality of Chicago.**—According to the weekly bulletin of the Department of Health, during the week ending April 11th there were 600 deaths from all causes, as compared with 717 for the corresponding period in 1907. The annual death rate in 1,000 of population was 14.44. Of the total number of deaths, 344 were of males and 256 of females. Under one year of age, 143; between one and five years of age, 44; between five and twenty years of age, 21; between twenty and sixty years of age, 251; over sixty years of age, 141. The principal causes of death were: Apoplexy, 5; Bright's disease, 36; bronchitis, 19; consumption, 69; cancer, 28; convulsions, 3; diphtheria, 1; heart diseases, 58; influenza, 5; intestinal diseases, acute, 39; measles, 4; nervous diseases, 18; pneumonia, 97; scarlet fever, 5; suicide, 13; typhoid fever, 4; violence other than suicide, 23; whooping cough, 3; all other causes, 170.

**Montgomery County, Md., Medical Association.**—The annual meeting of this association was held in Rockville on Tuesday, April 21st. Dr. James E. Deets, of Clarksburg, the retiring president, presided, and Dr. John L. Lewis, of Bethesda, acted as secretary. A committee, consisting of Dr. J. W. Chappell, of Tenleytown, Dr. Otis M. Linthicum, of Rockville, and Dr. Horace P. Haddox, of Gaithersburg, was appointed by the association to consider the feasibility of establishing a hospital in the county, to be under the control of the association, and to devise ways and means of financing the project. The principal feature of the scientific programme was an address on tuberculosis by Surgeon General Sternburg, of the United States Army. An election of officers was held, which resulted as follows: President, Dr. Charles Farquhar, of Olney; vice president, Dr. Otis Linthicum, of Rockville; secretary and treasurer, Dr. John L. Lewis, of Bethesda.

**Personal.**—Dr. G. M. F. Rogers, of Minneapolis, Minn.; Dr. M. J. Lilly, of Switchback, W. Va.; Dr. Edward D. Helfrich, of Galion, Ohio; and Dr. Elbin J. Johnson, of Wind Ridge, Pa., are registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

Dr. J. Henry Carstens, of Detroit, has announced that he will accept the Republican nomination for mayor.

Dr. Charles E. Donlan has been elected superintendent of the Boston almshouse and hospital on Long Island.

Dr. Herbert B. Howard, of Boston, has resigned his position as resident physician of the Massachusetts General Hospital, to become head of the new Peter Brigham Hospital in Brookline.

Dr. L. M. Early, of Columbus, Ohio, has had his left hand amputated as a result of x-ray burns.

Dr. William G. McCallum, resident pathologist of the Johns Hopkins Hospital, has been appointed head of the pathological department of the City Hospital, Cincinnati, and of the Cincinnati University.

Dr. Frederick A. Hunt, of Jamesville, N. Y., has been appointed physician to the Oneida County Penitentiary.

**Vital Statistics of New York.**—According to the report of the Department of Health of the City of New York for the week ending April 18th, there were during the week 1,544 deaths from all causes, corresponding to an annual death rate of 18.21 in 1,000 of population. Of the total number of deaths 801 were in the Borough of Manhattan, 177 in the Borough of the Bronx, 404 in Brooklyn, 56 in Queens, and 16 in Richmond. The Borough of the Bronx had a death rate of 28.19, which was the highest for the five boroughs, but the death rate of this borough is increased by the presence of several large institutions, the inmates of which are residents of the other boroughs. There were 2,142 births, 387 marriages, and 127 still births reported for the week.

**American Pharmaceutical Association.**—The Philadelphia branch of this society will hold a stated meeting in the College of Physicians on the evening of Tuesday, May 5th, at 8 o'clock. The program for the evening includes a discussion of pharmaceutical associations and their uses, and physicians are invited to give suggestions or offer criticism of the work that is now being done in connection with the several pharmaceutical organizations. Many pharmacists appreciate that there is a need for active, energetic work to advance the science of pharmacy in this country, and are earnestly endeavoring to bring about a reawakening on the part of others engaged in the same calling. The discussion will be opened by the following contributions: The N. A. R. D. as a Factor in the Progress of Pharmacy, by Mr. Thomas H. Potts; The Status of Pharmacy and of Pharmacists in Europe, by Mr. M. I. Wilbert; The Reorganization of the American Pharmaceutical Association, by Professor Henry Kraemer.

#### Society Meetings for the Coming Week:

**MONDAY, May 4th.**—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine (annual); Practitioners' Club, Newark, N. J. (annual); Hartford, Conn., Medical Society.

**TUESDAY, May 5th.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City) (annual); Medical Association of Troy and Vicinity, N. Y.; Hornellsville, N. Y., Medical and Surgical Association; Long Island, N. Y., Medical Society; Bridgeport, Conn., Medical Association.

**WEDNESDAY, May 6th.**—Psychiatric Society of New York; Society of Alumni of Bellevue Hospital, New York; Harlem Medical Association, New York; Elmira, N. Y., Academy of Medicine.

**THURSDAY, May 7th.**—New York Academy of Medicine; Danville, N. Y., Medical Association.

**FRIDAY, May 8th.**—New York Society of Dermatology and Genitourinary Surgery; New York Academy of Medicine (Section in Otolaryngology); Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

**SATURDAY, May 9th.**—Therapeutic Club, New York.

**Philadelphia Bureau of Health Statistics.**—During the month of February, 1908, in the Division of Medical Inspection 1,720 inspections were made, excluding schools, 601 fumigations were ordered, 38 cases were ordered for special diagnosis, 3,001 visits were made to schools, and 767 children were excluded from school, 420 cultures were taken, 160 injections of antitoxine were given; and 233 persons were vaccinated. In the Division of Vital Statistics 2,373 deaths, 3,175 births, and 271 marriages were recorded. In the Division of Milk Inspection 7,183 inspections were made of 160,798 quarts of milk, of which 450 quarts were condemned. Six persons were examined chemically and 841 microscopically. In the Division of Meat and Cattle Inspection 3,605 inspections were made, 84 showed unsatisfactory features, and 214 carcasses were condemned. 893 post mortem examinations were made, with 44 condemnations. In the Division of Disinfection a fumigation was ordered for mumps, 270 for scarlet fever, 430 for diphtheria, 106 for typhoid fever, 215 for tuberculosis, and 146 for miscellaneous diseases. Twenty eight schools were disinfected. In the Bacteriological Laboratory 1,005 cultures were examined for the presence of bacilli typhi-

theria; 431 specimens of blood were examined for the serum diagnosis of typhoid fever; 841 specimens of milk and 180 specimens of sputum were examined; 6 disinfection tests were made; and 3,913,850 units of antitoxine were distributed. In the Clinical Laboratory 98 analyses were made.

#### Meetings of State Medical Societies for the Month of May, 1908:

Arkansas Medical Society, annual meeting at Little Rock, May 13th, 14th, and 15th.

Connecticut Medical Society, annual meeting at New Haven, May 27th and 28th.

Illinois State Medical Society, annual meeting at Peoria, May 19th, 20th, and 21st.

Indiana State Medical Association, annual meeting at French Lick, May 23d, 24th, and 25th.

Iowa State Medical Society, annual meeting at Des Moines, May 20th, 21st, and 22d.

Kansas Medical Society, annual meeting at Iola, May 6th, 7th, and 8th.

Missouri State Medical Association, annual meeting at Sedalia. Date not announced.

Montana State Medical Association, annual meeting at Butte, May 13th and 14th.

New Hampshire Medical Society, annual meeting at Concord, May 14th and 15th.

Nebraska State Medical Association, annual meeting at Lincoln, May 5th, 6th, and 7th.

Medical Society of the State of North Carolina, annual meeting at Winston Salem, May 25th.

North Dakota Medical Association, annual meeting at Grand Forks, May 20th and 21st.

Ohio State Medical Association, annual meeting at Columbus, May 6th, 7th, and 8th.

Oklahoma State Medical Association, annual meeting at Sulphur, May 14th, 15th, and 16th.

The State Medical Association of Texas, annual meeting at Corpus Christi, May 12th.

Utah State Medical Association, annual meeting at Salt Lake, May 12th and 13th.

**The Fifth Pan-American Medical Congress.**—The executive committee of this congress, which will be held in Guatemala City, Guatemala, on August 5 to 10, 1908, announce the following list of subjects for the general discussions: General Medicine—Tropical Anemias; The Present Cause and Treatment of Cancer. Surgery—Prostatectomy; Operations for Repairing the Ureters. Hygiene and Demography—Should the Segregation of Lepers be Enforced? Demographic Distribution of Tuberculosis in America. Mental and Nervous Diseases—Classification of Mental Diseases; A Discussion of Dementia Praecox. Internal Medicine—Tropical Diseases The Character and Causes of Which Have Not Yet Been Determined; Ankylostoma. Gynecology—Can Metritis be Considered as a Predisposing Cause of Cancer of the Uterus? The Best Means of Keeping the Uterus in Position in Cases of Prolapse. Military Sanitation—First Aid to the Injured on the Battlefield and the Organization of an Advance Guard to Render Assistance; The Hygienic Equipment of the Soldier. Syphilis and Dermatology—Parasites and the Locomotor Ataxia Syphilitic. Ophthalmology—What is the Best Method of Treating Pigmentary Retinitis That We Have at Present? Discussion of Trachoma. Otitis. Post Partum Hemorrhage in Aclimatic Lesions of the Heart. Children's Diseases—Infantile Meningitis. Medical and Psychological Causes That Attenuate or Annul the Responsibility; Civil Rights Relative to People's Mental Condition. Laryngology and Rhinology—Causes and Treatment of Rhinoscleroma. Dental Surgery—Indications for the Extraction of Teeth. Radiography—Examination Methods Used in Radiography. Bacteriology—Bacteriological Study of Typhus Fever; Bacteriological Study of Rhinoscleroma. Bacteriological Study of Leprosy. Filaria Sanguinis Humani in Central America; Diseases That Can Be Transmitted by Mosquito Bites. Maternal Medicine. General American Quinine. Central American Sarsaparilla. A Study of the Mexican Periodic. Etc. Those who desire to present papers on any of these subjects, or to take part in the discussion, should send their names at once either to Dr. Virilio Gonzalez Secretario, Guatemala, or to Dr. Ramon Gomez, American Society, 78 West Fifth Street, New York.

# THE BOOKS OF SIX MONTHS

## THE PRINCIPAL MEDICAL BOOKS PUBLISHED SINCE OCTOBER 1, 1907

Nearly all the medical books that have been issued by American publishers during the year, as well as many others of foreign production, have already been reviewed in our columns. These reviews, however, are scattered throughout the different numbers of the Journal for the entire year, and are consequently not easily accessible to the reader. We feel confident, therefore, that our readers will find that the list which we have compiled here below will be of great value as a guide to the selection of books for the library. In view of the fact that the majority of the books have already received review notice, we insert only occasional brief comments. For convenience of reference, the titles of the publishing houses are arranged alphabetically.

### ENGLISH.

#### D. APPLETON & COMPANY, New York.

ANDERS.—*A Textbook of Physical Diagnosis.* By HOWARD S. ANDERS, A. M., M. D., Medico-Chirurgical College, Philadelphia. 8vo. Illustrated. Price, cloth, \$3 net.

Its simplicity and excellent scheme bring out the essential features of diagnosis and furnish all material desirable for a student previous to clinical experience.

BABCOCK.—*Diseases of the Heart and Arterial System.* By ROBERT H. BABCOCK, A. M., M. D., Chicago. Second Edition, Revised, with 3 Colored Plates and 139 Illustrations. 8vo. Price, cloth, \$6 net.

BABCOCK.—*Diseases of the Lungs.* By ROBERT H. BABCOCK, A. M., M. D. A companion volume to Diseases of the Heart and Arterial System. With 11 Colored Plates and 104 Illustrations. 8vo. Price, cloth, \$6 net.

BAUMANN.—*Gonorrhœa, Its Diagnosis and Treatment.* By FREDERICK BAUMANN, Ph. D., M. D., College of Physicians and Surgeons, Chicago.

This little book is especially valuable in omitting many well known details, and giving clearly and concisely the essential points in the diagnosis and treatment of gonorrhœa and its surgical sequelæ.

CHURCH.—*Diseases of the Nervous System.* The fourth volume of *Modern Clinical Medicine*, Edited by ARCHIBALD CHURCH, M. D., Northwestern University, Chicago.

This book is characterized by a thoroughness and comprehensiveness typical of German productions, and will be found of the highest service to students and practitioners.

FOOTE.—*Minor Surgery.* By EDWARD MILTON FOOTE, A. M., M. D., College of Physicians and Surgeons, Columbia University, New York. 407 Illustrations. Price, cloth, \$5, net.

This book treats of the every day operations of surgical practice, those problems in surgery which are not adequately discussed in the works which take cognizance of the more serious conditions.

HOLT.—*The Diseases of Infancy and Childhood.* By L. EMMETT HOLT, M. D., Sc. D., LL. D., College of Physicians and Surgeons, Columbia University, New York. Third Edition, Revised and Enlarged. With 245 Illustrations, including 8 Colored Plates. Price, cloth, \$6 net.

KELLY.—*New Medical Gynecology.* By HOWARD A. KELLY, M. D., Johns Hopkins Hospital, Baltimore, Md. Over 100 Original Illustrations. Price, cloth, \$6 net.

A work of great importance, which, taken with Kelly's *Operative Gynecology*, gives you a complete treatise on the best authority.

Price.—*The Principles and Practice of Parasitology.* By

Illustrations in the Text and one Colored Plate. 8vo. Price, cloth, \$6 net.

That the work is thoroughly up to date is evinced by the description of meralgia paræsthetica and uncinariasis of the skin and by the discussion on the *Spirochæta pallida* and on Wright's method of treatment.

WILLIAMS.—*Obstetrics.* By J. WHITRIDGE WILLIAMS, Johns Hopkins University, Baltimore, Md. 8vo. 820 pages. 630 Illustrations, 8 Colored Plates. Price, cloth, \$6 net.

This book is written in a clear and admirable manner, it is comprehensive and exact, and last, but not least, it is written in English.

WYNTER.—*Minor Medicine.* By WALTER ESSEX WYNTER, M. D., B. S., London. Price, cloth, \$2 net.

This book is a treatment on the simpler disorders, such as bilious attack, dyspepsia, stye, epistaxis, neuralgia, chilblains, heartburn, constipation, corn cures, syncope, cough, toothache, hiccup, baldness, cephalalgia, seasickness, warts, enuresis, cold in the head, etc.

#### P. BLAKISTON'S SON & COMPANY, Philadelphia.

ALLEN.—*The Opsonic Method of Treatment.* By Dr. RICHARD W. ALLEN, A. M., M. B., Pathologist, Royal Eye Hospital, London, etc. 8vo, Containing 16 Charts. Price, cloth, \$1.50 net.

An opportune book that has aroused so much interest that two importations were exhausted immediately upon their receipt in this country.

BARTLEY.—*Physiological and Clinical Chemistry.* The Chemical Examination of the Saliva, Gastric Juice, Fæces, Milk, Urine, etc., with Notes on Urinary Diagnosis, Volumetric Analysis, and Weights and Measures. By E. H. BARTLEY, M. D., Professor of Chemistry, Toxicology, and Pediatrics in the Long Island College Hospital, late Dean and Professor of Chemistry, Brooklyn College of Pharmacy, etc. Third Edition. With 51 Illustrations. 12mo. 202 pages. Cloth, \$1 net.

CUFF.—*Lectures on Medicine to Nurses.* By HERBERT E. CUFF, M. D., F. R. C. S., Late Medical Superintendent, Northern Fever Hospital, Tottenham, London. Fifth Edition. Illustrated. 12mo. 269 pages. Cloth, \$1.25 net.

DANIELS.—*Laboratory Studies in Tropical Medicine.* By C. W. DANIELS, M. R. C. S., Late Medical Superintendent of the London School of Tropical Medicine, etc. With 4 Colored Plates, Containing 92 Figures, 6 Charts, and 156 other Illustrations. 8vo. Price, cloth, 4 net.

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- ZANGEMEISTER (WILHELM).—Frontaler Gefäßdurchschnitt durch die Beckenorgane einer an Ruptura Uteri bei verschleppter Querlage verstorbenen Kreissenden.** Von Privatdozent Dr. WILH. ZANGEMEISTER. Folio. 4 Tafeln und 11 Abbildungen im Text. (Preis, Mappe Mk. 60.)



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

April 23, 1908.

1. Orthopædic Heresies on Feet and Their Treatment,  
By L. R. G. CRANDON.
2. Rosenmüller's Fossæ and Their Importance in Relation  
to the Middle Ear, By FRANCIS P. EMERSON.
3. A Periosteal Flap for Use in Primary and Radical  
Mastoid Operations, with an Illustrative Case,  
By GEORGE A. LELAND.

**1. Orthopædic Heresies on Feet and Their Treatment.**—Crandon remarks that proper walking is the proper exercise for all the waking hours. Proper walking will restore the stiffened feet, and every minute of proper walking is a part of the treatment. Special exercises to restore the feet give the patient the wrong conception of his essential trouble. The foot symptoms are only a part of the general laxity, lack of freedom, and lack of balance. The author analyzes proper walking thus: 1. As the foot goes forward, the weight comes on the rounded heel. 2. As the sole comes to the ground the rounded heel throws the weight along the outer ridge of the plantar region to the distal end of the fifth metatarsal. 3. The toes take the ground in order, beginning with the little toe. 4. As the toes take the ground, the weight leaves the heel and the whole foot grasps the ground like a hand. Heel and great toe approach each other and every joint in the foot combines in "arching." Thus, the walking foot is not a "hock, arch, and hoof," but rather a hand with the heel a grasping talon. 5. All weight lastly rests on a triangle bounded by great and little toe, its apex behind at the ends of the middle metatarsals. From this triangle the final push is given as the foot leaves the ground.—The education of a patient may be outlined thus: Proper walking is made clear to the patient. He is told to get into the way of standing with the feet parallel, spreading his toes out enough to get the requisite broad base for balance, and to get Chinese slippers, strawsoled slippers, with soft top on the front, and none on the heel, in which he walks about at all convenient times. To keep this sandal on the foot the foot must at each step flex on itself in a prehensible fashion. He is encouraged, if it is feasible, to walk barefoot on turf or sand. He is not told to do toe and heel exercises, which tend only to stretch the atrophied plantar structures, but rather to practice standing on one foot, the other curled round his standing leg. The effort to balance in this position works every muscle of the foot and leg. He is told to stand, stockingfoot or barefoot, on a rubber doormat, legs crossed, feet as far apart as possible but parallel, with soles firmly planted on the mat. The leg which is behind is then swung round in front and crossed over to its former position, and so on, alternately crossing one leg in front of the other in a standing position. He is then told to walk in this cross legged fashion. These instructions are sufficiently specific to satisfy the patient. These exercises are interesting to the patient and will, therefore, be carried out. The patient thus educating himself cannot alternate between his mocassins, or wise shoeing, which is superior to mocassins, and his old shoes. Mocassins, or their

equivalent, are "foot-wear." Shoes, as they are made, are "hoof-wear."

**2. Rosenmüller's Fossæ and Their Importance in Relation to the Middle Ear.**—Emerson observes that pathological amounts of lymphoid tissue are present in Rosenmüller's fossæ in a large number of cases of chronic secretory and suppurative ears. This cannot be detected with certainty by posterior rhinoscopy alone, even where a good view of the vault is obtainable. In every chronic case there should be a routine digital examination. Where much tissue has been found and removed, the process of healing should be watched that no fibrous bands form. It is possible in a large majority of cases to predict the involved ear by the condition of the corresponding fossa. Results, where after treatment is followed, are particularly good in removing abnormal sensations, restoring uniform hearing without fluctuations in the partial or complete relief of tinnitus, and in the prevention of recurring salpingitis. If directions are given to blow one side of the nose at a time and carefully, the affected tube is no more apt to be infected later than its fellow.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 25, 1908.

1. A New and More Rational Method of Treatment of  
Leuchæmia by the X Ray. Preliminary Report,  
By ALFRED STENGEL and HENRY K. PANCOAST.
2. Comparative Potency of Hyoscine and Scopolamine  
Hydrobromide in Refraction Work,  
By WENDELL REBER.
3. Acute Pyelitis Due to Acute Appendicitis,  
By GUY L. HUNNER.
4. The Operation for Thrombus of the Sigmoid Sinus  
and Internal Jugular Vein of Otic Origin,  
By FRANK ALLPORT.
5. Treatment of Chronic Trachoma, By A. E. PRINCE.
6. The Ocular Typhoid Reaction. Preliminary Report  
of a Modification of the Ocular Test of Chantemesse,  
By WALTER W. HAMBURGER.

**1. A New and More Rational Method of Treatment of Leuchæmia by the X Ray.**—Stengel and Pancoast report their results with x ray treatment in leuchæmia. In any method of applying the treatment to the bone marrow the body should first be divided into definite regions, and each of these should be exposed with regularity. The manner in which they have mapped out the areas for exposure is as follows: (1) The feet, ankles, and lower halves of the legs. (2) From the middle of the legs to the middle of the thighs. (3) The right half of the abdomen and pelvis and the upper half of the right thigh. (4) The corresponding area on the left side, carefully avoiding the spleen in the earlier applications, but including its lower half later on. (5) The right half of the thorax and the right shoulder, including as much of the upper extremity as possible. (6) The corresponding area of the left side, again avoiding the spleen early, but including its upper half later on. (7) Later in the treatment the entire thorax and both shoulders are often included in one application, making the proper correction in time for the increase in distance. In stout subjects it may be advisable to treat this part of the body posteriorly as well. (8) When it is safe to expose the entire spleen it is advisable to approach it from the back and thus include the lumbar spine and the posterior aspect of the pelvis. Each of these regions is

treated in rotation and receives three successive exposures. In direct contrast to the older method of directly exposing the spleen from the start, their experience has demonstrated that this is an unwise procedure. This does not mean that the spleen should never be exposed, for to avoid it at all times would be almost impossible, and, besides, more or less exposure is no doubt necessary, but should not be attempted while the organ is still very large and the leucocytosis is still high. It is best to wait until the count is materially reduced and the patient's general condition has improved considerably. This mass of lymphatic tissue is far too susceptible to x ray influence, and the patient is not in a condition at first to stand the strain imposed by its exposure. Although this treatment requires a much longer period of time, the misleading tendency of a comparatively quick symptomatic cure, such as follows direct splenic exposures, is avoided. Applications confined mainly to the spleen reduce the size of that organ, destroy the leucocytes in the circulation, including the myelocytes, and possibly have some inhibitory influence, secondarily, on the cause, and hold the disease in check, leading to an impression that the case is cured, whereas statistics show that this is seldom the case. Applications to the bone marrow also reduce the size of the spleen and destroy the leucocytes circulating in the blood, but, in addition, they are more likely to reach and remove the cause of the disease. The spleen should be exposed at some time, but never until it is considerably reduced in size and the patient's general condition is markedly improved, and even then it should be done with caution. The proper time to stop treatment is still a somewhat uncertain question. The frequency of the applications should not be lessened until the general condition is normal and the size of the spleen and the leucocyte count nearly so. It would seem wiser to stop gradually rather than abruptly.

**5. Treatment of Chronic Trachoma.**—Prince states that the principal considerations are: First, select a germicide which is effective; second, prepare the infected surface in such a manner that the germicide may act; third, combat corneal complications (pannus and ulcers); fourth, correct the condition of the lids, which may cause relapsing inflammation (entropion, cysts, etc.). The remedies used are copper sulphate, mercuric oxide, tannic acid, silver nitrate, boric acid, jequirity. In the empirical use of drugs to combat chronic trachoma, perhaps no remedies have been so extensively used as copper sulphate and silver nitrate, the former in the absence and the latter in the presence of secretion. The removal of trachomatous material can be done by squeezing out of the follicles. After squeezing scarifying, and milking out all the trachomatous material, apply a 10 per cent. solution of copper sulphate in glycerin, and scrub with cotton, so as to force it into the tissues. Rinse with water to remove excess, and prevent corneal irritation. A Belgian method, which has been popular in the army, has been the rubbing on with the finger of powdered boric acid. Ulcers occurring in conjunction with trachoma show little tendency to heal until the trachomatous infection has been brought under control by the germicidal action of the blood, chemical remedies, or actual cautery. Following this, a healing tendency is usually rapidly established; pannus pro-

ceeds and nutrition follows. The favorite cautery in these cases is the Gruening platinum probe, which is heated in the Bunsen flame, and applied to the entire area. When the necrosis is shallow, rapid recovery usually follows, but when the layers of the cornea are destroyed down to the membrane of Descemet, it is usually found necessary to make a paracentesis through the floor of the ulcer, and keep the opening from closing by the repeated applications of a probe until the healing tendency has been established. The establishing of a fistula by cauterizing the margin of a perforating ulcer will often bring about a rapid change from a progressive destruction to rapid reparation. As an aid to repair iodoform has held first place, but argyrol in 25 per cent. solution every two hours is well tolerated, painless, and efficient. Hypopion, in conjunction with trachoma, is similarly treated. It is the aim to divide the floor of the ulcer and carry the incision into the sound tissue on both sides. The pus escapes with the aqueous humor, and the anterior chamber is emptied twice daily with a probe, when found necessary, until no more pus is formed, after which the opening in the cornea is allowed to heal. Of jequirity the author says that he commences treatment with a very weak infusion, one fourth of 1 per cent. This is employed twice a day for two days, during which time the tissues stretch to accommodate the infiltration. In case the eye is sensitive to the remedy, a solution of this strength is usually sufficient to produce the desired reaction. In case toleration exists the strength of the solution may be increased to one half of 1 per cent. The eye soon develops tolerance, and commences to improve before the discontinuance of the use of the remedy. It is desirable to secure a decided membrane covering the surface of the tarsal conjunctiva. It may extend over the retrotarsal fold, in which case care will be necessary to separate the surfaces which lie in contact or adhesion may take place. Of the bean, the author says that it will be found very difficult to remove the cortex of the bean and reduce it to a powder unless one is provided with the proper means. The suggestion is to get a hand pepper grinder, with which many persons grind pepper fresh while at table. The first turn breaks the cortex. The beans are emptied out, the cortex removed, and the kernels replaced in the grinder. They are ground through several times until a moderately fine powder results. Divide into one grain powders. One powder in two drachms of a 2 per cent. solution of boric acid will be the initiative dose. It is ready for use in fifteen minutes, and should be made fresh every day.

#### MEDICAL RECORD

April 5, 1908.

1. The Physiological Mechanism of Vasodilatation and Vasoconstriction. By GEORGE B. WATSON.
2. Therapeutics of Vasoconstriction and Vasodilatation. By GEORGE B. WATSON.
3. The Treatment of Endometritis by Irrigation and Drainage. By ALBERT ABRAMS.
4. Surgical Transplantation of the Reticular Layer of the Uterus. By ALBERT ABRAMS.
5. The Treatment of Endometritis by Irrigation and Drainage. By ALBERT ABRAMS.

3. The Treatment of Endometritis by Irrigation and Drainage. Crochet remarks that the (11)



damental principle in the treatment of endometritis, in whatever form encountered, is or should be drainage, not of the cavity alone, but drainage of the submucous glands as well. In conjunction with drainage, cleanliness is likewise essential. This should comprise removal of accumulated secretion and debris from the cavity of the uterus, and agglutinated, viscid secretion from the surface of the mucous membrane of the cervix by copious irrigation, repeated at least daily. This is accomplished by means of a special double current or return flow irrigator, made sufficiently small to permit introduction through the canal without previous forcible dilatation such as is required for curettage. Sufficient dilatation for introducing this small irrigator is secured, when necessary, by means of conical electrode dilators, introduced through the canal while connected with the negative pole of the galvanic current. A moderate current of 10 milliamperes will suffice and this does not irritate or cauterize. Thus negative electrolysis is utilized to free the canal for irrigation and subsequent drainage. As a rule this irrigator may be introduced without the preliminary dilatation, or it may be converted into an electrode by insulating it with a piece of rubber tubing slipped over it, there being an attachment for connecting it with the wire from the battery. In this manner its introduction is facilitated. Throughout the irrigation the current should be continued in force in the same moderate strength. The solution used for irrigation will vary with the individual condition under treatment. It may be simple sterile water, normal salt solution, potassium permanganate (1 to 3,000 or 5,000), hydrogen peroxide (1 to 4), lysol (a drachm to 2 qts.), which facilitates removal of the viscid secretion, or iodine in the strength of one drachm of the tincture to three or four pints of water. When iodine solution or other astringent or antiseptic solutions are used in the uterus care must be observed to let all of the solution escape before the irrigator is withdrawn or contraction of the cervix may occur, causing retention of the solution and provoking severe pain. This is the most effective method of cleansing the cavity and making application thereto.

**5. Intramural Transplantation of the Round Ligaments.**—Barrett describes his operation. He remarks that it occurred to him that by going through the median line to do work in the abdomen and pick up the ligaments, he could then carry them through the internal ring and fasten them at some point without tedious dissection, as was done by Edebohls' Alexander operation following celiotomy. After considering the many ways in which the ligament could be dealt with such as a puncture over the internal ring, tunneling over the aponeurosis, etc., the most feasible plan seemed to be to pass a curved ligature carrier under the aponeurosis to the internal ring and there enter the abdomen and secure the silk ligature which had been previously placed upon the round ligament two thirds of the distance from the uterus to the internal ring. The forceps are then withdrawn and along with them the silk loop, and with this the loop of round ligament, which is sewed to the under side of the aponeurosis over the rectus muscle, and then if long enough it is sewed to the loop on the opposite side. We now have the ligament running from the uterus

to the internal ring, then under the aponeurosis over the rectus muscle to or near the median line, where it is sewed, then back to the internal ring, then through its normal course to the labium. It is shortened by the distance of its excursion inward and back to the internal ring. In some cases the author has made a two and one half inch incision transversely down to the aponeurosis of the external oblique, then a median longitudinal incision to do the work in the abdomen, then the ligature carrier was pushed through the aponeurosis at the outer ends of this transverse incision, and was carried through the internal ring to pick up the control silk on the ground ligament. This, while it makes a splendid operation, is only advisable when the complications are slight. The median incision through all the layers is preferable for severe complications. In addition to the round ligament work it has seemed best at times to shorten the sacrouterine ligaments. We should remember that the work of ligaments is to carry the uterus; they are not intended to do the work of the pelvic floor, and this latter structure should be repaired if inefficient. This operation makes the most anatomically perfect operation which has yet been proposed which does not require tedious dissection to find the ligament, and has the distinctive feature of having the ligament leave the abdomen at the proper place—the internal ring. We cannot hope in our operative work to improve upon the normal condition; no operation can anchor the ligament farther out or a less distance and be quite as right. Alexander's operation fails because most cases of retrodisplacement are complicated. An operation to be widely useful must open the abdomen for inspection and correction of complications. It should be capable of being combined with the best incision for doing work, it must not create false ligaments which will not evolve during pregnancy and involute thereafter. There must be no abnormal arrangement of natural ligaments which allows them to run transperitoneally. When the round ligaments are employed the inner, stronger portion of the ligament should be chosen. An operation for retrodisplacement must often be performed after much other operating, and so should not offer any tedious technicality such as is found in the external search for the ligaments.

#### BRITISH MEDICAL JOURNAL

April 11, 1908.

1. Remarks on the Treatment of Fracture of the Patella of Long Standing. By LORD LISTER.
2. Remarks on the Rational Treatment of Functional Dyspepsia. By R. HUTCHISON.
3. Two Lectures on the Physiology of the Emotions. By F. W. MOTT.
4. The Clinical Value of the Pancreatic Reaction in the Urine, Based on over 250 Analyses. By C. WATSON.
5. The Therapeutic Uses of Normal Serums. By E. C. HORT.
6. Hysterectomy Performed upon a Patient with Glycosuria. By J. D. MALCOLM.
7. Some Remarks on the Irish Poor Law Medical Service. By J. W. BOYCE.
8. The Attendance Prize System: Its Relation to the Spread of Disease in Elementary Schools. By R. F. WILLIAMS.

**2. Treatment of Dyspepsia.**—Hutchison states that alterations in the functions of the stomach which produce the symptoms termed "dyspepsia"

tend to be in the direction of either excess or defect. The physiological functions of the stomach are: Secretory; motor; sensory; and absorptive. Taking up these in order: 1. Secretory functions. An excess of secretion may be manifested by a total increase in the amount of gastric juice secreted (hypersecretion, gastrosuccorrhœa) or it may affect the hydrochloric acid alone (hyperchlorhydria). Conversely the total amount of gastric juice may be deficient (hypochylia), or it may even be absent altogether (achylia) or the hydrochloric acid may alone be deficient (hypochlorhydria). 2. Motor functions. The more passive function of "tonicity" must be distinguished from active "motility." Defect of these results in "hypotonicity" and "defective motility" respectively. Mere want of tone is responsible for many cases of "splashing stomach"; if the active movements are also defective, there is delay in the passage of the food, but no actual stagnation as in pyloric stenosis. Increase of the motor functions is less important than defect, in the production of dyspepsia, but "pyloric spasm" may be regarded as an increased manifestation of the active movements, usually induced by the presence of an ulcer or fissure. 3. Sensory functions. Exaggerated sensibility of the stomach (hyperæsthesia) is a common cause of gastric pain, and can be assumed to exist when the secretion is normal and there is no evidence of organic disease. Of defective sensibility or anæsthesia of the stomach, nothing is known. 4. Absorptive functions. The absorptive power of the stomach is at best limited and, as far as is known, alterations in it play no part in the production of functional dyspepsia. Of course any of these disorders may exist alone, but usually two or more coexist in the same cases. Treatment directed to the nervous system is, of course, applicable to all cases—*e. g.* rest, liberation from worry and mental work, change of air and scene, hydrotherapeutics, etc. Taking up the whole functional disorders as classified before: 1. Secretory disorders. (a) Excess. Dietetic treatment. Articles acting as stimulants of secretion must be avoided, such as salt, meat extracts, and meat soups, alcohol, spices, and condiments. Milk is a good food, in that it restrains secretion, but except in very bad cases, good results will be obtained with a diet of milk, eggs, meat, and fish—the starchy foods being strictly limited. Medicines. The bromides are useful in excessive gastric secretion, by lessening the activity of reflex processes. In general drugs should be used to neutralise the secretion after it has formed, rather than to check it. (b) Defective secretion. Diet. Here stimulating articles of diet should be given, such as meat extracts and soups, alcohol, etc. The food should be as well cooked and served as possible, so as to stimulate the flow of "psychic" gastric juice. Medicine. Drugs may be employed in these cases either to stimulate the natural secretion or to replace it artificially. The bitters are the chief stimulants of secretion, and should be given in solution and shortly before meals. Both hydrochloric acid and pepsin can be replaced artificially, but their use in actual practice has been disappointing. It is difficult to give enough hydrochloric acid to be of use, while as regards pepsin it is difficult to obtain an active preparation, and further it is inactive unless

the gastric contents be raised to their normal level of acidity. Ferment therapeutics are almost worthless. 2. Motor disorders. (a) Excess (Pyloric spasm). Diet. The diet here must be as bland as possible, consisting mostly of milk, supplemented by soft farinaceous foods. Medicine. The drugs to be used are those which lessen the acidity of the gastric juice, and which diminish the hyperæsthesia of the stomach. Hydrotherapeutics. The most useful measure is the local application of heat to the epigastrium by means of fomentations or poultices. (b) Motor defects (Atony). Diet. The most important rule is to avoid burdening the stomach with a mass of heavy contents which tends to distend it by its weight. Fluids are particularly harmful, and all tough, hard, and indigestible articles should be forbidden. The diet should be "dry." Medicine. No drug is known which can be relied upon to increase the tonicity and muscular efficiency of the stomach. Strychnine and alcohol possess this power in some degree, however. Physical treatment. Massage is sometimes of service, by increasing the external support of the stomach. Electric treatment is of very doubtful value. 3. Sensory disorders. Hyperæsthesia. Diet. This should be bland, but it may be necessary to feed the patient up in spite of the pain at first produced. Medicine. Bismuth is an efficient gastric sedative, bromides, hydrocyanic acid, hyoscymus, chloral, and even opium may also be used. Physical treatment. The local application of heat is the most potent of all methods of relieving oversensibility.

4. The Pancreatic Reaction in Urine.—Watson has studied Cammidge's so called pancreatic reaction in the urine of persons suffering from disease of the pancreas. His results go to confirm the view that there is a definite and important relationship between the pancreatic reaction in the urine and disease of the pancreas. He divides the cases in which the pancreatic reaction is present into the following groups:—1. Those in which there is definite clinical or pathological evidence of serious organic disease of the pancreas—for example, acute and chronic pancreatitis, usually associated with disease of the bile ducts. 2. Those in which the reaction is associated with pronounced arteriosclerosis, a condition usually accompanied by more or less sclerosis in different glands. 3. Those in which the reaction is dependent upon congestion and catarrhal conditions of the gland ducts and substance, with associated toxæmia—*e. g.*, advanced heart disease, appendicitis, pneumonia, malaria, and the like.

# LANCET

April 11, 1908

1. Remarks on the Treatment of Fractures of the Patella of Long Standing. By LORD LISTER.
2. The Pygmies and Negro Races of Africa (Continued). Lecture, II. By F. C. SHIRAZI.
3. The Diagnosis and Treatment of Malignant Disease of the Prostate. By J. W. T. WALKER.
4. A Report on Fifty Cases of Anæsthesia by the Intraspinal Injection of Stovaine. By I. H. MCGAVIN.
5. Renal Hemorrhage in Chronic Interstitial Nephritis. By J. T. MCNAB.
6. The Treatment of Disease and Dermatitis Due to Skin Tissue. By J. SNOWMAN.
7. Labor in a Case of Triple Pregnancy, with Observations Thereon. B. V. Z. COPE.



8. Note on an Abnormality of the Liver Simulating a Thoracic Tumor,  
By E. A. ELDER and J. M. POSTLETHWAITE.
9. The Cell as a Factor in Phagocytosis,  
By H. W. BAYLY.
10. "Cures" for Asthma: Fatal Case from an Overdose of Oil of Sage,  
By H. T. M. WHITLING.
11. Motoring Notes,  
By C. T. W. HIRSCH.
12. Peter of Albano,  
By C. E. A. CLAYTON.

3. **Cancer of the Prostate.**—Walker states that sixteen per cent. of cases of enlarged prostate undergoing operation are due to malignant disease. Of forty cases studied by him, the average age was sixty-five years. But malignant disease of the prostate is, however, of slow growth and the symptoms which it produces are due to urethral obstruction and nerve pressure, so that the disease has spread widely before they appear. It is probable that the growth actually commences at a much earlier age, so that age is of no great value in making a diagnosis except that an enlargement of the prostate which commences much under fifty is more likely to be malignant than simple. Difficult micturition is the cardinal symptom, being most frequent, most prominent, and usually the earliest. Next to difficult micturition an increase in the frequency of the act is the symptom oftenest complained of. It is not often due to cystitis or to a septic condition of the urine, but the growth spreads outside the bladder along the anterior and posterior walls and so fixes the urethra that it acts as an immobile tube which drains off the urine. Pain is of course often present, and is of three types. (a) Pain connected with micturition is usually along the urethra and in the penis, is experienced either at the commencement or after micturition, and is aching and not severe. (b) Pain apart from micturition but due to urinary obstruction. This is aching in character and felt over both kidneys. (c) Pain independent of micturition or obstruction. This is felt in the penis, the rectum, or the lower part of the back. The pain in these cases is never agonizing; its characteristics are that it is constantly present, that it persists for months or years, that there is no connection with micturition or movement, and that drug treatment gives no relief. Hæmaturia is usually absent, being noted in only twelve per cent. of the cases. This is due to the fact that the growth is of the hard scirrhous type, comparatively avascular, and not prone to ulcerate. Emaciation is not so marked as in other forms of malignant disease. Intestinal obstruction may complicate matters, being due to extensive infiltration of the rectal wall. The inguinal lymph glands are frequently the seat of secondary growths, and are enlarged, hard, and discrete. On examination the prostate is found to be hard, irregular, and fixed. Many cases, when first seen, are too far advanced for radical operation; catheter life may become necessary, and opium be required to relieve the pain. The methods of operation open to choice are the suprapubic and perineal, the writer preferring the latter. Digital enucleation from the bladder is often very difficult to perform. Perineal operations may be either prostatectomy as usually performed for the removal of benign enlargements of the prostate, or more complete removal of the prostate, prostatic urethra, sheath of pelvic fascia, portion of the bladder base overlying the prostate, and seminal vesicles.

4. **Intraspinal Analgesia.**—McGavin, from a study of fifty cases of intraspinal analgesia, is convinced that it is a method of the greatest value, and in careful hands, perfectly safe. The opinion of patients as to its merits is universally favorable, and the after effects of the drug are really trivial in the majority of cases, while in the remainder they bear comparison very favorably with those of the various general anesthetics. The analgesia provided is, as a rule, of the most perfect order, available to all operations within the area involved. The excessive rapidity of the pulse noticed in some of the cases subsequent to injection has probably nothing to do with the drug itself; it is amply accounted for by the excitement of the patient, and it rapidly subsides on the discovery that the operation is really painless. The frequent occurrence of tympanitis is clearly explicable on the supposition that the rami communicantes of the sympathetic system of nerves are equally affected by the injection, the bowels becoming for the time being partially paralyzed. The effect of the drug is not exerted upon the spinal cord itself, but upon the posterior, and to some extent upon the anterior nerve roots.

5. **Renal Hæmorrhage in Nephritis.**—McNab's article is based on a series of thirty-one cases of renal hæmorrhage occurring in chronic interstitial nephritis. These thirty-one cases were selected from 2,229 cases of granular kidney, a frequency of one in seventy-two, probably far too low. It was at first thought that hæmorrhage was always a late complication, but of the cases here reported the average age was 26.2 years, the youngest being eight years and the oldest sixty-four years. In twenty-one cases there were no signs of disease other than the state of the urine, hæmaturia being the first indication of a chronic nephritis and calling attention to it at an early stage of the disease. In only six of the thirty-one cases were any changes found in the fundi of the eyes. Sex had little or no influence in the causation of hæmaturia, twenty-nine cases being in men, and sixteen in women—the usual proportion in granular kidney. Renal hæmorrhage is usually recognized by the fact that the blood is intimately mixed with the urine. In doubtful cases cystoscopic examination is most useful. The differences between subacute nephritis and renal hæmorrhage in chronic nephritis are that in the latter there is little or no oedema, the amount of blood and albumin fluctuates from day to day, and the course of the case is different. The hæmorrhage may persist for weeks and months, and when it does the urine is of low specific gravity and contains casts with a trace of albumin. Hæmaturia due to renal tuberculosis may be recognized by the more marked nocturnal frequency, by the results of cystoscopic examination, and by tubercle bacilli being found in the urine. Renal calculi give a typical history and may be detected by the x rays. In malignant disease of the kidney in the later stages there is usually a unilateral tumor. The hæmaturia of granular kidney does not seem to depend on purely mechanical causes such as high arterial tension and deterioration of the vessel walls, but is more probably due to local infiltration set up by some toxin. The prognosis depends almost entirely on the degree of kidney change that is present.



Rest in bed, purgatives, and a diet consisting chiefly of milk, bread, and butter will, as a rule, be sufficient to stop the bleeding. Hæmostatics, such as calcium lactate or calcium chloride, may be tried, but are hardly necessary. Iron in some form is useful during convalescence. Recurrence is extremely probable, for the cause, the chronic nephritis, still remains. Surgical treatment may be necessary in rare cases of severe hæmaturia occurring early in the disease.

#### LA PRESSE MEDICALE.

March 28, 1908.

1. Aspiration by Water Power. Its Applications in Operative Surgery, By F. LÉGUEUR.
2. Simple and Complicated Obesity, By MARCEL LABBE.
3. Brudzinski's Sign, By R. ROMME.

#### 2. Simple and Complicated Obesity.—Labbe

says that there have always been distinguished two types of obesity; in the one the people are florid, vigorous, and looking well, in the other cachectic, feeble, and pale. Physicians have been accustomed to designate the former as sanguine and plethoric, the second as anæmic and lymphatic, while popular language has distinguished them as good fat and bad fat. These two types are the results of different pathological processes. The one is simple florid obesity, in which the augmentation of weight is due to the accumulation of fat in the organism; the other is complicated, and in it the augmentation of weight is due in part to accumulation of fat, in part to the retention of water. Complicated obesity is a sequel to the simple form. The fatty infiltration causes the heart excessive fatigue and diminishes the resistance of the myocardium, the intoxication produced by supraabundant alimentation, especially by supraalimentation with meat, gradually produces changes in the kidney and brings about renal sclerosis. The alterations of the heart and kidneys, the fatal but slow result of habitual supraalimentation, may form a complication if an intercurrent disease causes a strain on the kidney or the heart. Pulmonary emphysema, which is frequently observed in these patients, is one of the causes that favor insufficiency of the myocardium. Hence in certain patients a florid obesity rapidly gives way to a complicated, cachectic obesity, with its train of visceral alterations and functional insufficiencies. The combination of Bright's disease with myocardic insufficiency results in a retention of the chlorides with the œdema.

April 1, 1908.

1. The True Conception of the Antibody. Its Relation to Immunity, By FOIX and MALLEIN.
2. Acute Enteritis and Appendicitis. Late Perforation of the Intestinal Ulcerations, By A. BROCA.

#### 1. The True Conception of the Antibody.—

Foix and Mallein say that every antigenous substance introduced into the organism provokes the appearance of another substance which is called antibody. The number of substances to which these terms might be applied is great, but the application of the terms is restricted to the antigenous microbes and their toxins and the antagonistic substances called forth by them. The antitoxines are antagonistic to the toxins, the antibodies to the microbes themselves. If one injects into an animal of the species A blood from another animal of the species B there are formed in the organism of the animal A

precipitating substances in opposition to the serum B, agglutinants and hæmolytants in opposition to the blood corpuscles. The same formula can apply to every microbic infection, whether spontaneous or experimental. We have then precipitants, or precipitins, agglutinants, or agglutinins, cytolisants, or bacteriolysins. There is in addition a set of antibodies that favor the phagocytic action of the white blood corpuscles. These are the stimulins of Metchnikoff and the opsonins of Wright and Douglas. The author deals at some length with each of these substances, and then enters into the question of the nature and origin of the antibody and briefly presents the theories of immunity.

2. **Acute Enteritis and Appendicitis.**—Broca describes a case in which this puzzling complication was present in a boy thirteen and a half years old.

#### LA SEMAINE MEDICALE.

April 1, 1908.

Diagnosis of Pancreatic Insufficiency.

By PROFESSOR R. LEPINE.

**Diagnosis of Pancreatic Insufficiency.**—Lepine reviews the literature on this subject and finally gives as the best signs of faulty external secretion of the pancreas abundance of fat and rarity of soap in the fæces, with diminution of the sulphur products in the urine. The mydriasis provoked by adrenalin is an index of a deficit of the internal secretion. It is readily to be seen how much the diagnosis of a functional insufficiency of the pancreas is to be desired.

#### MUENCHENER MEDIZINISCHE WOCHENSCHRIFT

March 31, 1908.

1. The Crime of Drunkenness and Its Legal Penalty, By HEILBRONNER.
2. Therapeutic Contributions to the Arc Light Treatment of Skin Diseases, By RIEDEL.
3. Concerning a Rare Complication after Operations on the Stomach, By STIEDA.
4. Concerning Thymus Persists and Apoptiform Thymus Death, Together with Remarks Concerning the Relations between Persistence of the Thymus and Exophthalmic Goitre, By HART.
5. The History and Technique of Orthodiagraphy, By MORITZ.
6. The Treatment of Spasm of the Cardiac Orifice, By GEISSLER.
7. Concerning Tendinitis Ossificans Traumatica, By HÖRING.
8. A Case of Dementia Posttraumatica with Unusual Accompanying Symptoms, By TRESPE.
9. The Treatment of Sore Throat, By BERLINER.
10. The Sterilization of Rubber Gloves, By FLATAU.
11. A Typical Case of Sudden Interruption of the Menses with Sore Throat, By SEHLBACH.
12. The Production of Instantaneous X Ray Pictures, By KASTLE, RIEDEL, and ROSENTHAL.

2. **Arc Light Treatment of Skin Diseases.**—Riedel reports twenty-five cases of skin disease, including various forms of eczema, acne, sykosis, pruritus ani, scrophuloderma, tuberculosis, and syphilis, successfully treated with arc light.

3. **Rare Complication After Operations on the Stomach.**—Stieda reports the case of a woman fifty-five years of age on whom resection of the pylorus was performed. The operation was followed by persistent vomiting of a slightly bloody fluid. Introduction of the stomach tube showed that the stomach was empty. As the vomiting increased and threatened the life of the patient another laparotomy was performed, when the tumour was

opened, the stomach found perfectly empty, and no explanation of the vomiting was discovered. She died two days later, and on autopsy the only objective conditions to be found were a stippling of the gastric mucous membrane, a small ulcer near the insertion of the sutures at the place of anastomosis, and a hematoma at the occlusion suture of the stomach. There was no peritonitis, or other condition to explain the vomiting. Hence the latter was referred to an extraordinarily increased reflex excitability in the region. He mentions also two other patients who died of hiccough after operation, due apparently to a nervous condition, as no cause was revealed at the autopsies.

**5. Orthodiagraphy.**—Moritz describes the apparatus employed in orthodiagraphy, with the manner of its employment, and mentions as advantages possessed by this method its quickness and simplicity, the cheapness of the measurements taken as compared with photographs, the possibility of simultaneous observation of the processes in the thorax of the patient while the measurement is being taken, and the determination whether the patient breathes quietly and in what phase of respiration the measurement is taken. It is also possible to produce on one and the same paper various cardiac measurements in different respiratory phases.

**6. Treatment of Spasm of the Cardiac Orifice of the Stomach.**—Geissler has devised a sound with an india rubber bulb attachment to be passed through the œsophagus until the empty bulb is in the spasmodic stricture, which is then to be dilated by inflation of the bulb.

**7. Tendinitis Ossificans Traumatica.**—Höring describes a case of ossifying tendinitis met with in a man fifty-six years of age, of good health, who had received a severe blow on the left tendo Achillis.

**9. Treatment of Sore Throat.**—Berliner recommends the use of a protogol ointment introduced through the nose.

## Proceedings of Societies.

### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Special Meeting, Held on February 3, 1908, at the Staten Island Academy, St. George, Borough of Richmond.*

Dr HENRY C. JOHNSTON in the Chair.

**Radium.**—Dr. ROBERT ABBE made an address on radium and its use in the treatment of disease. He said that for the past five years he had been experimenting practically with this agent, and that he was now beginning to see daylight. When radium was first exploited in the medical world, it was announced that it was a wonderful cure for cancer, and, as was commonly the case with such premature allegations, disappointment resulted. There was, naturally, a great deal of "faking" in connection with the subject, and charlatans everywhere vaunted their ability to perform miracles with radium. To Dr. Abbe it appeared that the real value of the agent, if such it had, could be demonstrated only by persons who were thoroughly conversant with regular surgical procedures in the treatment of cancerous and other growths, and he undertook to make an extended scientific test of the matter. He recog-

nized that no dependence could be placed on photographs of the pathological conditions to be represented, and he therefore tried a new method of securing a record of cases before, during, and after treatment. This was by the making of casts from life, which, when accurately colored, showed exactly the existing conditions. No treatment other than the radium applications was given.

The speaker then gave a résumé of the history of the discovery of radium, and some account of its effects on cell and animal life. There appeared to be no limit to its penetrating power, as was shown by tests with the most opaque substances, such as lead and other metals. When mice were subjected to its influence they became affected with spinal meningitis and were paralyzed in their hind legs. On their skin, as well as on human skin, burns were produced similar to those from the x ray. Its value in cancerous and other neoplasms seemed to be due to its destructive agency on new growing cell life.

Dr. Abbe then presented, with brief descriptions of the cases and their treatment, a very large series of the beautiful and accurate casts which he had made. For ordinary warts (papillomata), such as were commonly met with on the hand, one application of radium for fifteen minutes, he said, would suffice for a perfect cure in almost all instances. The radium was efficient in all stages of the change of tissue between normal hypertrophic growth and malignant disease. Many cases of so called cancer of the tongue, he believed, were simply papillomata of the same kind seen on the cutaneous surface. There were, of course, true cancers of the tongue, however, and it was probable that these papillomata were oftentimes the precursors of cancer. Leucoplakia of the mouth was readily cured by means of radium, and it seemed now to have been demonstrated that cancerous growths were not malignant at first. Epithelioma might go on for years without the occurrence of metastasis. The casts were shown of a very severe case of this kind, which had been perfectly cured by seven applications of radium for an hour at a time. Three years had now elapsed, and there had been no return whatever of the disease. A cancer of the nose had been cured by two applications, and the same was true of one affecting the eyelid and corner of the eye. Tuberculous lesions of the hand and the heel, in the same patient, which had existed for some years and resisted all other forms of treatment, had been cured by seven applications of radium of an hour each. An eroding epithelioma of the cheek had been perfectly cured by three similar applications, and a cancer behind the ear and extending down the neck, by four applications. One of the most interesting of the cases was an extensive and most disfiguring sarcoma of the eyelid, which had been cured by four applications. Here the deformity and loss of tissue appeared to have been beautifully repaired by a reassembling of the normal cells through the agency of the radium—in fact, forming the lid over again. In a mixed sarcoma of the parotid region and a giant celled sarcoma of the jaw, involving the bone, the result had been equally satisfactory. In the latter instance fifteen applications were required to effect the cure. The more malignant and "juicy" a growth was, the more readily and quickly it seemed to yield to the effect of radium. The casts of all these cases and many



others, showing the condition before, during, and after treatment, were presented by Dr. Abbe.

He said that he did not care to speak of the use of radium in internal cancer. He had not ventured into this field to any great extent, and unfortunately most of the cases which had been sent to him had been too far advanced to be benefited by any treatment. He did not believe, however, that these internal growths differed materially from the superficial ones. Like the latter, they appeared to consist of cells growing wild, as it were. It seemed to him that the results which he had obtained with radium went to demonstrate that cancer could not be of bacterial origin.

The great objections to radium were its exceeding rarity and high cost. The purest to be had was the German radium bromide, which was the standard of activity, and the commercial value of this was \$1,000 a cell of 10 milligrammes. The supply of this was extremely limited, for, while radium was found in some other localities, the expense of mining was far too great to render the supply available. The only place from which it could be obtained was the one mine in Bohemia where it existed in the pitchblend from which the uranium was extracted for the manufacture of the Bohemian glassware. On account of the possibility that the supply of pitchblend might become exhausted, and the large population engaged in making glass might thus be deprived of their livelihood, the government now strictly limited the amount of mineral to be mined each year to a certain fixed quantity. Hence the pure radium bromide which came from this mine could scarcely be obtained at all at present. Before these regulations were quite so strict Dr. Abbe had fortunately been able to secure several specimens of radium, and he had one tube containing six cells (or 60 milligrammes) of the pure bromide, which was valued at \$6,000. The risk of handling radium was also very great. On two occasions in his experience (one of them very recent) the little container had fallen, and as it exploded the radium had been scattered about in all directions. By the extraordinary power of the radium, however, he had succeeded in obtaining photographs showing every particle of it; so that he was able to recover it all from the floor. It was of value to know that the less pure specimens of radium were still of service in the treatment of disease. The only reliable test of the activity of such specimens was the photographic one. By testing them through a lead disc, in comparison with the photographic power of the standard radium bromide, the exact degree of their activity could be determined. It had been shown that a weak specimen could be used with good effect if its application was maintained for a sufficient length of time. Thus, one which the photographic test had demonstrated to be ten times less energetic than the standard must be applied for ten times as long as the latter at each sitting.

During the evening Dr. Abbe made applications of radium bromide, of fifteen minutes each, to warts on the hands of two of the physicians present. One of these had lasted for twenty years, persisting in spite of various forms of treatment.

**The Modern Treatment of Bone Tuberculosis.** Dr. REGINALD H. SAVRE read a paper on this sub-

ject. Having remarked that the scientific treatment of any disease must rest upon a clear understanding of its aetiology and pathology, he referred to the complete eradication by operation of tuberculous foci advocated by many surgeons before the natural history of tuberculosis was as well understood as at the present day, and said that in still earlier times the opinion had prevailed that noninterference was advisable in bone tuberculosis. The proper mode of treatment lay between these two extremes, for, while the good results noted from this course had been arrived at empirically, recent laboratory investigation had shown the scientific basis for the facts which were observed clinically.

The speaker dwelt for some time on the causation, course, pathological characteristics, and clinical history of bone tuberculosis, and emphasized the prime importance of early diagnosis. To this end it was requisite that the patient should be stripped, and if disease was suspected in the hip, knee, or ankle, both sides should be examined thoroughly. If there was any doubt as to the presence of disease in a joint, it was a great mistake to resort to an anæsthetic in making the examination, as this would take away the most reliable guide we possessed for the diagnosis of early inflammation, namely, the involuntary muscular spasm by which Nature protected the joints from traumatism. Almost the first symptom to be manifested in joint inflammation was spasm of the muscles controlling the joint, and it was one of the last symptoms to subside. In the course of his remarks on diagnosis he referred to the use of tuberculin, and said that as yet but little had been reported as to the reliability of this test.

(To be concluded.)

## Letters to the Editors.

### AN IMPOSTOR.

234 CLINTON STREET, BROOKLYN, N. Y., April 28, 1908.

To the Editors:

On Thursday of last week a young man of good appearance called on me and made the following statement: That he was a graduate in medicine of Berne; that he had come to this country to practise medicine, but without success, and that he was in distress, having a wife and child to support; that through the efforts of Dr. Carl Beck, of Manhattan, and Dr. Wunderlich, of Brooklyn, he was receiving some aid from the German Medical Society. He gave his name as Eschenbach and begged me to get him into a hospital in any capacity. I called up the superintendent of the Kings County Hospital and stated the case, and was told to send the man to the hospital with a card of identification and he would be given a place as orderly. He never applied for the place. He does not live at the address he gave me. Dr. Beck and Dr. Wunderlich both repudiate him, and he is evidently an impostor. I have been informed, however, that he is using the card of identification from me as an introduction, and on the strength of this and some stationery which he stole from my office is gaining admission to the offices of physicians for begging purposes. I hereby repudiate him.

A. T. BRISTOW.



## MICROORGANISMS OR ARTIFACTS?

256 WEST FIFTY-SEVENTH STREET,  
NEW YORK, April 25, 1908.

To the Editors:

In to-day's issue of the *Journal* Dr. LeRoy describes some forms that he considers to bear an ætiological relation to psoriasis. In them I recognize appearances described by me in the *Journal* in 1872 (June and July) as being found when vaccine crusts and crusts from impetigo contagiosa were soaked in an alkaline caustic solution, that of sodium hydrate, six per cent., being perhaps the best. Later I verified Lang's observations in relation to psoriasis. At first I considered these forms to be fungoid bodies, but later became satisfied that they were simply artifacts and not bearing any ætiological relation to psoriasis or any other disease.

HENRY G. PIFFARD.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Principles and Application of Local Treatment in Diseases of the Skin.* By L. DUNCAN BULKLEY, A. M., M. D., Physician to the New York Skin and Cancer Hospital, etc. New York: Rehnman Company. Pp. xii-130. (Price, \$7.)

Dr. Bulkley's vast experience in dermatology and his well known conservatism will cause this small and convenient book to meet with an unusually cordial welcome from the medical profession of the English speaking world. In it the topical forms of treatment recommended are fully reasoned out, but the reader is not burdened with prolix essays. The book is the product of Dr. Bulkley's personal observation, not a rehash of others' dicta, and that is always a great advantage in a work on such a practical subject as the treatment of disease. We can commend it without the slightest reservation.

*Comparative Electrophysiology.* A Physicophysiological Study. By JAGADIS CHUNDER BOSE, M. A., D. Sc., Professor, Presidency College, Calcutta. With Illustrations. New York, Bombay, and Calcutta: Longmans, Green, & Co., 1907. Pp. 760.

Since the appearance of Biedermann's monumental work on electrical phenomena as manifested in living organisms nothing has appeared in this field of research that is so interesting or so fundamental as the work before us.

The present volume, the author tells us, is the conclusion of a line of investigation of responsive phenomena, begun in 1900, to bear out the general thesis that living and inorganic substances show similarities of response, due to fundamental molecular reactions common to all matter in general.

He tells us that "an interesting link between the response given by inorganic substances and the animal tissues is that given by plant tissues." By methods which he has described in an earlier thesis he has been able to obtain from plants strong electrical responses to mechanical stimuli; such responses are known for the sensitive plants, but Bose shows them to be universal. Effects of fatigue, of temperature, of poisoning, and of stimulation of plants show their

electrical responses. Such findings as these have been regarded as highly improbable, and numberless controversial discussions were aroused at the time of their earliest publication. They are now accepted as facts. In this connection it may be recalled to the minds of our readers that there are many doubting Thomases in our ranks who are skeptical as to the facts concerning electrical registration of emotional states, etc., as recently studied by Jung and others.

The author was led to seek for the more intimate nature of these responses in a later investigation, published in 1906, where he found that the internal stimulus was in reality derived from some external source which was immediate or held latent in the plant tissues. Thus the blow of external stimulus is conserved in the plant tissues, and our wonder at the seeming disproportion of reaction to an apparently infinitesimal stimulus receives an explanation. That this fact may have some bearing on the high potential motor discharges in epilepsy, etc., is an inevitable association in the mind of the reviewer.

From this idea alone it becomes apparent that the comparative method of study for the elucidation of the complex biological problems of electrical energy in living matter is of the highest value, and Bose's work is worthy of a place in every investigator's laboratory.

We cannot at this time analyze the contents of this large work of over 700 pages. It is compact experiment and deduction, but a few points on which the author differs with current beliefs may be touched upon. The reactions of diverse tissues have heretofore been regarded as specifically different. As against this, a continuity has here been shown to exist between them. Thus, nerve was universally regarded as typically nonmotile; its responses were believed to be characteristically different from those of muscle. He has been able to show, however, that nerve is not only indisputably motor, but also that the investigation of its response by the mechanical method is capable of greater delicacy and freedom from error than the electrical. It has further been thought that plants are devoid of the power to conduct true excitation. This Bose shows to be incorrect.

He further pays his compliments to Pflüger's law of the polar effects of currents. This law, which has been held to be universal, Bose disputes, showing that both below and above certain limits of electromotive intensity the polar effects of currents are precisely opposite to those enunciated by Pflüger.

The work, as has been said, is one to be most highly commended; it is stimulating, profound, and full of suggestions of great practical value for the student of electrical phenomena as manifested in living matter.

*Hematological Atlas.* With a Description of the Technique of Blood Examination. By Priv. Doz. Dr. KARL SCHLEIP, Scientific Assistant in the Medical Clinic University of Freiburg i/B. English Adaptation of the Text by FREDERIC E. SONDERN, M. D., Professor of Clinical Pathology, New York Postgraduate Medical School and Hospital, etc. With Seventy-one Colored Illustrations. New York: Rehnman Company, 1908. Pp. 256 (Price, \$10.)

This handsome volume is equally creditable to the author, the translator, and the publisher. Its most striking feature is the excellence and accuracy of

the beautifully executed plates, drawn to scale and faithfully reproducing in color the well stained specimens which served as originals. Each illustration is separately mounted. In the accompanying text are fully described recent and practical methods for making blood films, the examination of fresh and dried specimens, staining, the estimation of hæmoglobin and specific gravity, the enumeration of the red and white cells, and the differential count of leucocytes. Every type of the essential blood diseases is adequately shown, also the changes associated with tumors of the bone marrow and the parasitology of the blood, including malarial disease and trypanosomiasis. An effort has been made in every case to present a simple technique which will serve as a reliable guide to the physician interested in clinical pathology, as well as for the more experienced laboratory worker. This atlas of hæmatology meets a real want and will prove, we believe, as indispensable to the clinical microscopist as are colored plates and wax models in the study of dermatology. The work is also notable as a fine specimen of artistic book-making.

## BOOKS, PAMPHLETS, ETC., RECEIVED.

The Influence of Alcohol and Other Drugs on Disease  
The Croonian Lectures Delivered at the Royal College of  
Physicians in 1906. By W. H. R. Rivers, M. D., F. R. C. P.,  
Fellow of St. John's College, Cambridge. London: Ed-  
ward Arnold, 1908. Pp. viii-136.

The Next Step in Evolution. By I. K. Funk, D. D., LL. D. New York and London: Funk & Wagnalls Company, 1908. Pp. vi-107.

Spezielle Diagnose der inneren Krankheiten. Ein Handbuch für Aerzte und Studierende. Nach Vorlesungen bearbeitet von Dr. Wilhelm v. Leube, Professor der mediz. Klinik und Oberarzt am Juliusstift in Würzburg. II. Band. Siebente vollständig umgearbeitete Auflage. Mit 78 Abbildungen. Leipzig: F. C. W. Vogel, 1908. Pp. xii+692. (Price, 16 marks.)

*Ikonographia Dermatologica*. . . . . Tabulae selectae  
 editae a Albert Neisser, Breslau, Eduard Jacob.  
 Freiburg i. Br. Fasc. iii., tab. xvii-xxvi. Berlin und Wien:  
 Urban & Schwarzenberg; Paris: Masson & Cie; New  
 York: Rebman Company; London: Rebman Limited, 1908.  
 Quarto, pp. 77 to 125.

Atlas of Typical Operations in Surgery. By Dr. Ph. Buckenheimer and Dr. Fritz Frohse. Sixty Illustrations from Water Colors by Franz Frohse (Artist), Berlin. Adapted English Version by J. Howell Evans, M. A., M. B., M. Ch., Oxon.; F. R. C. S., England; Demonstrator of Operative Surgery at St. George's Hospital, London, etc. New York: Rebmman Company; London: Rebmman Limited Quarto, pp. 252.

2. *Elements of Water Bacteriology. With Special Reference to Sanitary Water Analysis.* By Samuel Cate Prescott, Assistant Professor of Industrial Biology, and Charles Edward Amory Winslow, Assistant Professor of Sanitary Biology in the Massachusetts Institute of Technology. Second Edition. Rewritten. First Thousand. New York: John Wiley & Sons, 1908. Pp. xii+258. Price, \$1.50.)

Die Erkrankungen der weiblichen Geschlechtsorgane. Von Hofrat Prof. Dr. R. Chrobak und Hofrat Prof. Dr. A. von Rosthorn in Wien. II. Teil. Die Missbildungen der weiblichen Geschlechtsorgane. Mit 90 Abbildungen und 2 Tafeln. Wien und Leipzig: Alfred Holder, 1908. Pp. 272.

The Borderland of Epilepsy, Faints, Vagal Attacks, Vertigo, Migraine, Sleep Symptoms, and Their Treatment. By Sir William R. Gowers, M. D., F. R. C. P., F. R. S., Hon. Fellow, Royal College of Physicians, Ireland, etc. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. vi+191. (Price, 5s. 6d.)

Mortality Statistics for 1906. Seventh Annual Report  
Department of Commerce and Labor, Bureau of the Census.  
S. N. D. North, Director. Washington: Government  
Printing Office, 1908. Pp. 480.

## Official News.

## Public Health and Marine Hospital Service:

The following cases of smallpox, yellow fever, cholera, and plague were reported to the surgeon general, Public Health and Marine Hospital Service, during the week ending April 24, 1908:

Smallpox—United States.

Places.	Date.	Cases.	Deaths.
California—Berkley.....	March 28-April 4.....	1	1
California—Los Angeles.....	March 28-April 4.....	5	5
California—San Francisco.....	March 28-April 4.....	7	7
District of Columbia—Washington.....	April 4-11.....	1	1
Illinois—Chicago.....	April 4-11.....	4	2
Illinois—Springfield.....	April 2-9.....	5	5
Indiana—Indianapolis.....	March 29-April 2.....	0	0
Indiana—South Bend.....	April 4-11.....	1	1
Iowa—Havenort.....	March 28-April 4.....	1	1
Iowa—New London.....	March 28.....	1	Imported
Iowa—Ottumwa.....	April 4-11.....	2	2
Kansas—Kansas City.....	April 4-11.....	2	2
Kansas—Topeka.....	March 28-April 2.....	1	1
Kansas—Wichita.....	April 11-18.....	3	3
Kentucky—Covington.....	April 4-11.....	3	3
Louisiana—Hornbeck.....	Dec. 20-April 13.....	24	24
Louisiana—Lake Charles.....	April 14.....	2	2
Louisiana—New Orleans.....	April 4-11.....	14	14
Michigan—Port Huron.....	March 28-April 11.....	5	5
Michigan—Saginaw.....	March 28-April 11.....	4	4
Missouri—Kansas City.....	March 28-April 4.....	9	9
Missouri—St. Louis.....	Feb. 28-April 13.....	17	17
Missouri—St. Joseph.....	March 7-14.....	2	1
Minnesota—Winona.....	April 4-11.....	2	2
Nebraska—Fall City and Venn.....	To April 6.....	13	13
Nebraska—Nebraska City.....	April 6-13.....	2	2
New York—Buffalo.....	April 4-11.....	1	1
New York—Niagara Falls.....	April 4-11.....	3	3
Ohio—Chillicothe.....	March 3-April 13.....	18	18
Ohio—Cincinnati.....	April 3-10.....	13	13
Ohio—Middletown.....	April 13-20.....	25	25
Pennsylvania—Pittsburg.....	March 14-April 6.....	2	2
Tennessee—Knoxville.....	April 4-11.....	1	1
Tennessee—Memphis.....	March 28-April 4.....	9	9
Texas—San Antonio.....	April 1-11.....	20	20
Texas—San Antonio—Cross.....	April 1-11.....	1	1
Wisconsin—Racine.....	April 4-11.....	1	1
Wisconsin—Spokane.....	March 28-April 4.....	12	12

Small *px*—Foreign.

Arabia—Aden.....	March	16-23.....	2
Brazil—Manaos.....	March	14-21.....	3
Brazil—Rio de Janeiro.....	March	8-15.....	87
Egypt—Cairo.....	March	10-18.....	5
France—Paris.....	March	15-22.....	2
Italy—General.....	March	26-April 2.....	98
India—Bombay.....	March	10-17.....	44
Java—Batavia.....	Feb. 25-March 7.....	2	
Malta.....	Feb. 29-March 21.....	24	
London—Dalm.....	March	1-8.....	1
Mexico—City of Mexico.....	Feb. 22-March 7.....	1	
Portugal—Lisbon.....	March	21-28.....	1
Russia—Odessa.....	March	21-28.....	1
Russia—Vladivostok.....	March	21-28.....	1
Spain—Almeria.....	Feb. 25-28.....	6	
Spain—Aigo.....	March	2-28.....	2
Turkey—Bagdad.....	Feb. 25-28.....	13	
Turkey—Constantinople.....	March	15-22.....	10
Turkey—Smyrna.....	Feb. 25-28.....	10	
	Feb. 29-March 7.....	6	

## Yellow Fever Foreign.

Brazil—Manaos.....	March 7-21.....	6
Brazil—Para.....	March 21-28..	2

[illegible]

India—Madras..... Match 7-2 .....  
India—Rangoon..... Feb. 29-March .....  
Name—Insulin

$$T(\text{Id}_S)u_c = T(\text{Id}_S)u_d.$$
$$I_{\text{diss}}^{\text{diss}} = I_{\text{diss}}^{\text{diss}} + I_{\text{diss}}^{\text{diss}}$$

## L. A. M.

[illegible]

India--	Rangoon.....	Feb. 20-March 7....	3
	Calcutta.....	March 4-11.....	1
	Canton.....	March 4-11.....	1
	Chongking.....	March 1-8.....	1
	Canton.....	March 1-8.....	1
	Yokohama.....	March 1-8.....	1
	Manila.....	March 1-8.....	1

Peru—Ferreñafe.....	March 4	11.....	2
Peru—Lima.....	March 4	11.....	3
Peru—Mollendo.....	March 4	11.....	4
Peru—Truillo.....	March 4	11.....	39
Turkey in Asia—Kerbela.....	March 13	.....	2

### Public Health and Marine Hospital Service:

*Official list of changes of stations and duties of commissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending April 25, 1908:*

- ALTREE, G. H., Acting Assistant Surgeon. Granted leave of absence for thirty days, from May 5, 1908.
- BAILEY, C. A., Acting Assistant Surgeon. Directed to proceed from St. John, New Brunswick, to Quebec, Canada, for duty.
- BROOKS, S. D., Surgeon. Granted leave of absence for three days, from April 20, 1908.
- BROWN, S. E., Acting Assistant Surgeon. Leave of absence granted for fourteen days, from March 15, 1908, revoked.
- FOSTER, S. B., Acting Assistant Surgeon. Leave of absence granted for fifteen days, from April 6, 1908, revoked; granted leave of absence for seven days, from April 13, 1908.
- HAMILTON, J. H., Acting Assistant Surgeon. Granted leave of absence for two days, from April 20, 1908.
- HOLT, J. M., Passed Assistant Surgeon. Granted leave of absence for seven days, from April 21, 1908.
- SIMONSON, J. H., Acting Assistant Surgeon. Granted leave of absence for two days, revoked.
- SMALL, E. M., Acting Assistant Surgeon. Granted leave of absence for eight days, from April 18, 1908.

#### Boards Convened.

Boards of medical officers were convened to meet on April 27, 1908, for the purpose of examining candidates for the position of cadetship in the Revenue Cutter Service, as follows:

- Baltimore, Md.: Surgeon L. L. Williams, chairman; Assistant Surgeon H. H. Warner, recorder.
- Boston, Mass.: Surgeon R. M. Woodward, chairman; Assistant Surgeon T. W. Salmon, recorder.
- Chicago, Ill.: Surgeon G. B. Young, chairman; Passed Assistant Surgeon J. S. Boggess, recorder.
- Detroit, Mich.: Surgeon Fairfax Irwin, chairman; Passed Assistant Surgeon M. J. White, recorder.
- Galveston, Tex.: Passed Assistant Surgeon G. M. Corput, chairman; Acting Assistant Surgeon W. H. Gammon, recorder.
- Mobile, Ala.: Surgeon G. M. Guiteras, chairman; Acting Assistant Surgeon J. O. Rush, recorder.
- Newport News, Va.: Assistant Surgeon G. L. Collins, chairman; Acting Assistant Surgeon A. C. Jones, recorder.
- New York, N. Y.: Passed Assistant Surgeon J. A. Hydegger, chairman; Acting Assistant Surgeon F. Mahoney, recorder.
- Philadelphia, Pa.: Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon Taliaferro Clark, recorder.
- Portland, Me.: Surgeon W. P. McIntosh, chairman; Acting Assistant Surgeon A. F. Stuart, recorder.
- San Francisco, Cal.: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon C. H. Gardner, recorder.
- Seattle, Wash.: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chapin, recorder.
- Washington, D. C.: Assistant Surgeon General W. J. Pettus, chairman; Passed Assistant Surgeon J. W. Trask, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending April 25, 1908:*

- CLARK, J. A., Captain and Assistant Surgeon. Ordered to Madison Barracks, N. Y., for temporary duty.
- DAVIS, W. R., Captain and Assistant Surgeon. Ordered to accompany troops from San Francisco, Cal., to Fort Thomas, Ky., and return; granted leave of absence for fifteen days.
- DELOFFRE, S. M., Captain and Assistant Surgeon. Ordered to Columbus Barracks, Ohio, for duty; advanced to grade of captain to rank from September 10, 1908.
- GREENLEAF, H. S., Captain and Assistant Surgeon. Ordered to duty at Madison Barracks, N. Y., at the expiration of his present leave of absence.

HARRIS, H. S. T., Major and Surgeon. Granted an extension of one month to his leave of absence.

KENDALL, W. B., Major and Surgeon. Granted leave of absence for one month, about April 20.

SCHREINER, E. R., Major and Surgeon. Returned to duty at Army General Hospital, San Francisco, Cal., from detached service to Madison Barracks, N. Y., and leave of absence.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending April 26, 1908:*

- BAKER, M. D., Pharmacist. Appointed a pharmacist from April 17, 1908.
- FISKE, C. N., Passed Assistant Surgeon. Orders to Washington, D. C., revoked; to continue treatment at the Naval Hospital, Mare Island, Cal.; ordered home and granted sick leave for two months, when discharged from treatment at the Naval Hospital, Mare Island, Cal.
- KOLTES, F. X., Assistant Surgeon. Detached from the navy yard, Mare Island, Cal., and ordered to the *Connecticut*.
- RANSELL, R. C., Assistant Surgeon. Detached from the *Connecticut* and ordered to the second torpedo flotilla.
- ZIEGLER, J. G., Acting Assistant Surgeon. Ordered to duty at the Naval Hospital, Portsmouth, N. H.

## Births, Marriages, and Deaths.

#### Born.

USHER.—In Camp Stotsenburg, Philippine Islands, on Friday, January 17th, to Dr. Francis M. C. Usher, United States Army, and Mrs. Usher, a son.

WHALEY.—In Fort Sam Houston, Texas, on Tuesday, April 7th, to Dr. Arthur M. Whaley, United States Army, and Mrs. Whaley, a daughter.

#### Married.

BUCK—WHITE.—In Camp McKinley, Philippine Islands, on Friday, April 10th, Dr. Carroll D. Buck, United States Army, and Mrs. Ynez Shorb-White.

HILL—CLAY.—In Atlantic City, New Jersey, on Wednesday, April 29th, Dr. Howard Kennedy Hill and Miss Ruth Clay.

MASON—STRICKLAND.—In San Francisco, California, on Wednesday, April 15th, Dr. William McPherson Mason and Miss Geraldine Belle Strickland.

ROBERTSON—BROWN.—In Boulder, Colorado, on Tuesday, April 14th, Dr. Eugene H. Robertson and Miss Elinore A. Brown.

SCHUMAN—PEIGHTOL.—In Philadelphia, on Thursday, April 16th, Dr. Frank L. Schuman, of Huntington, Pennsylvania, and Miss Mary Peightol.

#### Died.

CONOVER.—In Port Townsend, Washington, on Sunday, April 19th, Dr. Simon B. Conover.

GAMBLE.—In Gastonville, Pennsylvania, on Tuesday, April 14th, Dr. William Jackson Gamble.

LEGLER.—In Oakland, California, on Tuesday, April 14th, Dr. Henry T. Legler, aged eighty-nine years.

MOORE.—In San Antonio, Texas, on Tuesday, April 14th, Dr. Frank P. Moore, aged fifty-seven years.

PATTERSON.—In Cincinnati, on Friday, April 17th, Dr. William G. Patterson, aged ninety-three years.

ROSS.—In Münster, Westphalia, Germany, on Wednesday, April 15th, Dr. Joseph B. Ross, of St. Louis, Missouri, aged fifty years.

STANSFIELD.—In San Francisco, California, on Wednesday, April 15th, Dr. Halstead A. Stansfield.

STEBBINS.—In Omaha, Nebraska, on Sunday, April 19th, Dr. Richard Stebbins, aged eighty-four years.

STEPHENSON.—In Iroquois, Ontario, Canada, on Monday, April 13th, Dr. James Stephenson, aged seventy-three years.

THOMAS.—In Cleveland, Ohio, on Saturday, April 18th, Dr. William E. Thomas, aged eighty years.

TOWNE.—In Essex, Massachusetts, on Thursday, April 16th, Dr. Charles J. Towne.

WILDER.—In Medfield, Massachusetts, on Friday, April 17th, Dr. Ralph Wilder, aged thirty years.

WRIGHT.—In Montreal, Canada, on Friday, April 17th, Dr. William Wright, aged sixty-one years.



# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

VOL. LXXXVII, No. 19.

NEW YORK, MAY 9, 1908.

WHOLE No. 1536.

### Original Communications.

#### THE RESTORATION OF THE NORMAL BALANCE OF THE FOOT.

##### I.

*A Preliminary Paper. The Anatomy and Functions of the So Called Arch of the Foot, with Results of Experiments on Both the Normal and the Weak Foot.*

By E. G. ABBOTT, M. D., AND H. A. PINGREE, M. D.,  
Portland, Me.

The term "arch," as applied to that part of a normal foot which does not come in contact with the surface beneath it, when a person is standing, appears to be a misnomer and most misleading. "Dome" or "vault" would be a far more descriptive word to use, and "arch" would be a better term to apply to any line extending over the surface of the dome from one point to another. Changes in anatomical nomenclature are, however, not readily accepted, therefore no attempt will be made to substitute either of the terms suggested; but the reader is requested to bear in mind that wherever "arch" occurs in the phraseology it represents that part of the foot which as a whole is dome shaped.

In the description of the arch of the foot it has been customary to consider it as half of an arch

taken of this rather than of the living subject, it would be readily seen that the usual impression is erroneous, and that, when the two feet are placed in apposition, it would be more correct to describe the contour of the surfaces, which do not come in contact with the floor beneath them, as two separate arches (Fig. 2), or speaking more accurately, as a segment of two arches; and, if the space beneath the skeletal feet held in this manner is filled with plaster of Paris, instead of our having an object similar in shape to one shallow bowl, we would



FIG. 1.—Diagrammatic cross section of arches with skeletal foot in apposition.

have an object which more closely resembles two bowls (Fig. 3).

It would seem then more exact to describe the arches of the feet separately, and to represent each as a section of a shallow bowl, that portion being cut off which extends beyond the internal border of the foot, but along a line, which by no means corresponds to its highest part. A plaster cast of the skeleton of the foot would show that the highest part of the model is not the inner border, but that it is some distance external to it.

If, beginning at the distal end, we draw a line (Fig. 4) longitudinally over the surface of the highest part of the arch of the skeletal foot, we shall find that it passes over the third metatarsal bone, the external cuneiform, outer part of the scaphoid, the astragalus and the inner margin of the calcaneum; and that all parts internal to this line, consisting of the first and second metatarsal bones, middle and internal cuneiform, a large part of the scaphoid, and a part of the astragalus, as well as those external, the fourth and fifth metatarsal bones, cuboid and calcaneum, are placed on lower planes.

A cross section of the plaster cast near its centre (Fig. 5) shows the arch well defined transversely, its external end, however, on a much lower level than its internal, and its crown at a point near the junction of the middle and inner thirds. The other parts of the foot usually mentioned in descriptions—the anterior metatarsal arch, and the arch formed by the internal border of the foot—are not of so much importance, and their consideration is not so necessary, if we thoroughly understand the arch of the foot as dome or vault shaped, for, if this arch is maintained within its normal limits of motion, the other parts will remain in their normal position.

When the foot is used as a support, the arch is

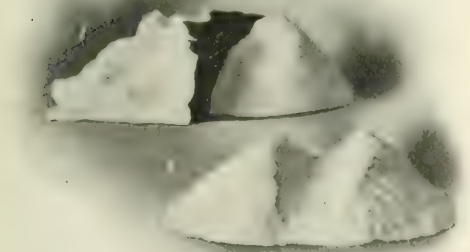


FIG. 2.—Plaster cast of the arch of the skeletal foot.  
FIG. 3.—Plaster cast of the arch of two skeletal feet held in apposition.

formed by placing the inner borders of the feet in apposition. It is also usual to regard a point situated on a line between the feet thus placed as the highest part. If the skeleton of the foot is used for this demonstration, and a plaster cast (Fig. 1)

held in place by muscles, fascia, and ligaments; but there is very little strain on any of these parts, as the arch is so constructed that in a normal condition the balance of the foot is easily maintained. The

arch is normally somewhat depressed, when the foot is used only as a support, but this change is not great. It is simply a relaxation from muscle contraction, and the muscles then serve as strong ligaments in conjunction with the ligaments proper to maintain the arch of the foot. The curve of the internal border of the foot is also somewhat lessened by this relaxation, but not to any considerable extent.

The usual eversion of the foot in this state of support (Fig. 6) must not be mistaken for a pronated foot in the sense of a

deformity, as this position is caused chiefly by a rotation of the femur to relieve the strain upon the hip structures; and all the normal depression of the arch would take place just the same if the foot was inverted. In some instances it appears that the arch is normal in shape although the foot is habitually abducted, and the inner border is bulged (Fig. 7); yet the only way to change this habitual abduction or pronation is to increase the height of the arch, and, when this is done, the bulging of the inner border disappears and the foot returns to a corrected position (Fig. 8); therefore, what might seem to be a normal arch in a foot which is habitually abducted is not so for that individual, for, when it is raised, the deformity disappears.

In activity the foot is controlled by muscles, and as long as they are in a normal condition and noth-

(flexed and extended) by muscular action to a certain extent in the normal foot, and, with this raising and lowering, the foot is changed from adduction to abduction and vice versa. It is a compound

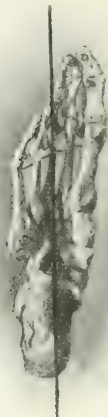


FIG. 4.—Line indicating highest part of arch at different points.



FIG. 6.—Normal attitude of rest, showing outward rotation of limbs without pronation.

movement, and must necessarily be so on account of the shape and structure of the arch; and the primary changes, which have been mentioned, cannot take place alone.

In the preservation of the normal arch movement it is necessary to take into consideration only those



centre.

ing interferes with the joint motion, the foot performs its functions in a normal manner. The principal movements which may take place in the arch of the foot are four, flexion, extension, adduction, and abduction. The arch is raised and lowered



FIG. 8.—Pronated foot with bulge on inner border. Arch is raised and no bulge.  
FIG. 9.—Same foot as Fig. 7, arch raised to normal height by a wedge. Bulge and bulge on inner border disappears.

muscles which control these movements. The principal muscles which raise the arch (flex and adduct) are the anterior and posterior tibial, the latter having the greater influence, as it is much more power-

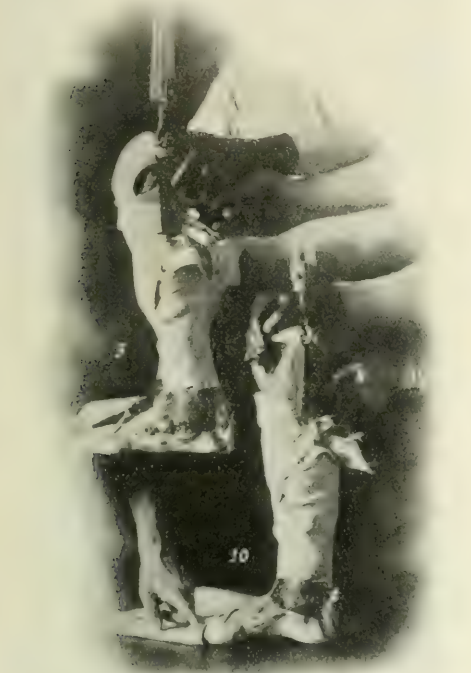


FIG. 9.—Showing inability to raise arch by traction on tendons of anterior and posterior tibials when heel cord is short. In Fig. 10, arch easily raised after heel cord has been severed.

ful. The chief ones which enter into any depression of it (extend and abduct) are the peroneus longus, brevis, tertius, and gastrocnemius. All the other muscles which participate in any way in these movements are only adjuncts to these, and alone exert very little control.

The following experiments, which were performed upon recent amputations with the assistance of Dr. F. A. Bartlett, illustrate the changes which occur in the arch of the foot when the muscles are severed, the amount of traction requisite to maintain the arch in a normal position, and the amount necessary to raise it to a normal position, when depressed; also an experiment upon the living subject showing the alterations in the arch of a weak foot when it is changed from the position of rest to that of pronation.

*Experiment I.* Cadaver. Showing the effect of a much shortened heel cord upon the arch of the foot. If a dissected weak foot, in which the heel cord is shortened, is held in the same position as that of the normal foot in use (all restriction except the short heel cord being absent), it will be found that it is impossible to raise the arch by traction upon the anterior and posterior tibial muscles to a

normal position (Fig. 9) ; but, if the tendo Achillis is divided, that the inner border of the foot is raised easily to the desired height (Fig. 10).

*Experiment II.* Cadaver. Showing the effect of the peroneus longus and brevis, when they are shortened, upon habitual abduction of the weak foot. If a weak foot, which is habitually abducted, is prepared in the same manner as in Experiment I, and if force is applied in an attempt to adduct it, it will be found that there is no change in the altered arch, and that it is impossible to bring the foot into a normal position (Fig. 11). If, however, a tenotomy is placed beneath the shortened tendons and the same force applied, the foot will, when the tendons are severed, readily assume the adducted position (Fig. 12).

*Experiment III.* Cadaver. Showing the effect in a weak foot of dividing the tendo Achillis, the



FIG. 10.—Showing effect of the tenotomy of the tendons of the peroneus longus and brevis, when the tendo Achillis is cut. FIG. 11.—Same foot as in Fig. 10, arch easily raised by same traction when peroneus is cut.

tendons of the peroneus longus and brevis, and of shortening the tendons of the anterior and posterior tibial muscles. If, having dissected the skin and subcutaneous tissues from the foot and ankle in a case of weak foot with permanent pronation, we use force in the direction of adduction, it will be found impossible to bring the foot into a corrected position (Fig. 13), but if the tendo Achillis and the tendons of the peroneus longus and brevis are cut, the foot swings readily into the desired position, and, if the tendons of the anterior and posterior tibial muscles



are shortened, it remains in this position (Fig. 14).

*Experiment IV.* Cadaver. Showing the neces-



FIG. 13.—Arch held depressed by short heel cord and peronei.

sary amount of traction on the posterior tibial muscle in order to maintain the arch of the foot when it is in normal position. A normal foot, having been



FIG. 14.—Same foot as in Fig. 13, with peronei and heel cord short, and the foot brought to normal position.

prepared by removing the skin and subcutaneous tissues, is placed in the position of weight bearing. All the parts which hold the arch are divided so

that when a light weight is placed upon the leg the foot will assume the pronated position, with the internal border resting upon the surface beneath it (Fig. 15). Now, if scales fastened to a pulley overhead are hooked into the cut end of the posterior tibial tendon, and if the arch is pulled into normal position (Fig. 16), it will be found that a traction of twenty-four pounds will maintain a normal arch when a weight of two hundred pounds is placed on the upper end of the tibia. This experiment would indicate that, in order to hold the arch in position, the power applied to one of the muscle tendons, which normally supports the greater part of the strain in weight bearing, would need to



FIG. 15.—All parts divided which hold the arch in normal position, allowing the inner border of the foot to rest upon the surface beneath it.

FIG. 16.—Same foot as in Fig. 15, showing that a traction of 24 lbs. applied to the posterior tibial tendon, will maintain the arch in normal position, when a weight of 200 lbs. is placed upon the leg.

be less than one eighth of the weight supported. Therefore, if the arch is in normal position, it requires very little muscular power to maintain it.

*Experiment V.* Cadaver. Showing the same experiment with the tendon of the anterior tibial muscle fastened to the scale in conjunction with the posterior tibial (Fig. 17). In this experiment it requires only nineteen pounds to hold the arch in position. This shows the advantage in having the two tendons pull together, in that the amount of traction necessary is lessened about one fourth.

*Experiment VI.* Cadaver. Same specimen used as in Experiments IV and V. Showing the amount of traction necessary to raise the depressed arch when applied with the foot fully pronated. If the leg is held erect and the foot allowed to pronate so

that the internal border will come in contact with the surface beneath, and if traction is then applied to the free ends of the anterior and posterior tibial tendons (Fig. 18), it will be found that, in order to lift the arch, an amount of force equal to the weight borne upon the leg is required, and if two hundred pounds are placed on the upper end of the tibia, it will take a force equal to two hundred pounds on the scales to raise the arch from the surface upon which it rests, but that this amount of force lessens proportionately as the foot approaches its normal position.

*Experiment VII.* Living subject. Showing the change which takes place in the arch of the weak foot at rest, when it is pulled by muscular action into the pronated position. If a person with a weak foot is placed in a sitting posture, with the legs crossed, the foot being suspended free in front of

let the patient place the foot in a position of extreme pronation, and it will be seen that there is a marked difference between the planes of the two pieces of wood (Fig. 21).

Any change from the normal in the structure and

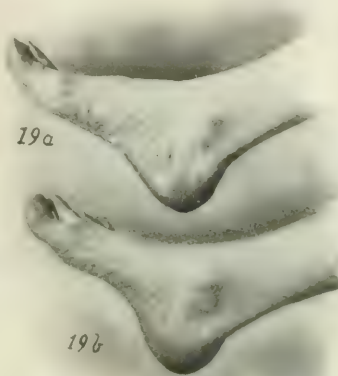


FIG. 19.—Weak foot at rest. A. Arch apparently normal. Same foot pronated with arch increased, due to action of peroneus longus in lowering the first metatarsal bone.

function of the foot to the pathological of the weak foot must come through a disturbance of the arch, and as long as the arch is maintained such a condition as weak or flat foot cannot take place. Therefore, in examining a weak or flat foot, it is necessary to consider only the arch and those structures which should control and maintain it, for, if the arch is restored, and those parts which hold it in position regain their functions, the foot will recover its normal condition. The normal state of the arch and the parts which maintain and control it are then of primary importance, and any pathological condition, like that found in weak foot, is due to some change in these structures.

In looking at the anatomy of the weak or flat foot



FIG. 20.—Weak foot at rest. A. Arch apparently normal with heel and ball on same plane.

we find that the changes which have taken place are many, but that those which prevent the normal maintenance of the arch after all restriction to passive motion has been removed are of the most concern. The pathological alterations in the individual ligaments, bones, and joints are of little im-

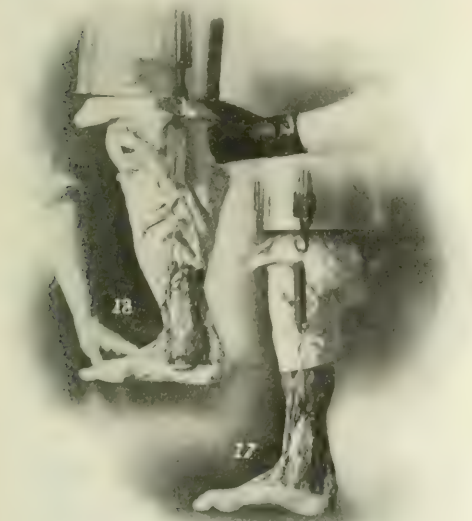


FIG. 17.—Same foot as in Fig. 16, with the addition of the anterior tibial the amount of traction is reduced to 10 lbs.  
FIG. 18.—Same foot as in Fig. 17, 200 lbs. weight placed upon the leg with arch depressed. 200 lbs. traction upon the anterior and posterior tibial tendons is required to start arch from surface beneath it.

him, it will be seen that the arch of the foot is apparently normal in height (Fig. 19). Now, if the patient is requested to hold the foot in extreme pronation, the arch will still seem to be of normal height or even higher, but if a more careful observation is made, it will be seen that the arch is not so high, but that it is twisted, and that the apparent increase is due to the pulling of the peroneus longus muscle upon the first metatarsal bone, which, even in the normal foot, is freely movable, and may be lowered easily one half an inch by this action.

A more striking method of demonstrating this twist is to fasten two strips of wood across the bottom of the foot, one under the heel and the other beneath the ball, so that they will both be on the same plane when the foot is at rest (Fig. 20); then

portance in this connection, as they are only incidental to the continued depression of the arch. It matters not in what condition we find the foot, it must first be brought to such a state that it is freely movable in all directions, i. e., to a condition of weak foot.

The next step or change from a weak to a normal foot presents a far more difficult problem to solve;



FIG. 21.—Weak foot pronated. Arch apparently normal, but twisted by action of peroneus longus on first metatarsal bone.

therefore, the changes which take place in the joints and ligaments, in so far as they retard motion, may be left out of consideration, and attention given to those parts which, through their pathological changes, prevent a weak foot from being a normal one, namely, the ligaments and muscles. The ligaments are lax throughout the whole structure, and those muscles which control certain motions are lengthened, while others are shortened. On the inner side of the foot the anterior and posterior tibials are the principal muscles at fault. They are stretched much beyond their normal limit; are pulling at a great disadvantage whenever the foot is in use, and give no support when the foot is at rest. On the outer side of the foot the peronei are found to be shortened and often displaced; but, instead of being weakened in their action, both as a support and as a lever, they are strengthened through this displacement, and work most advantageously in increasing the deformity. It is not unusual to find the heel cord shortened sufficiently to prevent the calcaneum from being held at its normal angle, thereby restraining the arch of the foot from preserving its normal contour when the foot is flexed. The plantar fascia, the principal truss of the arch, is stretched and gives little aid in holding the foot in position.

#### DEFECTIVE VISION AND THE MENTALLY SUB-NORMAL CHILD.\*

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This article has been written, not to enlighten the ophthalmologist or that small part of the medical profession who are acquainted with diseases of the eyes, but to arouse in the general practitioner a greater interest in his responsibility to school children suffering from defective vision. I have tried to express myself in terms which would make the

subject likewise clear to such laymen as teachers and educational authorities, who should have a knowledge of this subject. Another important object of this article is to try to correct a dangerous misuse or abuse of the "test card," not only by laymen but by some of the medical profession.

In recent years much has been written and said in reference to the relation of physical defects and mentality. Several prominent physicians have asserted that physical defects have no influence on mentality. This may oftentimes be considered correct if they refer to that mental deficiency which is of such a degree to classify the child as an idiot or imbecile. It seems to me that the varied opinions are due to the too loose use of the term "mentally defective." I believe this term should be reserved for those graver cases which are due to congenital defects of the brain and its functions, to those cases which from birth show little or no development of their mental faculties. To those minor cases which exhibit an abnormality to a moderate degree, whether inherited or acquired through physical defects, the term "mentally subnormal" could be applied. The use of such a classification may facilitate a more systematic and uniform study of this important medicopsychological subject. Considering the mentally subnormal, I am convinced that physical defects are an important factor in their study. It is true that not every child with a physical defect is mentally subnormal, because the same defect influences each child differently.

There should be an attempt to show the relation between cause and effect. In the study of each individual case, it is not only necessary to isolate if possible the causative factor, but the individual reaction to such cause. One child may not be affected by a moderate degree of defective vision, and another child be seriously hampered by the same amount of defect. Most physicians have seen cases of decided change in mentality following an acute disease such as grippe or typhoid fever. This may or may not be due to the lowered vitality. It may be due to the effect of the toxins directly on the brain. There may be as a sequela a defect of hearing or of vision. However, most physicians will agree that some physical defects can cause an altered condition in the mental state. The important problem is to recognize these defects, and correct them.

The time is near when our public school authorities will recognize and classify in a practical manner the children with varying degrees of mentality. At present the child with little physical vigor and lessened mental capacity is placed in classes with far brighter pupils, and is goaded on to keep the pace with the most precocious child. These backwards are overlooked and misinterpreted, and sooner or later are physical or mental wrecks. If we could only follow these cases after school life we would find some interesting statistics of terminations. The majority of these cases leave the schools, no matter to which grade they have reached, as soon as they pass the age of thirteen or fourteen years, and out of reach of the "Truant Law." These are the children that must make undesirable citizens. They have not the education to take skilled positions, the greater time idle, and

\*Read before the American Medical Association.



easily led into a life of waywardness. The termination is oftentimes the prison or asylum. The noble type of teacher is she who recognizes such un-



FIG. 1.—A case of convergent squint in a school child, due to defective vision.

fortunates in her class, and makes every effort to discover a cause, and attempt to have it corrected.

Let us consider the various physical defects which may be found in children and study their effect on the mentality. Acquired orthopædic defect, whether spinal curvature or hip disease, etc., have no direct action on the brain or its functions, as likewise congenital defects unless accompanied by a congenital or hereditary defect in the brain itself. Lesions of the skin, nose, and throat (including the much talked of adenoids) exercise no retardation of the mental faculties, except in those cases where these defects affect the general health and nutrition of the child. These are sometimes cases of fatigue or exhaustion, and from whatsoever cause the existence of these symptoms may cause a mental subnormality.

The nervous system with its allied diseases is an important factor in causing mental subnormality.



FIG. 2.—A child wearing convex lenses, with one convergent squint and the other, an oblique.

However, in most of these cases the nervous symptoms are secondary to another defect. Not infrequently in children this defect is in the eyes. The eyes and ears are the remaining organs, defects of

which may cause mental retardation. Normal hearing is important to normal mental faculties, but when one considers that there are few impressions dependent on the sense of hearing, that can not be conveyed by the sense of sight, and also the relative infrequency of defective hearing in comparison to defects of vision, a study of the eye and its defects is by far the most important. I believe I am not far from correct when I make the assertion that more than seventy-five per cent. of the cases of mental retardation are due to, 1, disease of the brain, with a greater or less degree of absent or undeveloped, untrained, latent function; and, 2, defects and diseases of the eyes.

When we consider the practical application of these two great classes with an attempt at treatment, the mentally defective of the type of imbecile or idiot, and due to inherited or congenital absence of brain function, is a hopeless patient and should be placed where he does the least harm to society and himself. The patient with the undeveloped, untrained, latent faculties can oftentimes be benefited by a proper systematic training. The eye, defects of which cause a large percentage of cases of mental subnormality, is most often amenable to treatment, but often overlooked as the offending organ. The chief reason for not suspecting the eyes as the seat of trouble is that the examiner always expects to find symptoms and signs to point to the eyes, forgetting that oftentimes gross changes may be present in these organs and no outward signs noticeable. There may be no redness or inflammation of the lids, no squint, no apparent impairment of vision, possibly only an occasional headache, twitching of the lids, or possibly a sty, and considerable abnormality present. Never exclude the eyes except in the proved absence of ocular disease, the most thorough and systematic examination for possible errors of refraction, or abnormalities of binocular vision. It appears that much of the deception is due to an abuse of the test card. These cards seem to be used for absolute diagnosis of eye defects, instead of a valuable aid to confirm the findings by instruments of precision.

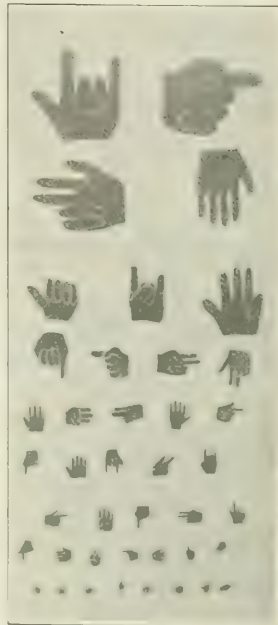


FIG. 3.—Test card for children and adults, according to the author.

Much time and energy have been wasted in gather-



believe there is no better method of detecting these cases among school children than the observing and interested teacher. She can tell more by her continuous close contact and watching the actions of the children than anyone who stands the child for a few minutes before a test card. A child may at that moment have acute vision, but at some time while at work in the class room show the effects of eyestrain.

Why do the same errors in different people not produce the same signs, symptoms, and ultimate effects? One is apparently unaffected, another suffers from headache and a train of reflex symptoms sufficient to cause invalidism. There may be violent attacks of headache; dull or sharp pains in the eyes; sore and inflamed eyelids; twitchings of the forehead or eyes resembling chorea; a marked squint; there may be convulsions, and again there may be few symptoms. Sometimes there may exist only a continuous dulness and inability to work or absorb any knowledge. These variations depend much on the temperament of the individual; one is phlegmatic, another is neurotic.

To obtain a normal education a child must obtain correct impressions, and to this end normal vision is necessary. Every child with errors of refraction is not a mental defective, but the pupil who suffers from defective vision remaining uncorrected must be below the mental status of another child of equal abilities who is not handicapped by such a disability. The pupil with defective vision, especially if symptoms are present, must be below par, and hence mentally subnormal. The true keenness and intelligence of the pupil may still be evident, but the education nevertheless is hindered in various ways. Headaches may make the child restless and inattentive, or there may be for the same reasons repeated absence from school. Every child who seems mentally subnormal, or who suffers from headaches, nervousness, blurring or impaired vision, facial twitchings, or frequently inflamed eyes, should be thoroughly and systematically examined by a competent ophthalmologist for possible refractive errors, and deviations from normal binocular vision.

Beyond the correction of errors of refraction, many physicians seem to place little importance on the muscles attached to the eyes and keeping a perfect binocular vision. If a self evident squint is not present, this important factor is oftentimes overlooked. A muscle unbalance of these organs may give symptoms sufficient to disable a patient. As to the cases of squint so often met in school children, they are generally dependent on gross errors of refraction, mainly hypermetropia and hypermetropic astigmatism. One can safely say most of these children are greatly benefited if fitted with the proper glasses early enough. In some cases the eyes are completely straightened after wearing the proper correction. Fig. 1 shows a characteristic case of squint or strabismus found in a school child and due to refractive errors. It is evident how the presence of a squint may affect the education of a child.

How old should a child be to be examined for glasses? This question is frequently asked. If a child needs them badly, as shown by any prominent symptoms or a marked squint, I believe the child should be examined and supplied with glasses as

soon as it is able to sit on a chair. It is in early childhood before school days that the best results are obtained.

Here I would offer a word of advice to teachers. Children who have been wearing glasses should be watched, and if they come to school without them, should be sent home to bring them. If the child persists in not wearing the glasses, possibly the glasses are not suited, or the frames are so ill fitting as to give discomfort. Again it seems criminal to allow a child to sit in the class room wearing a pair of glasses so out of adjustment that one lens is on the forehead and the other upon the cheek. An example of such a case is shown in Fig. 2.

When a physician writes a prescription for glasses, and the lenses are supposed to contain cylinders at a certain axis, to correct astigmatism, what results can be expected from the glasses if the patient wears the lenses at any axis? The patient has poor results and the physician receives the blame. Again the proper fitting of the frames is as necessary as the proper lenses. Unless otherwise ordered for a certain effect lenses should be so adjusted that the centre of the lens is at the centre of the pupil. A little attention by teachers to children wearing glasses would result in giving considerable comfort. Frequently a patient returns after a year or so and asks whether they need to change their glasses, because they cannot see as clearly as they did at first, and on adjusting the lenses the fault is easily remedied.

Many parents pay little attention to their children who have squint, because they believe it to be a congenital condition for which little can be done. It may be well to impress on such parents that a congenital squint is rare. It oftentimes happens, however, that a child inherits defective vision, and through this defect the squint is manifested. When a squint is congenital, there is oftentimes an accompanying asymmetry of the orbits and possibly of the skull. It is stated by some that the asymmetry of the orbit admits of the eye turning to adjust itself to the shape of the orbit.

Teachers should aid the physicians in overcoming the opinion that "children should not wear glasses because in that event they must wear them forever." On the contrary they can assure the parents that oftentimes by correcting defects early in life, in a few years the eyes improve sufficiently to allow the child to discard the glasses.

Campaigns for improvements in questions of public health; if not backed by law, are a tedious and oftentimes a fruitless task. I therefore believe that "the State should not only protect its people from their own ignorance and superstitions in questions of public health, concerning contagious diseases like smallpox and diphtheria, but it should likewise pass a law which would compel every child before being enrolled in a public school, not only to undergo a physical examination, but any defect which would greatly interfere with that child from obtaining a normal education should be corrected before the child is admitted to school." The examination should include a thorough examination of the eyes, ears, nose, and throat by specialists in these branches.

I have advocated for several years that a procedure such as this would make unnecessary an annual examination of each child. This would also



allow the time of attending physicians free to be devoted to examinations of new pupils, and all acute cases which arise in the schools. A child with defective vision or hearing most often has the defects when it begins school life, and it is the exception that these conditions arise during this period. A child may have serious errors of vision, and the parents and child not notice them until the work at school makes apparent the defect. Sometimes the conditions in these cases are blamed on too close application in the school room, but it is not so.

It is interesting to note that recently the authorities in London passed a law similar to the one cited, and it went into effect January, 1908. Parliament has asked the Board of Education to present to them an annual report of the findings and results obtained. They intend later to create school dispensaries for diseases of the eyes and ears, etc. These clinics, besides a dental clinic, are already in vogue in some of the larger European cities.

Such recognition by the authorities of large cities is, in itself, sufficient proof of the views on relation of physical defects to mentality. A child in early school days may, because of a defect of vision, merely show an inability to acquire certain subjects, especially reading and writing, but later the child may, to a great extent, become incapacitated. These pupils oftentimes manifest an unaccountable stupidity, and their inattention and misconduct deprive both the teacher and the other pupils of concentration to work.

Modern scientific pedagogy looks to the physician to explain why this or that child is dull and mentally subnormal. Many physicians are content to merely label the child as a congenital mental defective. An exhaustive attempt to localize the trouble is ignored, and the teacher accepts the diagnosis of inferior brain function, and a hopeless case. This exonerates the teacher of all responsibility, and covers up her inability to instruct a pupil, which is not "an ordinary, every day, routine pupil."

It would be a great aid in the study of mentally subnormal children, if teachers would give us accurate records of the school work of pupils mentally subnormal and physically defective. The study should include the psychological study of the cases, the physiology of the child's various mental processes. A close study of the kind of work the child fails in, and any change in these branches after correction of defects, would aid in a study of relationship between physical defects and mentality.

The results obtained from the correction of eye defects are generally good, sometimes marvelous. The best results are obtained in the earliest school days. In older children, occasionally, defects of vision are found and corrected, and the results on the mental condition are not immediately apparent. Here the teacher or parent is too early discouraged. One must not forget that prolonged eye strain sets up pathological changes in the tissues of the eyes, and even after removal of the cause the results may still remain for some time.

The test card being the only instrument available for the examination of eyes by teachers and others not possessing the scientific knowledge of a physician, it may be well to explain how the best and most practical results can be obtained from them. Re-

cently a principal of a public school published the results of an examination of about five hundred children, using the ABC letter test card, and the illiterate E card, and compared the results. His method consisted of placing the child sixteen feet from the card; if he saw correctly the letters of the sixteen feet line, he was asked to step back two feet, and if he still read the letters correctly he was designated as farsighted. If he could not see distinctly every letter at sixteen feet, he was advanced two feet at a time until he accomplished the reading, and these cases were all labeled as myopic or near sighted. His results recorded were as follows: With ABC card: Near sighted, 65.8 per cent.; far sighted, 15.5 per cent. With the illiterate E card he found: Near sighted, 8.1 per cent.; far sighted, 82.2 per cent. Having obtained these directly opposite results, he very ingeniously formulated a theory to prove the illiterate E test card built wrong. It happens, however, that the results he obtained with the ABC card are nearer to being correct. Myopia in children is rare in comparison to hypermetropia, even if one does hear more about "the near sighted child." The principal comments as follows: "I frequently found it necessary in all grades, especially in the primary grades, to allow the pupils to rest their eyes. . . . Many eyes after reading a half dozen letters were filled with tears. . . . It was not an uncommon thing for a pupil to have to move up to twelve feet in order to make out the direction of the E; but having once clearly seen it he could recognize the other directions with apparent ease at twice the distance." It is not my intention to ridicule the work of this gentleman, but rather to congratulate him on his honesty in publishing such a full and concise report after obtaining such extremely opposite results. His comments spell most plainly *accommodation*. This principal is not the only one who has made the error of trying to tabulate the near and far sighted by means of the test cards. I recently read the report of a physician who examined one thousand school children and used the following method: The pupil was placed five metres from a test card, and a convex spherical lens of a half dioptre was placed in front of the eye; if the child said he saw better with this lens than with the naked eye he was registered as hypermetropic. If he saw better with a concave spherical lens of a half dioptre he was considered near sighted, and all others were normal. These statistics are worthless, as a child may easily overcome even a much stronger lens and see distinctly.

The test card is a valuable subjective test, but to a layman admits only of his diagnosing bad cases of defective vision. He can rarely with accuracy distinguish hyperopia, myopia, and astigmatism. He therefore can obtain most practical results by using the test card to choose the cases of defective vision, and then refer the case to a competent ophthalmologist to make an accurate diagnosis. After a case is examined the teacher would do well to follow the pupil, urging the parents to obtain the glasses. The test card is worth little more to the physician until he relaxes accommodation with a cycloplegic. Then the lenses which bring the visual acuity to normal are the proper correction. If there is no astigmatism, or the astigmatism is at an axis of 90° or 180° the physician

may be able to find the correcting lenses with no further objective tests than the test card and lenses. However, this method should only be used to confirm the findings by instruments of precision, the retinoscope, ophthalmoscope, and ophthalmometer.

Many varieties of figures and letters have been used for test types, but all are made on the same principle, to represent normal visual acuity at definite distances. With pupils of higher grades the ordinary test card after Snellen, and using the various letters, answers every purpose. But for the illiterate and very young it is sometimes a grave problem to use a test card with any dependence. With children cards with numbers seem to be more reliable than those with letters. Sometimes the illiterate card with the letter E pointing in various directions is satisfactory. For several years I have tried several charts with a view of obtaining one which would serve the purpose equally well for all cases. A chart composed of small words as "cat," "man," was adapted to some pupils of the primary grades. Pictures and silhouettes were unreliable. Having had occasion to refract the eyes of a deaf and dumb child, necessity lead me to design a card composed of hands with various fingers extended and in various directions. The fingers were accurately measured to conform with the type of Snellen. The success met with encouraged me to use the card on all cases, especially children. It proved the most practical of all the charts. A child not only can imitate the hands, but can be allowed to count the fingers. I have reproduced here this chart of hands, and also the chart of pictures.

The method of procedure with a test card is familiar to all. The child is placed sixteen feet from a test card, placed in proper light and at the height of the child's head. Each eye is tested separately, covering one eye which the other is being examined. In expressing the visual acuity, the distance at which the patient is stationed becomes the numerator, and the distance at which the test letters should normally be seen the denominator of the fraction.

With the present system of medical inspection of the public schools accomplishing much in the detection of cases of defective vision, and the addition of trained nurses in those sections of the city where parents are careless or because of poverty neglect the necessary attention to obtain the glasses, we are well equipped to attend to these unfortunates. Cases which for various reason would receive no attention should be referred to a competent ophthalmologist employed by the city for these examinations. Difficulty in obtaining parents to take their children to dispensaries situated at a distance from their homes makes it imperative for this work to be performed at school, after obtaining permission from the parents. If it were possible the largest school in each section should have for eye examinations a closet fitted for dark room examinations, or a portable arrangement could be used in the various schools.

Finally, children who are too poor to clean glasses, when necessary, should be supplied with them from a fund appropriated by the city. All books are supplied, and sometimes the glasses are more necessary than the book.

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## PSYCHOTHERAPY IN THE TREATMENT OF THE FUNCTIONAL NEUROSES.

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"Nervousness is a disease preeminently psychical, and a psychical disease needs psychical treatment." Mental therapeutics has been practised from the earliest ages by physicians, at times for the patients' benefit and nearly as often for their detriment. Every physician employs "unconscious therapeutics" in his daily practice, and it is only because so many reputable practitioners neglect the importance of "unconscious therapeutics" that it has not been generally used. We have been taught for so many years to deal with the physical that we look askance when anything pertaining to the psychic is mentioned. Psychotherapy is a valuable therapeutic adjunct when used intelligently and by conscientious physicians; on the other hand, it is one that readily lends itself to charlatanism and quackery in the hands of the unscrupulous doctor and the gullible patient. The success and rapid growth, especially in this country, of the various faith cures, Christian scientists, magnetic healers, etc., is due to the mental impression these people are able to make upon the American public. That they cure a great many of the functional neuroses most of us must admit, especially when we experience patients leaving us and going over to the various faddists, after we have exhausted our stock of drugs without any beneficial effect. The time has come when we must seize upon truth "where'er 'tis found, on foe or friendly ground," and use every available means to relieve the misery and suffering of the nervous patients.

It is unfortunate that the subject of psychotherapy is so frequently neglected in the medical curriculum, and I fear that students go out from our schools with the idea that anything psychic is shrouded in mysticism and often charlatanism. That suggestion often powerfully affects the progress of a case for good or for ill every experienced practitioner will admit. It is a helpful adjunct in the treatment of functional neuroses, and even in incurable cases it often aids in keeping the patient comfortable. There are, I fear, very few physicians in this country who rely entirely upon psychotherapy in treating the nervous patient. We have not the temerity of our French confrères, Dubois, Déjerine, and others, who isolate their patients and depend entirely upon suggestion or persuasion to cure them. Weir Mitchell over thirty years ago blazed the way for our methods in psychotherapy in his *Fat and Blood and How to Make Them*. This little book has probably done more to relieve the sufferings of neurotic women than any other writing on the subject. This work was taken up enthusiastically by W. S. Playfair in England, and resulted in curing a great many nervous cases. In France, Charcot and his followers made use of hypnotism in treating cases of hysteria. Liebeault and the "Nancy school" practiced suggestion in waking state. Both methods, however, have the objection of substituting the will of another person instead of reinforcing and strengthening the patient's own willpower and self-reliance.



Professor Dejerine, now in control of the Salpêtrière, dispenses with massage and electricity, employs rest in bed, overfeeding when indicated, and relies principally upon rigid isolation and persuasion. He explains the abnormal symptoms, and appeals to the patient's higher reasoning faculties. When this treatment is effective, and it very often is, it has the effect of giving the patients a healthy viewpoint of their condition and results in self-reliance and self-control which they did not have before. The recent writings of Janet, Loewenfeld, and Dubois has awakened a new interest in the subject of psychotherapy. Dubois's *The Psychic Treatment of Nervous Disorders* has had an extensive circulation in this country and served to place psychotherapy on a scientific basis. Taking the subject up as he does from a psychological standpoint he shows clearly the mental processes at work in the neurotic individual, and gives very definite directions, with illustrative cases, how to overcome and correct the mental and moral orthopædia. The literature dealing with the psychic factor in disease has been increasing in this country, as will be appreciated by glancing over the files of the current journals for the past five years.

In the practice of psychotherapy the personality of the physician probably plays a more important rôle than in any other department of medicine.

Barker remarks in his recent article on Psychotherapy and Reeducation that "the psychotherapist should be an honest man and an expert clinician. He should recognize the horrible reality of the misery of the psychoneurotic. He may be more successful in understanding and treating his patients if he has had himself, at least, some little experience with the fatigues and fears of neurasthenia, provided he has made a good recovery. He must be interested in functional disturbances and not simply in anatomical lesions, and he must understand that hysteria and psychasthenia are as much disease as are pneumonia or gonorrhœa, and often incapacitate the sufferer for a much longer period of time. He should be skilled in all the modern refinements of diagnosis, and should exhaust them in the study of his case before beginning his therapy." In addition to the foregoing the physician to treat successfully the neurotic patient must possess the attributes, patience, sympathy, and tact. It is only those who know the tortures undergone by functional nerve sufferers, the neurotic derelicts of both friends and physicians, and who appreciate their suffering, that can possibly put up with the trying nature of the patient and their multitudinous and often incurable ailments. The lack of these virtues among doctors fills the various health resorts at home and abroad with patients sent there because the physician could not stand the strain at home, and realizing his inability to help them, takes this as an easy way out. Tact is the unconscious mental touch, the *tactus eruditus*, by which one mind feels another and can convey to it, physically or psychically, skill, decision, and sympathy. Psychic tact, if I may use the term, is the *sine qua non* to success in treating the neurotic patient.

The foundation for most of the functional neuroses has been begun by a "nervous shock," and upon this has been reared a superstructure of varied emo-

tional symptoms. In order to successfully raze this neurotic temple it is essential first of all to get at the underlying cause, remove this if possible, and the subsequent treatment will be comparatively easy. It is necessary to obtain the patient's full and complete avowal, and to investigate the condition of the mental background and determine the mobility or immobility of their ideas; in doing so the three cardinal virtues, patience, sympathy, and tact, are to be used.

Sir Dyce Duckworth has said: "Confidence may be gained and is always strengthened by a close and careful attention to the minutest details of the case before us. All hesitation and appearance of uncertainty is to be strenuously avoided. A medical man who cannot keenly regard his patient eye to eye with firmness and directness is hardly likely to succeed. Dogmatism founded on sound principles is as good for patients and their friends as it is for students in the lecture room. We must be definite and we must be lucid."

After a thorough physical and mental examination of a patient the physician assures himself that the case is entirely functional; he can then institute rational psychotherapy and use as adjuncts the necessary physiological means to bring about a cure. Using either persuasion or suggestion, or both, because it is a difficult matter to separate the two, he will state plainly the facts of the case to the patient, telling him what caused the trouble and explaining how the different symptoms may be produced, the part the mind plays in originating and fostering the various fears and distressing symptoms. The fact that these symptoms can be relieved and cured with his cooperation, and how this is to be brought about, are impressed upon him repeatedly. Patients of average intelligence will listen to the explanation with considerable interest, and in the majority of cases enter into hearty cooperation with the doctor to bring about a speedy recovery. It is surprising to see (unless one has had the experience) how readily the average patient accepts the statement of the doctor and believes that they will get well, even after months of suffering. After once carefully listening to a recital of the patient's symptoms and explaining each one, it is much better at subsequent visits, when possible, not to again refer or allow the patient to refer to them. Keep the one idea always in view that the symptoms will disappear, and they will get entirely well. As Preston aptly expresses it in his book on *Hysteria and Certain Allied Conditions*: "All treatment, whether it be drug or hygienic measure, should be made impressive, should be tipped, as it were, with suggestion." When the case requires treatment other than that which is purely psychic we do not hesitate to use dietetics, electrotherapy, hydrotherapy, pharmacotherapy, or any physiological means to bring about a recovery. Psychotherapy should not tend to make us therapeutic nihilists.

Systematic treatment should be elastic and differently adapted to meet the needs of different temperaments and circumstances in patients, no two of whom are ever quite alike. What we want to secure is a central will reassured, instructed, strengthened, and set free from worrying trammels, to play its proper part as director general of the personality. To assure the cure of the sick it is not enough to



correct their logical defects; one must also teach them a philosophical conception of life, in the stoical sense, so that they can adapt it to their case.

By physical methods we may give them a physiological basis of personality, but by psychic means we teach them to educate and assimilate their conscious material and maintain a condition of adaptive stability in relation to their environment.

The ambulatory neurotic is rather difficult to handle. It is far preferable when possible to remove the patient from sympathizing friends and relatives and place them in a hospital or sanatorium. Here the patient is under close surveillance, and the many necessary details can be successfully enforced. They are free from the various annoyances associated with their home or business environment, and realize that the object in view is to get well, hence the mind is more receptive to psychotherapeutic influences and recovery is often materially hastened.

So much for the immediate care of the nervous patient. Of equal importance is the after care of the psychasthenic or neurasthenic. It is often impossible for the average patient to remain in the hospital until complete recovery ensues; with such patients it is advisable to keep in touch for a while until the last vestige of the neurosis disappears. This can be satisfactorily carried out by means of psychotherapeutic letters (Oppenheim). In addition to keeping in touch with the patient and trying as far as possible to remove all exciting influences that would tend to cause a recurrence of the malady, it has been our custom, especially with the poorer class of patients, to have the district nurse of the charity organization visit these patients in their homes, and advise them how to live and manage their affairs with the least amount of friction or worry. It is manifestly useless to place a patient in the hospital for six or eight weeks, cure them of neurasthenia, then send them back again amid the same uncongenial surroundings, and expect a continuance of the good accomplished during their stay in the hospital. See Cabot *Methods at Massachusetts General Hospital*.

I am not ignorant of the fact that a great many of our so called cures often times relapse and drift about from one physician to another, while we congratulate ourselves that we have made a successful cure.

"The nervous patient is on the path to recovery as soon as he has the conviction that he is going to be cured; he is cured on the day when he believes himself to be cured."—Dubois.

Rational psychotherapy requires time to effect a complete transformation of a mind that has been beset with doubts and fears for months. If we persist in our efforts to reeducate the neurotic sufferers we cannot at last hope for a permanent result.

A few illustrative cases have been selected from the neurological wards at St. Agnes Hospital. The histories are presented in brief abstract form, as the details would occupy considerable space, and not be specially interesting to the average reader.

CASE I.—Female, aged twenty-nine, with the following symptoms: nervousness; insomnia; cure.

Mrs. C., age twenty-nine, factory girl, was admitted to the public ward of St. Agnes Hospital on May 6, 1907, complaining of nervousness and loss of sleep.

Family history: Mother is subject to nervous attacks

Paternal aunt had "mental trouble." One brother died of consumption.

Previous history: Had smallpox ten years ago, and scarlet fever four years ago, which left her with nervous trouble. Patient had had attacks of heartburn; and felt as though pins and needles were sticking in her; she also had had "electric shocks," and could not sleep well. Patient taught a country school for several years; on account of the nervousness increasing she left the country and came to the city, where she worked in a wholesale drug house for a while, but could not continue, as she was getting worse all of the time.

Present condition: Onset of illness had been gradual. Patient was very much depressed and could not sleep. Had thought of committing suicide; had a fear of something dreadful going to happen. Memory was poor for recent events. Easily frightened without cause. Thought she was going to become insane. Would not talk about her troubles unless urged. Had been losing weight. Appetite poor, bowels constipated. Had no somatic symptoms. Physical condition showed no evidence of organic disease.

Treatment: Patient put to bed and isolated. Milk diet for the first week, and then three full meals with milk between meals. She was told that there was no physical trouble and assured of the fact that recovery was bound to come if she would only help. However, recovery was not as rapid as it should have been, and one day after a lengthy conversation the patient's "complete avowal" was obtained and a thorough explanation of each symptom given. After that the change was remarkable. The fears and distressing symptoms rapidly disappeared, and the patient left the hospital very much better.

Unfortunately, she was allowed to go back to uncongenial surroundings, and the old anxiety and fear began to return. She was put in touch with a district nurse, who obtained a position for her amid surroundings that were helpful, and when last heard from she was feeling very well. Abstract from a letter received September 2: "Yes, I am feeling very much better; in fact, I have not been so well for years. Life is really a pleasure now."

CASE II.—Psychasthenia. Simple goitre; morbid fears; fatigability; despondency; gain of twelve pounds; cure.

Mrs. B., age twenty-nine, entered private ward, St. Agnes Hospital, July 9th, complaining of nervousness and fear of walking.

Family history was negative.

Previous history: Patient had enjoyed good health until after death of her husband, whom she nursed for nearly two years almost constantly. Shortly after his death the nervous breakdown occurred. Patient was unable to eat, could not walk any distance, was always tired, became very despondent, lost weight rapidly, suffered from palpitation of the heart and accumulation of gas on the stomach.

Present condition: Patient was very weak: Seemed to have lost all hope of ever getting better, was quiet and despondent. Took very little interest in her condition or the surroundings. Said she was afraid to eat and afraid to walk.

Physical examination: Patient was emaciated, mucous membranes pale; pupils dilated and active; no exophthalmos; slight bilateral enlargement of thyroid gland; no bruit; no thrill; heart rapid, soft blowing systolic murmur at apex; lungs clear; reflexes normal. Examination of abdomen was negative except for a slight enteroptosis. Dermatographia was present. Muscle tone was fairly good. Bowels were constipated. There were no delusions or hallucinations, but a mild affect depression. She replied normally to questions, but expressed some of mistrust and emotional lability.

Treatment: Rest and isolation; milk diet for a week and then forced feeding. Persuasion. Cold baths and massage. Rapid recovery. Gain in weight and mental condition cleared up. Patient bright and self confident. The following is quoted verbatim from a letter received on September 13, 1907: "I am feeling so well that I hardly feel like the same person of two months ago. Yesterday was just one month since I left St. Agnes and in that time I have gained about seventeen pounds in weight. I am enjoying plenty of pure milk and fresh country eggs, and delightful country air, and everywhere is beautiful, and in a few words I feel like (I repeat and emphasize) like."

CASE III.—Neurasthenia; persistent vomiting; insomnia; loss of weight; depression; cure.

Mrs. L., age thirty-one. Entered private ward, St. Agnes Hospital, complaining of nervousness and stomach trouble. Family history was negative.

Previous history: Patient had been healthy until after the death of her mother, when family trouble and worry started the present nervous condition.

Present condition: For past eight months patient had been fed almost constantly by rectal tube, as she had suffered from persistent nervous vomiting. Had been very emotional and irritable, at other times moody and depressed, unable to sleep, and had resorted to hypnotics almost constantly for the past eight months. There had been rapid loss of weight. Complained of headache and numbness and tingling of different parts of the body. Easily fatigued. No desire or energy to go about.

Physical examination: A careful physical examination revealed nothing abnormal, except pale mucous membrane and some emaciation.

Treatment: Isolation; complete rest; milk diet for one week, then overfeeding. After one thorough explanation of patient's condition and forcibly impressing upon her the fact that she would improve rapidly and get entirely well, no further trouble was experienced. There was no nausea or vomiting. Patient ate heartily and gained weight rapidly. Left hospital at end of four weeks, perfectly well.

CASE IV.—Hysteroneurasthenia; "stomach trouble"; scoliosis; hysterical paraplegia; parasthesia of legs; crying spells; improvement.

Mrs. H., age forty-two, entered private ward February 4th, complaining of indigestion and general weakness.

Family history was negative.

Previous history: Patient said she "had never known a well day." Had usual diseases of childhood. When sixteen years old a lateral curvature of the spine developed. Had never been able to do any hard work. Had suffered from severe attack of gastritis three years ago; following this attack there was a paralysis of both legs for a month, without any involvement of bladder or rectum. Patient had had two other similar paraplegia attacks, which would come on slowly and disappear rapidly under psychic stimulation. When riding in an electric street car she stated that she could feel the electricity through the floor of the car. Her limbs always felt stronger after such an experience.

Present condition: Patient had been unable to digest any solid food for some weeks, and had lost weight recently. Great weakness. Easily exhausted. Complained of "internal twitching of nerves of stomach, feels like a dozen children in stomach." Had frequent attacks of vertigo, especially when sitting at the table.

Physical examination was negative except for the spinal curvature.

Treatment: Isolation; complete rest; milk diet for one week, and then overfeeding. Psychotherapy. The symptoms were explained, and the patient encouraged to believe she would get well. Baths, massage, etc., given. Improvement at first was slow. Gradually the patient was made to realize that she could get well, and just as soon as she felt in her own mind that good health was possible, she began to improve. Daily encouragement by both doctor and nurse was necessary, with the result that when the patient left the hospital she reeducated her mind to a healthy viewpoint.

330 NORTH CHARLES STREET.

## A CLINICAL STUDY OF GENERAL ANÆSTHESIA.\*

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In this late day and age, when the administration of an anesthetic may truly be said to be the most common procedure in surgery, it may appear to be but repetition to add still another contribution to the already voluminous literature on the subject.

Extended observations during the past three years have, however, led me to believe that there

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is no subject in general medicine which is more misunderstood, and few that cause more needless deaths and suffering, owing to the misunderstandings on the part of the profession, than the technique and selection of the anæsthetic.

It is not my purpose here to call attention to the shortcomings of our profession, and I have withheld writing the following with the hope that some more mature member of our society, with years of experience and observation, would call attention to some of the fallacies under which medical men are now laboring. But as such a thesis is still forthcoming, I will attempt the same, yet not having forgotten that "fools rush in where angels fear to tread."

The advent of anæsthesia marked the beginning of modern surgery, of the marvelous achievements we need not enumerate here. The startling triumphs of the past century may not be reduplicated, but there is still room for wonderful improvements on the discoveries of the past; especially is this true in regard to clinical methods.

Modern instruments, chemical research, and a better knowledge of physiology, pathology, *et cetera*, have all aided in bettering our knowledge of disease and its treatment. But there is still a tendency to overestimate laboratory methods, which often have little bearing on practical results. Thus the Hyderabad Commission in Europe found that chloroform was safer as an anæsthetic than ether. While the investigations of the commission were exhaustive, their results bear little relation to actual results in human subjects, for anæsthesia in dogs cannot be used as a criterion of results in the human subject. I simply mention this instance in passing to show how investigations are given to and accepted by the profession as final, where in reality they are of but little clinical significance.

We have not time here for a complete résumé of general anæsthesia. Ether, chloroform, and nitrous oxide are the drugs in general use the world over to-day. Various other agents have been recommended from time to time and combinations of the above, but most of them for various reasons have been dropped by the wayside.

Of local and spinal anæsthesia we have little to say here. The latter, however, bids fair as a future method in a goodly number of cases. I fail to see any advantage over general anæsthesia as a routine procedure, though it doubtless will find a field of usefulness. Local anæsthesia has a large range of usefulness. While not coming within the scope of this paper, I may be permitted to say but one word. In infiltration anæsthesia the drug employed often plays so small a part that the patient should not be subjected to the possible toxic action of cocaine when a 0.1 per cent. solution or sterile water will often give as good results as a ten per cent. solution.

Morphine, hyoscine, and cactine compound as a general anæsthetic I mention simply to condemn. It has no place in surgery.

The comparative safety of ether and chloroform has long been a much mooted subject, not in this country alone, but in Europe. Abroad, especially in England, chloroform still holds sway. In this country ether is favored, and is rapidly gaining further



ground. During my short period I have seen the abolishment of chloroform by a large number of surgeons. But its use to-day is still too large, especially among the general practitioners and in cases where it is supposed to be indicated. It is upon this subject of indications which we wish to lay special stress.

Most textbooks on surgery devote much attention to the indications and counterindications of chloroform and ether, and it is upon this basis that so many men select chloroform to the detriment of their patient. That these classical indications are not backed by clinical experience I thoroughly believe, and that the many set indications are not well grounded we shall attempt to show.

Statistics, especially medical, are unreliable, yet there are some known facts which will bear consideration. Over 100,000 ether administrations have been given at one leading Eastern hospital without a death which could be attributed to that agent alone, while in England in one year there were no less than ninety-six published deaths from chloroform, and this probably is only a small proportion of the fatalities in that country during that period. If the fatalities from chloroform in this city during the past few years could be compiled the list would be appalling. I believe the ratio would reach more than one death in each five hundred administrations. Not a few deaths occur at Harper Hospital each year as a result of the use of this drug.

In the tropics and in the time of war, when the subject of bulk is an important issue, chloroform fills a rôle which is unexchangeable. In the Northern States, such as Michigan, its use, except in child delivery, is, in my opinion, next to criminal.

The varying results of comparative safety of these different agents in the hands of operators are different for several reasons. Thus the results of so ardent an advocate of chloroform as Sir Victor Horsley, who has his own anæsthetist—a trained specialist—are not to be compared with the work of a novice, often not even a nurse or medical student. But one thing is certain, chloroform is extremely dangerous, even in the hands of an expert. That deaths do occur from ether, I do believe, but they are in all instances unnecessary deaths. They are due to a lack of knowledge of the drug, its physiological action, and the simple technique of its administration.

There are many points aside from the mere giving of the drug which have much bearing on the patient. The relation between the anæsthetist and the patient is unique. Often the latter has perfect confidence in the surgeon, but a greater fear of the anæsthetist. It is important in every case that the anæsthetist should know his patient, and that he should inspire confidence in his part of the work as well as the surgeon. So often we see a patient wheeled from his bed to the operating room in our largest hospitals, a cone put over the face, and the first words of the anæsthetist are: "Take a deep breath."

It is impossible to enumerate here what routine is to be followed with each patient, but there are a

few points which bear consideration: 1. A conversation regarding the patient's illness; 2. An examination of the patient's heart and mouth with reference to the tongue, teeth, etc., and, third, a conversation on some subject having no bearing on the patient's trouble, the latter to be started shortly before the administration of the ether. This, of course, is not practical in every case, but in most instances will accomplish the most charming of results; thus, a farmer will talk of his crops, a sportsman of hunting, a child on things at school, *et cætera*. This advice, when carried out with a little tact, consumes no extra time and saves much time after the anæsthetic is once begun. I can't dwell upon this point too long, for it is a most neglected point, especially in our hospitals.

Another thing which is not considered is the relation between the surgeon and the anæsthetist. Usually the administration of the anæsthetic is designated to the younger members of the staff of resident physicians or to the externes. I believe that a surgeon should be commander of his anæsthetist, yet at the same time the anæsthetist should be given more consideration than he often receives by some of our local surgeons.

It is unfortunate that only a few of our surgeons have any knowledge of the proper methods of administration or of the physiological action of ether.

Thus the young anæsthetist is often scared out of his wits by one he most fears—possibly his professor at college—and often prevented from doing good work by remarks on the part of the surgeon.

Too much has been claimed for the various complicated cones; in my experience none of the patented cones have any advantage over the simple Esh-march or its modifications. As a general thing, the smaller the cone the better, as it does not cover up the face and eyes, and can be managed by one hand. It, moreover, gives a chance to regulate the dosage.

Proper etherization has been more correctly termed "ether air anæsthesia." We hear much nowadays about the drop method, but, as a matter of fact, it is not common to see it given that way. As a rule it is literally poured on. The cone should be placed on the face, and one drop of ether given, about fifteen seconds later a second drop, and so on until the patient becomes accustomed to the odor; it can be then given a little faster, but always by drops.

The drug should, of course, be fresh, and should be administered from a three or four ounce bottle, through a small hole in the cork, and never from the large cans in which it is packed, as in this way it is impossible to regulate the dosage. The ether should also be warmed to almost body temperature. This can be usually accomplished by holding the bottle in the hand for a few minutes.

From two to seven ounces may be given as the dose of ether, and it should be given with the same thought of physiological action as one would use in giving digitalis, aconite, or any other drug. Of course we expect that the patient has been properly prepared beforehand and that the man holding the knife is a surgeon. In the average operation of whatever sort it is seldom necessary to give more. Previous to operation, one eighth to one fourth grain of morphine, hypodermatically, is often of benefit and aids considerably. While not always



necessary, except in drinkers, *et cætera*, who take no anæsthetic well, it is a good routine practice. Atropine is also of much value in some cases.

The importance of the operation versus the anæsthetic as viewed by the surgeon was recently well illustrated, and I relate it here to show the minor importance placed by surgeons in methods of giving ether. The surgeon, an eminent Eastern specialist, was operating upon a patient for brain tumor. The anæsthetist was placed under a cover which extended over the patient's face, and allowed to give the ether from a Squibb's can. It is of the utmost importance to observe strict asepsis in surgery, but never to the total exclusion of a proper anæsthetic. It is needless to say that the anæsthetist under such conditions, himself saturated and working in the dark, could not do justice to the patient.

Ether given as I have outlined is not unpleasant to a large proportion of patients. Nitrous oxide as a general anæsthetic in minor operations is too familiar to all of us to dwell upon here. In major surgery it is well suited in many cases, as in prostatectomies in old men, the drainage of an appendicular abscess in much debilitated patients, etc. But its use ends here. In the average appendectomy, or any other abdominal operation, its use is not good practice, regardless of the amount of skill possessed by the anæsthetist. Nitrous oxide as an antecedent to etherization is advised by some surgeons. It has some points in its favor, but likewise its disadvantages. The apparatus necessary for gas anæsthesia is often startling to a patient, and the stage of excitement, which can be overcome in the majority of cases by ether alone, as I have suggested, is sometimes marked as the patient is coming out of the gas and going under the ether. Here the tendency again is to give too much ether. The cone should not be saturated, but the drug should be given by drops.

Turck<sup>1</sup> has shown that the phenomenon of shock can be produced in dogs by anæsthesia alone. Clinically, however, the slight shock of ether given in its physiological limit is of no significance, and in the majority of cases the drug acts only as a slight stimulant. On the other hand, the extreme depression of chloroform is often marked, even with a comparatively small dose. Extreme nausea and vomiting following anæsthesia is unnecessary in the great majority of cases. It is due usually to a toxic dose. The stomach, as is well known, is one of the main routes of excretion of the anæsthetic, ether or chloroform. When the blood is saturated with ether, the stomach is called upon to aid elimination, and nausea and vomiting are the natural consequences.

The foolishness of giving drugs for this condition can readily be seen. A glass of lukewarm water with ten grains of sodium bicarbonate or sodium chloride will wash out the stomach and carry with it the offending agent. Bismuth, charcoal, the carminatives, etc., are worse than useless.

The habit of washing the stomach by means of a tube, immediately following anæsthesia, is dangerous, and invariably harmful. A patient ordinarily should be waken up by the time the bandage is pinned

up. I have seen them sit up after a breast has been amputated so as to allow the bandage to be put on with more ease, and ask the surgeon regarding his opinion of the possible malignancy of the growth.

The patient is, or usually should be, awakened by the time it is necessary to proceed with the stomach washing. If this is insisted upon, it is necessary to give from one to three extra ounces of ether in order to relax the patient sufficiently to allow of opening the mouth. The patient has thus so much more ether to excrete, and thus nausea is far greater as a rule. There are other dangers in connection with this method which are obvious at this time.

There are few points in connection with technique which need emphasis here: First, do not use tongue forceps; they are cruel, and are not necessary in one case out of a hundred; second, do not touch the conjunctiva with your finger. It is never necessary, and sometimes it causes trouble afterwards. At the same time it is important to see that the lids are kept closed during the administration of the anæsthetic, so that the conjunctiva will not become dry; third, do not use too much force in holding the patient's jaw forward, for while it is occasionally necessary to lift the jaw up and keep it there, too much force will often cause the parts to become very painful.

The idea that the patient's head should be lowered is erroneous. As a rule the patient's head should be raised on a pillow. This is contrary to the teachings in most textbooks, but patients invariably do better by this method.

Cyanosis, excessive mucus, after nausea, and vomiting are rare with the drop method, and the fault rests with the anæsthetist, and should not be laid to the drug employed. All these conditions are the result of a too concentrated vapor or the toxic action of an overdose. Much has been said regarding the after effects of ether anæsthesia. Pneumonia, nephritis, fatty degeneration, and a multiplicity of conditions are given as the direct result of ether. As a matter of fact, these conditions are very rare; moreover, they are fully as common with chloroform as with ether. It is sometimes forgotten that these conditions occur as sequelæ of the disease from which the patient is suffering, and thus often the blame is laid to the anæsthetic, where it probably bears no relation, except that, together with the operation, it aided in lowering the patient's vitality, and thus increased his susceptibility.

That the extremes of age bear ether well is borne out by a large series of cases. Here again chloroform is so often selected owing to the bugbear, "ether pneumonia," which still lingers in the minds of physicians, or "a few drops is all that is necessary" for the tonsilotomy or circumcision, with the unfortunate result that a perfectly healthy individual dies a martyr, together with others, which will finally change the physician's point of view.

#### Conclusions.

The following practical deductions may be drawn from the present studies:

1. Chloroform is a dangerous drug, and should be totally eliminated from the armamentarium of the surgeon.

<sup>1</sup>Trans. Am. Med. Assoc., Nov. 2, 1905.

2. The so called "morphine-hyoscine anæsthesia" is unscientific, and is equally as dangerous as chloroform alone. It has no place in surgery.

3. The comparative safety of ether and chloroform cannot be based on our present statistics, but one point is certain: chloroform is always dangerous, while ether given with a comparative amount of skill, is absolutely safe.

4. Nitrous oxide as a general anæsthetic is occasionally of value, but its use is extremely limited, as good results can be obtained in these cases where gas is used by ether, if the latter is given with the same amount of skill as is necessary in giving the gas.

5. The anæsthetist should pay more attention to his patient, and the surgeon give more consideration to the duties of the anæsthetist.

6. The indications in a surgical operation are for ether, and the counterindications are nil.

In conclusion I want to express my thanks to Dr. W. A. Fenner, Dr. F. E. Bowman, and other members of the resident staff for records, observations, etc., which have been material for deductions on no small proportion of the past five thousand surgical cases treated at Harper Hospital.

#### A CASE OF ABSCESS OF THE FRONTAL LOBE OF TRAUMATIC ORIGIN.\*

BY FIELDING LEWIS TAYLOR, M. A., M. D.,  
New York.

Thomas H., aged twenty-seven years, was struck with a brick above the right eye in a street fight in May, 1906, about four months before I saw him. September 13th. He was not rendered unconscious by the blow. The resulting wound was sutured in a hospital in a New England city, and he returned to his work as a railroad section hand the following day.

After a month considerable inflammation about the wound, which had healed, caused him to return to the hospital, where a superficial abscess was opened and several small pieces of brick and some spicula of bone were removed by the attending surgeon. Although the wound healed, the patient suffered from intense headache at times, which was most marked over the occiput; he could scarcely stand up, while he could move his legs fully though feebly in bed. He was obstinately constipated and vomited very frequently. His intellect was sluggish, and he could not sleep. His friends became dissatisfied and removed him to his home in the country. Here he remained most of the time in bed, suffering tortures with headache and vomiting, until September 12, 1906, when he was seen by Dr. A. B. Tucker, who brought him to a sanatorium in this city. I saw him the afternoon of the same day with Dr. Tucker.

The patient was terribly emaciated. He yawned every few minutes. If his attention was attracted he would answer questions sluggishly but intelligently. Otherwise he was apathetic. His pupils were moderately dilated and responded in a measure to light and distance. Vision was decidedly diminished. Dr. Claiborne examined the eyes and found bilateral optic neuritis more advanced on the left side. There was slight paresis of the left side of the face without ptosis. The tongue could be put partially protruded, and deviated slightly to the left. There was distinct weakness of grip in the left hand.

He could move his legs. The abdominal and rectal examinations were well marked. The Babinski sign was not present. The knee-jerk sign was marked on both sides. The reflexes of the neck and back were very brisk. He complained of acute pain in the occiput and down the spine.

There was incontinence of urine and feces and peristalsis.

\*Read before the Section on Surgery of the New York Academy of Medicine, January, 1908.

ent vomiting. The pulse was 72, respiration 16, and rectal temperature 98° F. The leucocyte count was 8,000, of which seventy-nine per cent. were polymorphonuclear neutrophils, nineteen per cent. lymphocytes, one per cent. eosinophiles, and one per cent. basophiles.

There was an irregular cicatrix crossing the right temporal ridge about one inch above the external angular process of the orbit and adherent to the bone, in which a fissure could be felt. The skin in the neighborhood was oedematous, and slight fluctuation and congestion were present at the inner end of the scar. There was oedema of the right upper eyelid. The whole anterior part of the head on the right was tender on deep pressure. There was a difference in the percussion note on the two sides, but this I thought might be attributable to the oedema.

The patient's pulse fell to 53 during the night. He was operated upon the next day. An incision was made in the line of the old cicatrix. There was a drop of pus at its inner end. The fissure was enlarged with a bone forceps, and a round opening about an inch in diameter made with its centre about an inch above the junction of the middle and outer thirds of the supraorbital ridge. The dura bulged into the wound and was incised. There was some inspissated pus inside, which was removed. The anterior tip of the frontal lobe presented. It was very hard and did not pulsate. A very large hypodermic needle was pushed upward, backward, and inward, and encountered pus at the depth of half an inch. Upwards of two ounces of pus were evacuated with an artery clamp. The cavity was simply drained with a piece of rubber tubing and weak iodoform gauze without being scraped or irrigated. A hernia cerebri developed a few days later, about half the size of a hen's egg, which sloughed off, after which the wound closed.

The patient recovered his intelligence at once, except for the fact that for three days occasionally he would spring suddenly over to the right edge of the bed to catch hold of a table or other object, under the impression that the bed was falling over to the left; and that for more than a week he could not be convinced that he was not ill at his home in the country. The day after the operation his slight hemiparesis disappeared, his patellar reflexes returned, he retained his urine and feces, and stopped vomiting. He passed enormous quantities of urine of low specific gravity without albumin or sugar, and soon developed a ravenous appetite. The pain and stiffness in the neck and upper part of the spine caused him more trouble than anything else, but gradually disappeared.

He returned home October 17th, apparently well, except that he was nearly blind in his left eye and could see but poorly with his right. I last saw him on December 3, 1906. He stated that ten days after his discharge he had some pain in the neighborhood of the wound during the day; the same night he awoke with considerable pain in the occiput and down the spine, and vomited. The pain in the occiput lasted three days and ended with an attack of vertigo. When I saw him his leucocyte count was 6,000; his pulse was 72, full, soft, and regular. His patellar reflexes were normal, the wrist and elbow reflexes seemed slightly exaggerated; the strength of the hands was normal; he said that his legs seemed somewhat weak at times. There was no stiffness of the neck and spine, and no tenderness about the wound. The right eye was worse, he could only distinguish light. The left he thought somewhat improved, as he could count figures across a poorly lighted room.

He again returned to his home in a comparatively inaccessible place, about 100 miles from New York. I heard from him several times during last year that he was well, except that his eyesight was not improving. He made arrangements to come to New York to be treated for his eyes on November 1, 1907, and was in excellent spirits when I heard from him the latter part of September. I was then appointed to learn from his employer on October 30th that he had died on October 23d. On Thursday, October 17th, he complained of severe headache, which continued Friday and Saturday. During the day Saturday he had two convulsions, from which he recovered; during Saturday night he had four after which he could be aroused only with difficulty. Sunday he had a fit every ten minutes, and this continued until his death, on Monday afternoon.

I regret that I was not sent for. As I think that he had developed a secondary abscess by the extension of infection from the frontal lobe, I have been taxed, I could at least have

done an autopsy.) That such was the case is not the only explanation for the convulsions, as the scar resulting from the abscess and subsequent hernia cerebri was very large.

I postponed reporting this case for a year, awaiting the development of sequelæ. That a secondary abscess does develop in the neighborhood or even at some distance from the first, and that, too, after a considerable lapse of time, is amply proved by a review of the literature of the subject, with which I shall not burden you. This is a grave danger in cases that have been operated on with apparent success.

On the other hand, to show that a scar following an abscess may give rise to epileptic convulsions leading to status epilepticus and death, I shall cite only the following case: In the *Cincinnati Lancet Clinic* for 1906 (New series, lvi, p. 401), Dr. J. C. Oliver reports the further history of a case of abscess of the frontal lobe, which was operated on on September 11, 1895, and reported as cured in the *Journal of the American Medical Association*, of May 30, 1896. Eleven months after the operation the patient, a man twenty-one years of age, developed epilepsy, and had about one paroxysm a month for five years. The interval between the paroxysms gradually lengthened, until on February 19, 1904, he had several convulsions in rapid succession. A few days later he developed status epilepticus, and died of exhaustion. The only lesion found on autopsy was the cicatrix of the abscess, which extended into and involved the motor area.

173 WEST SEVENTY-THIRD STREET.

## THE PREVALENCE OF INFECTIONS IN CHILDHOOD.\*

BY MAURICE OSTHEIMER, M. D.,  
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The time is not very far off when you are likely to be called to see sick children, and it may be difficult, in many cases, to make a diagnosis. You may see an infant who continues to cry, and this constant crying is the dominant symptom, with some fretfulness possibly, and perhaps some fever and loss of appetite; examination shows nothing beyond a reddened throat and slightly coated tongue, and before you have exactly made up your mind what the trouble is, the mother or nurse has discovered a running ear! Here you had an infection which became localized in the middle ear. Other children may escape otitis media, yet develop coryza, laryngitis, amygdalitis, adenitis, parotitis, bronchitis, pneumonia, or pleurisy as the result of the same or similar infectious microorganisms.

Then you may see a larger child, coming with the history of having had sore throat and fever, without other disturbance. Some weeks later the attack of amygdalitis seems to be repeated, this time with signs of decided weakness, and your examination shows slight irregularity in the heart's action. It is then only a question of the number of recurrent attacks, either with throat or joint symptoms, until you discover the murmur of endocarditis, perhaps with signs of myocarditis or even pericarditis. And

probing into the antecedent history of some of these children, you will find that there had been, years before, an attack of scarlet fever. And in the older children, those approaching puberty, the previous occurrence of articular rheumatism or chorea may be revealed, and your questions will bring to light the history of numerous, repeated attacks of infection.

You should all know how very easily and rapidly gastritis, gastroenteritis, or enteritis develops in a young child. Generally the food, the heat, or exposure to sudden change in temperature is blamed; but you will remember that there are always infectious microbes present. Just which one plays the rôle of predisposing cause and which that of exciting cause is still in doubt, but microorganisms in great quantity and variety are found on examination.

So far I have spoken of infection in general; but you have already learned that one sort of coccus has been considered the specific agent in epidemic meningitis, another in pneumonia, another in gonorrhœa, and probably several groups, distinctive morphologically, in erysipelas, scarlet fever, and rheumatism. Bacilli appear to be the cause of tuberculosis, typhoid fever, influenza, dysentery, and diphtheria; while protozoa are supposed to be the infecting agents in malaria, relapsing fever, small-pox, and syphilis.

Your surgical experience has made you familiar with the various wound and skin infections, pyæmia, and septicæmia, as well as the different forms of genitourinary infections. And you have studied how the blood and lymphatic streams spread the disease germs.

Yet our knowledge of disease is still so incomplete that, while we consider many diseases as infectious in character, the infecting agents have not so far been surely distinguished. Here we should group scarlet fever, rheumatism, poliomyelitis, whooping cough, measles, and chickenpox.

If we go over the diseases already mentioned, we find remaining very few of the illnesses of childhood. Of course you will say "What of rickets and infantile scurvy?" Well, who can tell how soon they, too, may be classed among the infections!

Realizing, then, the very great rôle played by infections in children, it is your place, as physicians, to prevent their occurrence among your young patients. Therefore a general prophylactic treatment, for the prevention of infections, is of decided value to keep the children well.

As most of the infections are believed to enter the body through the lymphatic tissues of the nasopharynx, the most important thing you can do is to keep the nose and mouth clean. This should be begun in infancy, and kept up regularly and continuously until later life. Nurses and mothers must learn to clean noses, mouths, and throats early and with regularity; and signs of the presence of any abnormality, such as adenoids, should necessitate an immediate visit to the specialist.

Here I want to remind you once again, as I have so often before, that all cases of cervical adenitis are not tuberculous, the majority of such swellings in children being the direct result of other infections.

See to it that all infants under your charge are

\*Address given before the June Twinn Medical Society, University of Pennsylvania, March 2, 1907.



vaccinated between six weeks and three months of age; and order that all children be kept in the open air as much as possible during infancy and childhood. Besides, care must be taken in the preparation of all food for children, to prevent infecting the gastrointestinal tract.

If any child should come in contact with an infectious disease, precautions should be taken at once, such as the injection of an immunizing dose of antitoxine in case of diphtheria. And the possibility of treating all infections by the opsonic method seems to offer better results than any one method thus far advanced.

In closing, I beg of you to remember the great prevalence of infections in childhood, and hope that your good care will prevent many cases of infection in the future.

225 SOUTH TWENTIETH STREET.

#### SOME RANDOM NOTES ON LEPROSY IN THE FAR EAST.

By CHARLES S. BRADDOCK, JR., Ph. G., M. D.,  
Haddonfield, N. J.,

Late Chief Medical Inspector Royal Siamese Government.

Leprosy is a disease which is looked upon with horror by the people of the Occident. In the Orient, however, through long association, it is looked upon far differently and with more tolerance.

From personal observation my opinion is that leprosy is not nearly as contagious as is usually considered by the average man. In the Far East, and I speak more particularly of Siam and the Malay peninsula, lepers mingle with the rest of the people, travel in the same public conveyances, sit on the corners of the streets near public bridges and meeting places, and solicit alms in the midst of the great population, and the disease, while prevalent, does not seem to increase materially.

There is no segregation by the government of the lepers, and they are free to come and go at their own free will.

I notice, however, that the children of the lepers also develop leprosy, and that seems to be the mode of propagation of the disease. I never was able to get a single history of any one having acquired the disease directly from another, but had many children brought to me showing the first signs of the disease, usually manifested by a white patch slowly spreading over some part of the body, most usually the face, wrist, or ankle and usually anæsthetic, but not always. In every case on inquiry I found there was a history of leprosy in the family or collateral relatives.

I believe that any one who wore the clothes of a leper would acquire the disease, but it requires personal contact. Many persons associated with the lepers for long periods without contracting the disease.

I well remember a tramcar conductor in Bangkok who was a pronounced leper, and would probably be collecting fares from the public yet if the Europeans had not protested and had him removed from his position.

The amount of alms given along the streets to the lepers is enormous, and this money is passed on

from hand to hand. I always washed my hands with an antiseptic after handling money.

At one time a row of buildings in Bangkok collapsed, killing and injuring a large number of people. One man helping to remove the injured was covered with blood from a man who was crushed. On bringing him into the street he was horrified to see the man was a leper in the last stages of leprosy. I made him change and destroy his clothing at once and bathe with an antiseptic, and he was never affected in any way. Not a pleasant predicament, however.

I have attended many patients sick with other diseases, and have only found out after a physical examination that they were lepers; also dressed their sores, and have tried various medical means for their relief, but outside of the general improvement in health and surgical cleanliness have never seen any result from medical treatment.

These cases are usually neglected ones, so that when the leprosy sores are cleaned and treated antiseptically, and the patients given strong tonics, their general health improves. I think that the best results will be obtained in the future along the lines of curative sera and antitoxines.

On a journey to the island of Puket, in the Indian Ocean, lying between the west coast of the Malay peninsula and to the south of the Mergui archipelago, my attention was called by Prince Damrong, minister of the interior of Siam, to a body of people who had called to pay their respects to him, and whom he called sea gypsies. These people had a dialect of their own, and lived in boats, roaming about the islands, and were engaged in procuring pearl shell and fishing for a living. The prince called my attention to the fact that these people, almost to a man, suffered from a skin disease, a form of ichthyosis, as the skin looked like the scales of a fish. It is a question whether it is a skin disease purely or a form of leprosy. I never saw it except in these people. It is unknown among the dwellers on the mainland. From what I could learn this disease was always known among these people, who are clannish, and do not intermarry among the Siamese or Malays.

A few months later, while traveling on another expedition in the north of Siam, near the Indo-Chinese frontier, my attention was called by the authorities to a leper village of about one hundred inhabitants. These people, all closely related by blood, had by gradual selection and other causes settled in a village together, where they lived and tilled the soil. The village was some distance from our camping place, but when getting ready to go and visit it I was informed by an orderly that they were waiting outside the camp. On going a few hundred yards away I found about thirty-five men, women, and children all squatting on the ground and all showing, in a more or less degree, a curious thickening of the tissues of the face, far more marked in some than in others; only three or four had lost fingers or toes, but all had this face disfigurement, some to so great a degree that the poor creatures looked like persons with an enormous distorted false face. It was a sad and gruesome sight. I had seen a few cases of this form of leprosy before, but never so many at one

time. A large quantity of tonic medicine was given them, for which they were very grateful. Leprous sores were almost altogether absent in these cases.

The Siamese government are contemplating building a leper colony and hospital on an island in the gulf of Siam, but it will be difficult to put isolation into operation, owing to the fact that the people have very little fear of the disease, and therefore do not want harsh measures used in separating families and isolating patients.

In conclusion I would say that I think a mistake is made in the hospital treatment in this part of the world. In treating some of the contagious diseases, such as leprosy, plague, smallpox, scarlet fever, etc., as I think none of these cases should be treated inside the four walls of a house. In the summer they should be treated in a pavilion open to the four winds of heaven, with a roof to keep off the rain and sun, and in the winter in tents to hold not over two patients, and on the removal by death of the patients the torch should be applied to the pavilion or tent, and to everything contained therein, after the removal of the body. This applies more particularly to plague. No plague case should ever be put within the four walls of a house.

### Our Readers' Discussions.

#### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far they have been decided upon, the further questions are as follows:

LXXIII. How do you treat seasickness? (Closed April 15, 1908.)

LXXIV. How do you treat sunstroke? (Answers due not later than May 15, 1908.)

LXXV. How do you treat cholera infantum? (Answers due not later than June 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXII has been awarded to Dr. J. Russell Verbruyne, of New York, whose article appeared on page 788.

#### PRIZE QUESTION NO. LXXII.

##### THE TREATMENT OF FRACTURE OF THE PATELLA.

(Concluded from page 836.)

Dr. L. W. Bagg, of Newark, N. J., remarks:

In order to decide upon the best treatment of fracture of the patella, a few important facts must be kept constantly in mind, viz., (1) the patella is a sesamoid bone, located in one of the most powerful and useful muscular mechanisms of the body; (2) its location is immediate to one of the most

dreaded fields for surgical interference; and (3) the reflections of the aponeurosis are essential to the strength and the functions of the knee joint; injury to these reflections are almost always associated with complete fracture of the patella. Bearing in mind these three points in treating such fracture, we should make a careful estimate of the degree of injury, age, occupation, and resisting power of the individual, and proper regard for the means at hand, in carrying out operative treatment, if this course is indicated. The acute attention to detail in carrying out whatever line of treatment is selected, and a painstaking attitude towards patient and injured part, until the final result is attained, are essential.

Fractures of the patella may be divided into new, transverse, comminuted, oblique, longitudinal, old or refractures—that is, those generally occurring in the line of union of previous fractures. Fractures occurring in patellæ, previously fractured, but in a fresh location, are considered as new fractures.

*Complete, Incomplete, Simple, Compound Fractures.*—Important associated conditions which may accompany these fractures are: (1) Severe abrasions of the skin and injury to adjacent tissues of such a degree as to prevent primary union; (2) wide separation of fragments; (3) tilting of fragments; (4) tears or rents of lateral portions of the aponeurosis, or lateral expansion of the quadriceps tendon, with separation; (5) folding in of the periosteum over the fragments, thus preventing good approximation; and (6) exudate and hemorrhage into the knee joint.

In view of what I have stated, let us classify our cases according to those which should be subjected to operative treatment, and those which should be treated by a retentive method.

In elderly patients operation should not be considered unless in cases of refracture, where the limb is practically useless to the individual. Patients of low power of resistance, due either to inheritance or constitutional disease, should not be subjected to operation. In comminuted fractures, when fragments are in good apposition, in oblique and longitudinal fractures, where there is no separation, do not operate.

Where fractures are complicated by injury to the skin of such a degree as to prevent primary union, wait until the skin has regained itself before operating. In cases of transverse fracture, with separation, operate. In compound fractures, with infection of the knee joint, this should be treated as any septic wound.

Three steps in treatment should be our guide: (1) To reduce the swelling and hasten absorption of the exudate and free blood; (2) to bring the fragments into apposition, and maintain their approximation until union occurs; (3) to maintain, as far as possible, the tone of quadriceps muscle, and restore the function of the knee joint.

To reduce the swelling and to alleviate pain, apply a rubber elastic bandage, from just below the knee, upward to about eight inches above the joint. This should be applied snugly, but not so as to impair the circulation of the limb or increase the pain; then apply a well padded posterior splint, slightly wider than the limb, padding well the heel. The splint

should be held in place by three pieces of zinc oxide, adhesive, about two inches in width, placed one at the ankle, one at the upper end of splint, one just below knee; then apply a flannel roller bandage from toes to groin; each bandage about three inches in width, applied snugly and evenly. Elevate the foot on pillows, about six inches, and apply ice constantly to the knee. This dressing should be taken down at the end of forty-eight hours; reapply flannel bandage, using ice until swelling is reduced. If the patient is seen immediately following injury, instead of an elastic bandage, apply a flannel bandage, kept wet, with an official solution of lead and opium, and also apply ice. This will give the patient much relief from pain, and also tend to prevent swelling, and check spasm of muscles. After six to ten days the patient will have recovered from shock, due to the injury, the injured tissues have regained themselves, and the healing process has started. This is the best time for operative treatment, provided the strictest aseptic methods can be obtained, as well as proper surgical technique, never forgetting the thought which Lister advanced, when he wrote "no man is justified in performing this operation unless he could say with a clear conscience that he considers himself morally certain to avoid the entrance of any septic mischief into the wound."

Now, what do we accomplish by operation? (1) By removing exudate and blood clots we help to avoid troublesome adhesions. (2) We restore parts to their proper anatomical relations. (3) Tilting of the fragments is immediately overcome. (4) The rents in the aponeurosis are brought into proper apposition and sutured, thus enabling us to begin early our treatment of the quadriceps muscle and knee joint, in preventing atrophy and retaining tone of muscle and restoring function of the knee joint. The patient is started on a more rapid road to recovery, thus avoiding the uncertainty and frequent complications which result from adhesions of torn and misplaced tissues.

*Operation, Incision.*—Circumlinear incisions with convexity upward seem to give the best view of the field, especially when there is a wide separation of the fragments. The deep fascia is incised, or, if already torn, its edges are retracted.

*Cleansing.*—Irrigate the knee joint and tissues thoroughly with normal salt solution, temperature 110° F., using it freely, so as to thoroughly cleanse parts. I have taken it for granted that rubber gloves should be worn. The interior of the knee joint should be let alone as far as possible from any manipulation, either with the hand or gauze sponges. The hot saline has a stimulating effect upon the injured tissues. The edges of the periosteum and tags of torn tissue are trimmed and retracted.

*Suturing.*—The fragments are held firmly and two small holes drilled from above downward, about half an inch back from fractured edge, coming out equal distance from articular surface. These holes should be equal distance as well from the centre line. When sutures are introduced and drawn taut, the fragments should then be in perfect apposition. The heavy chromicized catgut has given excellent service. The periosteum and aponeurosis, which are one layer over the patella, are brought into apposition and sutured with fine chromicized gut. It

is very important to suture the lateral portion of the torn aponeurosis. This separation is the main cause of the separation of the fragments; its proper union is necessary to attain results. A silkworm strand is passed into the joint, and another strand down to the joint, placed at each angle of the wound. The skin is now sutured either with fine catgut or silk. Dry sterile dressing is applied, and flannel bandage from the toes to the groin. Elevating the foot six inches is essential. After forty-eight hours remove dressing, and if there is no elevation of temperature or other signs of suppuration present, the silkworm strands are removed and sterile dressing reapplied as before. If sepsis is present, it will find free exit along the strands of the silkworm, thus aiding our prevention of a more general infection of the synovial membrane. At the end of fourteen days passive lateral motion of the patella should be begun, and continued daily, as well as massage of the muscles of the leg and thigh toward the knee joint for fifteen minutes twice daily. At the end of five weeks begin passive motion of the knee joint; allow patient to move around with crutches, removing splint at night; at the end of eight weeks remove all support to the knee, cautioning the patient against any muscular exertion or direct violence.

*Nonoperative Treatment.*—Treat the early stage as indicated; where absorption is tardy it is a good plan to aspirate joint. A small amount perhaps can only be removed, due to clogging of the needle, but even this will aid greatly the absorption and tend to check the development of troublesome adhesions. As soon as the swelling has been sufficiently reduced, which is toward the end of the first week, the posterior splint is applied, as before indicated; the limb is then elevated so as to relax the quadriceps extensor muscle, the upper fragment is drawn down and held by strip zinc oxide adhesive plaster in a loop, passed downward diagonally, and fastened to posterior surface of splint. A second piece is likewise adjusted to lower fragment, drawing it upward. A third strip should be placed directly over the line of fracture, drawn downward, and fastened beneath splint. This aids greatly in preventing tilting. Three or four additional strips should reinforce the strips first applied of the same width, and so placed as to cover the preceding one by two thirds of the width of the latter. The flannel bandage is then applied, and elevation is maintained.

The adhesive strips should be left on for six weeks; the muscles of the limb should be massaged toward the knee for fifteen minutes twice daily. At the end of six weeks remove splint and adhesives, and apply to the limb from the ankle to the gluteal fold a light posterior cast. This splint can be easily removed and massaged, and passive and active motion of the knee joint easily obtained. From the sixth to the eighth week, the patient is allowed up and about, with the use of crutches, being very careful to protect limb from any muscular exertion or direct violence; a simple rubber bandage should be worn for six months. Daily massage and passive motion should be continued for some months.

*Old or Recurrent Fracture.*—The upper fragment is often found adherent and many other troublesome adhesions present. If the fragments can be



brought into apposition, they should be sutured as a primary fracture, having first freshened the fractured surfaces. If the fragments cannot be brought into apposition, then the fragments are removed, and a portion of the quadriceps tendon is brought down and sutured to the patella tendon.

*Incomplete Fractures.*—In these we have no separation of fragments or tears in the aponeurosis to deal with; these should be treated as complete fractures without separation.

*Comminuted Fractures.*—Where there is no displacement of fragments the aponeurosis is probably intact. The retentive method gives us good results in these cases. Cases in which there is a separation of fragments are best treated by operation.

*Dr. S. W. Wynne, of New York, observes:*

The treatment of fracture of the patella is general and local. The former, although important, as it is in all surgical conditions, need not be dwelt upon here, as it differs in nowise from that indicated in any kind of fractures.

The local treatment is conservative or nonoperative, and radical or operative. Our first duty should be to conscientiously determine which course to follow, and in so deciding the following conditions are to be considered:

1. The availability of an experienced surgeon, skilled assistants, and an operating room where absolute antiseptic and aseptic precaution can be observed. Without these adjuncts operation is never justifiable. The dangers of opening the knee are too familiar to all to require mention; suffice to say from a standpoint of mortality alone they are relatively greater than those attending laparotomy.

2. The patient himself, who should be healthy and of a suitable age. A thorough general examination, including heart, lungs, urine, etc., is therefore in order.

3. The local condition, when the separation is three quarters of an inch or more, when the fragments are comminuted, as in those fractures caused by direct violence, when there is much effusion or hæmorrhage into the joint, when the anterior fibro-periosteal layer, blood clots, or bony spicules are interposed between the fragments, operation is indicated, provided the first two conditions can be conscientiously disposed of.

It is to be borne in mind that the nonoperative method practically in nowise endangers the life of the patient, neither does it exclude the possibility of a successful operation at a later date, and, lastly, that a good functional leg usually results and often more rapidly than when many of the operative procedures are resorted to. However, in the case of young adults in robust health, the operative treatment is to be preferred in all cases, provided, of course, the facilities for its successful performance are at hand. However, the facts in each individual case should be carefully weighed before determining upon the advice to be offered.

Should one be called to attend the patient upon the scene of the accident, further separation of the fragments and tearing of the capsule and patellar tendons, while he is being moved, is to be prevented by placing the injured leg upon an improvised posterior splint, having first bound the knee in a snug

figure 8 bandage to support the tissue, and thus control the amount of effusion, for when the capsule becomes overdilated by effusion it loses its elasticity, and absorption is slow.

The patient having been put to bed and the leg bared, a more careful examination may be made, and the line of treatment determined upon, or we may proceed with the nonoperative, while more carefully considering the advisability of an operation. Let us therefore first take up the nonoperative treatment.

It is evident that in order to secure and maintain apposition of the fragments, the effusion must first be reduced, and to that end we must bend our first efforts. Apply a snug figure 8 bandage about the knee over a moderately thick layer of cotton, place the leg upon a long posterior splint extending from the ankle to the upper one third of the thigh. Agnew's splint is admirable for the purpose. The splint is held in place by a bandage above and below the knee. A pillow may be placed beneath the heel to secure hyper extension. For the first day or two apply Leiter ice coil or ice bags. Later intermittent heat may be of benefit.

The bandage is removed and reapplied, when it becomes loosened or inspection of the part is desired.

If there is much effusion or hæmorrhage into the joint, aspiration under the most rigid observance of asepsis may be employed (blood in the knee will not clot for several days). After this procedure again support the tissues to lessen further effusion.

When the effusion has receded sufficiently to allow of the fragments being brought into fair apposition discard the first dressing, and with the leg still upon the splint draw the fragments together. The absence of crepitus denotes the presence of an interposing body; gentle manipulation will often serve to displace it. Carry a strip of adhesive plaster an inch wide and several feet long over the upper border of the upper fragment, pull the bone well down, and fasten the ends of the plaster to posterior surface of the splint below the lower level of the joint, reinforce this with another strip; now carry a third strip under the lower border of the lower fragment, draw the bone up, and fasten the plaster securely to the posterior surface of the splint above the uppermost level of the knee; then to correct the tilting of the fragments carry a strip of plaster transversely over the line of fracture, and fasten to splint.

A bandage then holds the splint in place, and is carried around the knee in figure 8 fashion. The heel may be raised upon a pillow to extend the leg and semiflex the thigh.

Each day the bandage is removed, parts are inspected, straps tightened, and bandage reapplied. As the more acute symptoms subside gentle massage may be employed daily.

At the end of the second or third week remove the splint, and with the leg in extension apply a plaster cast from the ankle to the middle of the thigh, and get the patient around on crutches. Before placing the leg in the cast the fragments may be secured by three strips of adhesive plaster. This cast is worn until the eighth week; it is then replaced by a lighter and shorter one, to be worn four to six weeks longer; canes now replace the crutches. For the first year after removal of cast, a leather

lacing knee cap is worn during the day for protection, and daily massage employed in conjunction with gentle active and passive movements.

Although this prolonged immobilization renders the joint more or less stiff, an almost certain occurrence, still the end result is better than the flail-like joint, due to the wide separation of the fragments that invariably follows early use of the joint. When practicable it is well to cut down the cast so as to permit of its daily removal for massage.

In alcoholic cases it is a wise precaution to immediately put the leg up in a cast until all danger of delirium tremens is past; thus further injury of the parts are guarded against.

Operation having been determined upon, the open method alone should be considered, as it permits of a thorough inspection of the parts, the removal of blood clots, bony splinters, and of interposing tissue, the repair of the capsule and patellar ligaments, and such other damages of the joint structures as may be present, and the perfect apposition of the fragments. The closed methods defeat the very ends for which an operation is performed.

The ligamentum patellæ, with its lateral expansions, is in reality the continuation of the tendon of the quadriceps, the patella being but a sesamoid bone that has developed in its course. The poor blood supply possessed by such bones accounts for their comparative tardiness in uniting. The necessity of repairing what is really the tendon of the quadriceps is readily apparent. And, then, why use unabsorbable suture material, as silver wire? They possess no advantage over the absorbable ones, and the objections to their use are many. Our purpose, as in all fractures, is simply to restore the parts to their normal relationship, and to thus maintain them until Nature can effect her own union, and when she has it is time for us to vacate. For Nature, too, resents permanent receiverships, and her resentment is shown in sepsis, anchylosis, etc. Properly prepared gut and kangaroo tendon fulfill every requirement.

The joint is opened by a U shaped incision, convexity preferably upward. Blood clots, bony splinters, etc. removed, the joint is flushed out with sterile normal salt solution, the part brought into normal relation, the torn edges trimmed up when necessary, or freshened up in late operations, and the tears of the capsule and lateral expansion of patella ligament and the anterior fibroperiosteal layer sutured, and to insure perfect and firm apposition of the bony fragments, especially when comminuted, a purse string suture is thrown around the circumference of the patella, drawn taut, and tied. The objection that this suture interferes with the blood supply is, I think, theoretical rather than practical. Any other injuries of the joint structures are, of course, repaired, special attention being paid perhaps to the ligamentum mucosum and the ligamenta alaria, injuries of which Dr. Flint has demonstrated so often give rise to the so called "foreign bodies" of the knee.

In closing the wound a small strip of rubber tissue is left in the joint, protruding from one of the angles of the incision, to provide for drainage of the serum that will accumulate within the first and second days. It is removed as soon as deemed advisable, usually at the end of the second or third day.

The wound is dressed in the usual fashion, and the leg placed on a posterior splint.

Passive motion is begun about the third week, and the patient allowed around on crutches.

To sum up, the treatment of fracture of the patella is operative and nonoperative. The latter seldom results in bony union—in fact, fibrous union under one half inch is considered a good result. It is to be advised, however, when the conditions for operation are unfavorable. The operative treatment should always be by the open method, and in properly selected cases good bony union should result.

*Dr. George A. Hopp, of Philadelphia, writes:*

In the treatment of fracture of the patella there are several measures which are of value. One of the most important is the functional result, also the short period of recovery, which is of greatest importance to the patient.

Fracture of the patella is a very common accident. Eighty per cent. of all the fractures are the result of direct violence; fractures which were supposed to be due to muscular contraction are comparatively rare and can only occur when the knee is extended.

There are two methods of treating fractures of the patella, the operative and nonoperative. The open operative method is the best of the operative methods, as it gives better functional results.

The operation is performed on the third or fourth day after the accident, when the patient has been more or less reconciled to bed and the swelling of the joint has ceased to increase. A semicircular flap is raised from over the fragments and all the clots are carefully turned out. Each fragment is then drilled, and they are brought in exact apposition with kangaroo tendon, which is a reliable suture and is absorbable. The objections to silver wire for suture, which many surgeons use, are that it is non-absorbable and acts as a foreign body which the patella tries to expel; as the result of this it causes the failure of bony union and movable joint.

If an x ray is taken one can see that the wire suture has been broken when passive motion was made, and this causes a second operation. After the fragments are brought together the torn fascia on the cutaneous surface of the patella is then united with sterile catgut, and one or two catgut sutures are used to join together the aponeurosis on either side if it has been extensively lacerated.

At the angle of the cutaneous incision there is left a little opening in case there should be any oozing, as no drain is inserted.

No antiseptic solution should be allowed to touch the interior of the joint. There is no occasion to wash it out, as the blood clot can be removed with ease by means of sterilized gauze.

The wound is dressed with deep and superficial dressings, with posterior splint, which immobilizes the leg. The knee is firmly bandaged and the patient put to bed. On the fifth or sixth day the bandages and the superficial dressings are removed, and the part is examined. The patient is encouraged to flex and to extend the limb, the dressings are replaced, and each day passive motion is made more and more. By the end of a few days it can be bent to right angle.

Massage is begun as soon as the wound is healed.

The patient is allowed to get up before the end of the third week, and by the end of the fourth week he is able to walk.

If this method of treatment is carried out under proper precautions, the result is infinitely better than is that obtained by any other method, and there is an enormous saving of time to the patient.

*Dr. Richard L. Igel, Jr., of Leavenworth, Kansas, says:*

In the treatment of patellar fracture the method of procedure is largely dependent on the character of the injury present. If due, as is most frequently the case, to sudden, violent action of the quadriceps extensor muscle, the line of division is transverse, the aponeurotic covering is usually torn, and there is considerable space intervening between the two fragments. If occurring as the result of direct violence the fracture is more often vertical or star shaped, the aponeurosis remains intact, and there is but slight displacement, as a rule. The simple fractures where the capsule remains unruptured are best treated without operative interference. The most satisfactory results can be secured by the use of a long posterior splint, with attached foot rest. Above and below the injured bone half inch strips of adhesive plaster are attached, transversely, and to the ends of these, on either side, pieces of strong elastic webbing are fastened, the loose extremities of which pass to sharp tongued buckles on the sides of the splint. These elastics are so arranged as to exert tension on the upper and lower fragments, bringing them in apposition. The apparatus is a modification of one devised by Manning, and, in my experience, has proved very efficient.

Longitudinal and starred fractures with unbroken capsule, and consequent slight separation, require only the posterior splint for from two to five weeks, coupled with massage, then passive movement, succeeded by careful exercise.

In transverse fractures of the more severe type, unless operation is contraindicated by some intercurrent disease or the patient prefers an impaired limb during the remainder of his life to the risk attendant on instrumental interference, operative measures are invariably indicated. The date at which the operation should be undertaken depends on the condition of the surrounding structures. If these are considerably involved, or a synovitis present, a wait of from one to two weeks, with rest and the application of cold, locally, is necessary.

If considerable serum has exuded into the joint aspiration is indicated.

The bone is exposed by a transverse, semilunar incision, extending about one inch above the upper border of the superior fragment, and the flap carefully dissected down. The blood clots are removed with a spoon, all intervening ligamentous and tendinous structures cleared away, and the fragments coapted. Absolute asepsis is essential to success. The use of strong, irritating antiseptics is to be avoided. I prefer a solution of carbolic acid or lysol. If there is much fragmentation the edges of the capsule are now drawn together, not too tightly, with chromicized catgut sutures, and the outer wound closed, small gauze drains being inserted bilaterally at the corners. Sometimes a circumferen-

tial suture of small kangaroo tendon will prove of value here, especially if there has been much comminution.

If the bone is divided into only two or three pieces the most satisfactory results can be secured by using two, or, at most, four, fine chromicized kangaroo or medium catgut ligatures, and passing them through slanting holes, drilled about one fourth of an inch back from the fractured margin. These bind the mass together efficiently, give rise to no irritation, and never cause secondary joint trouble. It is usually well, in all of these cases, to freshen the opposing edges of bone with a sharp curette before bringing the parts together. The wound having been covered with a moist antiseptic dressing (it is best to take no chances of infection here), the limb is placed on a long, straight posterior splint and kept elevated. At the end of one week the dressing can be changed, and the stitches and drainage wicks taken out.

Later the splint should be frequently removed and the part massaged. The support can be completely discarded at the end of four weeks, and passive flexion commenced.

*Dr. G. Walther Otto, of Dresden, Germany, states:*

The most satisfactory treatment of fracture of the patella is the wiring of the broken bone. The physician who undertakes that operation must always bear in mind that the opening of the injured knee joint is a question of life and death to the patient. Only those who master asepsis in every detail are competent to perform this operation.

Besides the operator, two assistants are necessary, one to give the narcotic, another one to assist during the operation. Both operator as well as his assistant must disinfect their hands very carefully and must wear sterile rubber gloves during the operation. The skin of the injured knee must be disinfected very carefully. Sterile napkins cover the limb and are fastened to the incision over the fracture with Miculicz clamps to make the contact of the hands of the operator and his instruments with the bare skin impossible.

The incision on the fracture should be vertical. All bleeding must be arrested. Examination of the opened joint will be done now. But no fingers in the joint! The assistant helps with sharp hooks. Blood clots are removed with sterile clamps or sterile gauze sponges, small pieces of the broken bone removed, etc. Do the operation as dry as possible. The operator helps himself to his well sterilized instruments and to the other utensils. The drilling of the holes through the broken bone must be done very carefully, to avoid splintering. The assistant holds the bone with forceps. By drawing the wire close together bring the broken parts of the patella as far as possible into their normal position. The wire must not irritate the cartilage surface of the articulation nor the skin. Overlapping fringes of periosteum ought to be laid over the united bone. Adapt the torn or cut ligaments and fascia by sutures and unite the skin incision exactly.

By paying minute attention to the rules of asepsis you will succeed. The slightly bent joint is dressed and placed in a stiff bandage from three to six weeks.



The necessity of changing the aseptic dressings and the condition of the patient will decide whether splints or plaster of Paris cast can be applied. At each change of the aseptic dressings great care has to be taken to avoid a secondary infection. Hands must be well disinfected, sterile rubber gloves used, and instruments and dressings sterilized.

After removal of the stiff bandages the physician begins the passive movements of the joint. To restore active power and nutrition of the muscles of the leg after the enforced quiescence, massage very soon.

### Therapeutical Notes.

**Lotions for Seborrhœic Eczema of the Scalp.**—Resorcin has been found remarkably efficacious in controlling seborrhœic eczema of the scalp—the condition of the scalp characterized by the appearance of what is popularly termed “dandruff.” In the following lotion the resorcin is exhibited in an agreeable form, the prescription being taken from *Die Praxis der Hautkrankheiten*, a collection of the teachings of Unna:

R. Castor oil, .....	5i.
Resorcin, .....	5iiss.
Eau de Cologne, .....	5iii.
Alcohol (95 per cent), .....	5ix.

M. ft. lotio.

This may be used as a hair wash applied to the scalp two or three times a week.

L. Duncan Bulkley uses a stronger solution of resorcin in a different menstruum, prescribing the following:

R. Resorcin, .....	5ii.
Alcohol, .....	5iii.
Glycerin, .....	5iv.
Rose water, .....	q. s. ad 5iv.

M. ft. lotio.

This is directed to be applied by means of a long “hair dropper,” and thoroughly rubbed in, with shampooing every week or so.

**Nitrite Poisoning Following Large Doses of Bismuth Subnitrate.**—Two recent cases of death following the internal administration of bismuth subnitrate in the large doses required for radioscopic purposes prompt us to caution in the use of this substance. It would seem that the salt is reduced in the system by bacterial reaction, both nitric acid and nitrites being formed in the blood in sufficient quantity to cause death. In *The Therapeutic Gazette*, for April, 1908, a citation is made from an article by A. Böhme (*Archiv für experimentelle Pathologie und Pharmacologie*, lvii, 441, 1907) reporting the sudden death of an infant who had been given a bismuth solution by mouth and later also by rectum. Three hours after the rectal injection she was seized with abdominal pains, vomiting and diarrhœa, cyanosis, which steadily became more marked, dyspnea, collapse symptoms, and death within thirty minutes of the onset. These it will be noted are not the symptoms of bismuth poisoning *per se*, which it is well known more nearly resemble those of mercurial poisoning. In the other case reported by Bennecke and Hoffmann the drug had been given in butter-milk and it was supposed that death had been caused by the absorption of the salt

through its dissolution in the lactic acid of the milk, but this did not explain the methæmoglobinæmia found at the autopsy. In Böhme's case the most evident post mortem finding was also methæmoglobinæmia, and he set himself the task of determining experimentally if sufficient nitrites could be produced and absorbed from bismuth subnitrate to endanger life. He seems to have established by chemical means and by experiments on animals that such is the case. He found that human fæces was capable of reducing nitrates to nitrites, and the reaction occurred more readily and frequently with infant stools, than with the fæces of adults. From this he thinks it possible that the combination of a large quantity of the bismuth salt with a pronounced bacterial activity might produce sufficient amounts of the nitrites to cause a methæmoglobinæmia, but, at the same time, he believes that therapeutic doses of bismuth subnitrate are not capable of producing harm in human beings, even in the very young. The large doses which are required for radiography should be used with some caution even in adults, especially as the conditions favoring nitrite production are not well understood. It has been proposed to substitute bismuth hydroxide for the subnitrate, a step which would exclude the possibility of nitrite poisoning.

**Gargles for Sore Throat.**—Where there is only a slight degree of inflammation a gentle astringent preparation like the following is useful (*Bulletin général de thérapeutique*):

R. Sodium borate, .....	5ss.
Tincture of benzoin, .....	5ii.
Syrup of mulberry, .....	5v.
Water, .....	5vi.

M. ft. gargarisma.

A ten per cent. solution of borax in glycerin used as a mouth wash leaves a clean, soothing sensation.

As soon as the acute symptoms have subsided it is recommended to employ a stronger topical application and thus insure a good healthy condition of the parts. M. Lermoyes (*loc. cit.*) prescribes the following:

R. Sodium borate, .....	gr. xlv.
Resorcin, .....	gr. xlv.
Glycerin, .....	5vss.
Peppermint water, .....	5i.

M.

**Injection for Multiple Sclerosis.**—Botéano (*Journal de médecine de Paris*, April 4, 1908) gives every second or third day a hypodermatic injection of fifteen minims of the following solution:

R. Saponin, .....	gr. i. s.
Distilled water, .....	5i.
Cherry laurel water, .....	5v.

M.

The treatment should be suspended if symptoms of intolerance are shown, such as mydriasis, dryness of the throat, sleeplessness, etc.

**Pyelitis.**—Robin prescribes the following pill in inflammation of the mucous membrane of the pelvis of the kidney:

R. Acacia, .....	5ss.
Camphor, .....	5iiss.
Extract of opium, .....	gr. ss.
Extract of opium, .....	gr. i.

M. ft. pil. lx.

Sup. One pill two or three times a day.

## NEW YORK MEDICAL JOURNAL

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TYPHOID FEVER IN MILITARY AND  
INDUSTRIAL AGGREGATIONS.

The May number of the *Military Surgeon* contains a number of valuable articles expository of certain points in connection with typhoid fever as it prevails among men gathered together in close quarters, whether for military or for industrial purposes. It seems to have been due to some extent to deference to the teachings of so excellent an observer as Sir Patrick Manson (which teachings may have been misunderstood) that in the Philippine Islands some outbreaks of typhoid fever have for a time failed of recognition, the disease being spoken of as "simple" and "double" continued fever—"simple" denoting cases without a relapse, and "double" being applied to those with a relapse. Another source of error has lain in undue importance being attached to the absence of Widal's agglutination reaction before convalescence was established.

The first of the articles referred to is by Lieutenant Henry J. Nichols, an assistant surgeon in the army, most of whose observations were made in the post hospital of Camp Bumpus, Tacloban, Leyte. Dr. Nichols is of the opinion that typhoid fever—popularly known in the Philippines simply as a variety of *calentura*—is much more prevalent among the natives, especially the children, than is generally supposed. In this opinion he has the support, by no means negligible, of the intelligent Spanish father of one of his little patients. The man declared, in answer to a question, that the disease with which his child was afflicted was *regu-*

*lar y natural en todos los pueblos y barrios* of that part of Leyte.

Dr. Nichols further concludes that cases resembling the "simple" and "double" continued fever of Crombie and Manson should not be regarded as entities, but as examples of simple and relapsing typhoid fever; that the Widal test cannot be depended on for a diagnosis unless the reaction occurs, for it may fail to show the expected result until the fourth week or even until convalescence has set in; and that the mortality from typhoid fever among white persons in the Philippines is not excessive.

The next article is by Lieutenant Earl H. Bruns, an assistant surgeon in the army, on an epidemic of typhoid fever in Iloilo. Dr. Bruns's experience with the Widal test coincides with that of Dr. Nichols. He reports that the epidemic was confined to one company of the Eighth Infantry, and to that part of the company which was lodged in a structure that is supposed to have become infected, the supposition being supported by the subsidence of the epidemic when the structure had been fumigated and disinfected.

The third article is by Lieutenant Colonel Louis A. La Garde, deputy surgeon general, who, commenting on the epidemic described by Dr. Bruns (the second one, it seems), says: "The laboratory assistant had failed to obtain the Widal reaction. Nevertheless, rose colored spots and enlargement of the spleen were associated in the majority of cases. These symptoms, with the fever, even in the absence of the agglutination test, should have been sufficient to warrant a diagnosis of typhoid fever; to wait for confirmation by a delayed Widal reaction under such circumstances was simply adding to the spread of the disease."

Captain Louis C. Duncan, an assistant surgeon in the army, contributes an interesting account of a small typhoid epidemic in the county of Missoula, Montana, in a succession of camps of laborers engaged in railway construction. They were "laborers of the lowest class, from all parts of the country, living in tents and temporary houses, with no sanitary arrangements or control." Dr. Duncan says: "The large contractors employed physicians to treat the sick and injured, but no sanitary officers to prevent sickness." "Here," he adds, "was to be seen the working of the idea prevalent in the army until recently, that medical men were employed to cure sickness, not to prevent it." He thinks that the infection was chiefly in the drinking water, which, though originally pure, is contaminated in the irrigation ditches, which pass through "fields, pastures, barnyards, hog lots, and other sources of filth and infection." Flies are not numerous, and practically there is no wind, and consequently but little dust in the air.

## GREAT MEDICAL LIBRARIES.

The librarian of the New York Academy of Medicine has compiled a list of the considerable medical libraries of the world, and it has been published by the American Medical Association. In most instances the size of the library is stated. Among the larger collections are the following: The New York State Medical Library, Albany, 18,912 books; the Medical Library of the University of Michigan, Ann Arbor, 19,165; the Library of the Medical and Chirurgial Faculty of Maryland, Baltimore, 17,103; the Library of the Kaiser Wilhelm Academy for Military Medical Training, Berlin, 65,000; the Library of the Berlin Medical Society, 30,000; the Boston Medical Library, 57,493; the Bristol (England) Medical Library, 21,000; the Library of the Medical Society of the County of Kings, Brooklyn, 65,000; the Library of the Academy of Medicine of Belgium, Brussels, 100,000; the Library of the Royal Society of Physicians of Budapest, 20,528; the Library of the Medical College of Bengal, Calcutta, 50,000; the Medical Section of the John Crerar Library, Chicago, 42,000; the Library of Rush Medical College, University of Chicago, 16,000; the Cincinnati Hospital Library, 18,000; the Library of the Royal College of Physicians of Ireland, Dublin, 15,000; the Library of the Royal College of Surgeons in Ireland, Dublin, 30,000; the Library of the Royal College of Physicians of Edinburgh, 80,000; the Library of the Royal College of Surgeons, Edinburgh, 15,000; the Library of the Royal Medical Society, Edinburgh, 30,000; the Medical Library of the Scientific School, Florence, 30,000; the Library of the College of Physicians and Surgeons of Glasgow, 50,000; the Medical Library of the Imperial University, Kyoto, 25,016; the Library of the British Medical Association, London, 20,000; the Library of the Medical Society of London, 25,000; the Library of the Royal College of Physicians, London, 25,000; the Library of the Royal College of Surgeons of England, London, 60,000; the Library of the Royal Society of Medicine, London, 70,000; the Library of the Manchester (England) Medical Society, 37,310; the Library of the Bureau of Science, Manila, 25,000; McGill Medical Library, Montreal, 30,000; the Library of the New York Academy of Medicine, 85,000; the Library of the Paris Academy of Medicine, 100,000; the Library of the Faculty of Medicine of Paris, 175,000; the Library of the College of Physicians of Philadelphia, 84,423; the Library of the Habermann Medical College, Philadelphia, 15,000; the Medical Library of the Pennsylvania Hospital, Philadelphia, 15,000; the Library of the Rhode Island Medical Society, Providence, 22,000; the Library of the Imperial Academy of Medicine, St.

Petersburg, 170,000; the Lane Medical Library, San Francisco, 33,000; the Caroline Institute Library, Stockholm, 40,000; the Library of the Surgeon General's Office, United States Army, Washington, 158,791; the Library of the United States Naval Medical School, Washington, 16,000.

In our enumeration we have omitted mention of libraries containing fewer than 15,000 books each. It will be seen that the largest collection is in Paris. Then come those in St. Petersburg, Washington, Brussels, New York, Philadelphia, and Edinburgh. Particularly noteworthy is the rapid growth of the Library of the Bureau of Science, in Manila, which must have been started less than ten years ago. The Library of the Medical Society of the County of Kings, too, has grown very rapidly within the last few years. Such increments betoken a gratifying appreciation of the value of libraries in the diffusion of knowledge. There are, indeed, few agencies, if any, on which greater dependence can be placed for the spread of medical knowledge. The growth of medical libraries should on all accounts be promoted to the full ability of the profession.

## THE DIAGNOSIS OF CANCER OF THE TONGUE IN SYPHILITICS.

Far from being an exception, the coexistence of lingual syphilis and cancer is not uncommon, and probably syphilis is an important predisposing cause of malignant disease of the tongue, because it creates points of lessened resistance which favor the development of the neoplasm. The diagnosis of cancer should be made in syphilitic subjects by a careful study of all the symptoms. The pronounced induration of the ulceration, the appearance of a hard, everted edge, the amount of lymphatic involvement and pain, especially in the ears, when the case is one of lingual carcinoma, are all symptoms which should lead one to suspect cancer. On the other hand, if one is dealing with a purely syphilitic ulceration, these important symptoms are lacking. In the majority of cases carcinoma occurs in an old syphilitic presenting a localized lingual leucoplakia. The latter lesion remains for a considerable length of time in the form of brilliant white patches with a narrow red border, seated on the borders of the tongue or on its upper aspect, but little by little they become cracked and ulcerated. Up to this time there is nothing to call the patient's attention to it, but sooner or later the surface of the patch becomes irregular, and is covered by warty projections. These papillomatous vegetations take on the aspect of a cat's tongue, and are the indication of an imminent transformation of the leucoplakia into cancer. When this has taken place, a hard tumor will



be found, usually on the point of ulcerating, and from the very beginning of this transformation the patient experiences sharp pain, extending toward the ear. When salivation sets in, with fœtor of the breath, the diagnosis can no longer be faulty. In other cases the carcinoma occurs in a syphilitic in the full tertiary period.

In gummatous glossitis the malignant growth becomes grafted on a gumma which has broken down, and here its aspect is very typical. On a tongue presenting rounded, hollow ulcers, with sharply cut borders, in the midst of thickened tissues will be seen on the dorsal aspect of the organ, usually toward its centre, one of these ulcerations, bleeding easily and secreting a bloody liquid. The borders are only slightly undermined, but are not sharply cut. The base of the ulcer is covered with a grayish adherent membrane as in a gumma; if the growth is pressed, little fragments of tissue may be squeezed out, a most important symptom in favor of carcinoma. The diagnosis may also be based on the presence of enlarged glands, pain, and salivation.

If one is dealing with a sclerogummatous tongue, the clinical picture changes. Only infrequently does the malignant growth precede the syphilitic manifestations in the tongue in this case, and should they develop together the cancer will awaken the old syphilitic process. But usually the sclerogummatous process and cancer are associated. The tongue increases in size, presenting quite a large induration at a given point. Then a cancerous ulceration is not long in appearing, while the condition of the glands will give evidence of its malignancy. Quite different is the evolution of carcinoma in a syphilitic subject who is cured. In point of fact, syphilis, by its sclerosing action on the tissues, prepares a poor soil for the development of carcinoma.

#### ANCIENT HEPATOSCOPY.

In the twenty-ninth volume of the third series of the *Transactions of the College of Physicians of Philadelphia*—a volume which, like its predecessors, is replete with valuable matter—we find an article on a subject so unusual that it is likely to appeal particularly to those who are interested in the history of medicine, including its connection with the mysticism of times long gone by. It is entitled *The Liver in Antiquity and the Beginnings of Anatomy*, and its author is Morris Jastrow, Jr., Ph. D., professor of semitic languages in the University of Pennsylvania.

Professor Jastrow deals largely with divination by inspection of the liver of sacrificial animals, as practised by the ancient Babylonians and other peoples of remote antiquity. He traces a connection

between this ancient hepatoscopy, or hepatomancy, which has met with oblivion, and palmistry, which, though itself ancient, has survived and still figures in the belief of many thousands of persons, some of whom are intelligent and otherwise rational. Moreover, this old form of divination by minute observation of the hepatic fissures doubtless played a part in leading to the subsequent scientific study of the anatomy of the liver.

#### DEEP PERICARDITIS.

This term seems preferable to "subpericarditis" (*sous-péricardite*), under which name M. Babes made the affection the subject of certain remarks at a recent meeting of the Paris Society of Biology (*Semaine médicale*, April 1st). It is described as an inflammation and degeneration of the deep portions of the pericardium and of the superficial part of the underlying muscular tissue of the heart, occurring particularly as a complication of pulmonary emphysema, chronic bronchitis, ulcerative pleuropneumonia, etc. It is said to be rather frequent, having been observed nineteen times in a hundred and fifty post mortem examinations, and seven times among thirty-five cases of such heart diseases as endocarditis and myocarditis. The lesions are incontestable, though they are not very apparent to the naked eye, and M. Babes has no doubt that they count in the production of pericarditic and myocarditic phenomena. He himself has seen four cases of a grave character in which no other cardiac lesions were made out.

#### A NEW LARYNGOLOGICAL JOURNAL.

We have received the first number of the *Zeitschrift für Larynologie, Rhinologie und ihre Grenzgebiete*, edited by Dr. Felix Blumenfeld, of Würzburg, and published by Curt Kabitzsch, of Würzburg. It is announced that a volume will appear every year, in six parts, which will be published about every second month. Under *Grenzgebiete* are understood tracheoscopy, bronchoscopy, œsophagoscopy, diseases of the mouth, diseases of the cavities of the head, including the orbit, the external surgery of the throat, the pathology and therapeutics of the voice, and diseases of the lungs and skin, so far as all these affections have any connection with those of the larynx and nose. The first number contains articles by Dr. P. Heymann and Dr. G. Ritter, of Berlin; Dr. Voigt, of Würzburg; Dr. Alexander Iwanoff, of Moscow; Professor Gerber, of Königsberg; Professor Kan, of Leyden; Dr. Hansberg, of Dortmund; Dr. Möller, of Copenhagen; Professor Starck, of Karlsruhe; Dr. Goris, of Brussels; and Dr. Herman Gutzmann, of Berlin.

## THE DOCTOR'S DUTY TO THE STATE.

Under this title a well known Philadelphia surgeon, Dr. John B. Roberts, has recently issued a pamphlet in which are printed various addresses of his dealing with certain matters of ethics. The collection deserves to be studied by the medical profession. Some practices that meet with more or less general toleration are clearly shown by Dr. Roberts to be unworthy of a liberal profession and detrimental to the welfare of the community. Even those who already realize the truths which he enunciates may gather from the pamphlet effective arguments to use for the enlightenment of those who do not as yet realize them.

### News Items.

**Changes of Address.**—Dr. Walter C. Gilday, to 44 West Thirty-seventh street, New York; Dr. Charles B. Warden, to 322 South Sixteenth street, Philadelphia.

**The Pennsylvania Red Cross Society** sent six nurses to the tornado district in the South on Friday, May 1st. The nurses were graduates of the Medico-Chirurgical Hospital Training School, Philadelphia.

**The Northwestern Medical Association of Philadelphia** met on Friday evening, May 8th. The principal paper of the evening was read by Dr. E. E. Montgomery on Office Treatment of the Diseases of Women.

**The Alumni Association of Carney Hospital, Boston,** held its annual meeting and banquet on the evening of April 23d. Officers were elected as follows: President, Dr. F. X. Crawford; vice president, Dr. John T. Sullivan; and secretary, Dr. W. H. Burke.

**American Gastroenterological Association.**—The eleventh annual meeting of this association will be held in Chicago on Monday and Tuesday, June 1 and 2, 1908. The sessions will be held at the Auditorium Hotel, and all members of the medical profession are cordially invited to attend.

**National Confederation of State Medical Examining and Licensing Boards.**—The annual meeting of this organization will be held at the Lexington Hotel, Twenty-second street and Michigan Boulevard, Chicago, on Monday, June 1st. There will be three sessions, at 10 a. m., 2 p. m., and 8 p. m., respectively.

**The Mortality of New Orleans.**—During the month of March, 1908, there were 633 deaths reported from all causes, 386 white and 247 colored. The annual death rate in 1,000 of population was 17.91 for the white population, 31.87 for the colored, and 21.64 for the total white and colored. There were 48 still births.

**American Medical Editors' Association.**—The annual meeting of this society will be held at the Auditorium Hotel, Chicago, on May 30th and June 1st. An extensive and interesting programme has been prepared, and every member of the association is urged to be present. Editors of medical publications who are not affiliated with the society are also invited to attend.

**The Buffalo Academy of Medicine.**—A meeting of the Section in Surgery was held on the evening of May 5th. The principal feature of the programme was a paper by Dr. Paul Thordmike, professor of genitourinary diseases at the Harvard Medical School, on Patients with Enlargement of the Prostate Who Should Not be Operated upon by Prostatectomy.

**Contagious Diseases in Chicago.** During the week ending April 25th there were reported to the Department of Health 607 cases of communicable diseases. Of these 16 were diphtheria, 78 were scarlet fever, 7 were smallpox, 326 were measles, 28 were chickenpox, 25 were typhoid fever, 21 were whooping cough, 41 were tuberculosis, and 12 were contagious diseases of minor importance.

**National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.**—The annual meeting of this association will be held in Indianapolis, Ind., on Tuesday and Wednesday, November 10 and 11, 1908. Those desiring to attend the meeting and present papers should communicate with Dr. J. F. Munson, secretary and treasurer, Craig Colony for Epileptics, Sonoma, N. Y.

**The Northwestern Medical Society, Philadelphia.**—At a meeting of this society, held on Monday, May 4th, the general subject for discussion was the rights of the unborn child. The subject was dealt with from the standpoint of the law by John M. Patterson, LL. B.; from the standpoint of the church by the Rev. Joseph J. Murphy, D. D., J. C. D.; and from the standpoint of the physician by Dr. Wilmer Krusen.

**A Meeting of Officers of Hospitals for the Insane.**—The semiannual meeting of the trustees and superintendents of the State and Incorporated Hospitals for the Insane and Feeble-minded of Pennsylvania was held in Philadelphia on Tuesday afternoon, May 5th. The programme included a paper entitled Some Questions Relating to the Insane, by Dr. Robert H. Chase, and a paper on the Potentially Insane, by Dr. Frank Woodbury.

**A Tuberculosis Sanatorium in Rensselaer County, N. Y.**—At the regular monthly meeting of the Medical Society of the County of Rensselaer, N. Y., which was held in Troy on Tuesday, April 14th, the following resolution was adopted: "Resolved, that it is the sense of every member of the Medical Society of the County of Rensselaer that a county sanatorium and hospital be erected for the care of advanced tuberculosis cases."

**Wills Hospital Ophthalmic Society, Philadelphia.**—The following papers were presented at a meeting of this society, which was held on Monday afternoon, May 4th: The Value of Photography in Ophthalmology, by Dr. Frank C. Parker; A Case Illustrating the Results of Iridotomy, by Dr. George Robinson; Tenotomy of the Inferior Oblique, by Dr. William Campbell Posey; Some Results of Galvanocautery Puncture, by Dr. S. Lewis Zeigler.

**Syracuse, N. Y., Academy of Medicine.**—A meeting of this academy was held on the evening of May 5th. Dr. I. H. Levy read a paper entitled The Diagnosis of Gallstones, and Dr. Clarence E. Coon read a paper on the X Ray as an Aid in the Early Diagnosis of Pulmonary Tuberculosis, which was illustrated with lantern slides. Dr. A. B. Miller opened the discussion on Dr. Levy's paper, and Dr. A. C. Mercer opened the discussion on Dr. Coon's paper.

**Scientific Society Meetings in Philadelphia for the Week Ending May 16, 1908.**—*Monday, May 11th.* Section in General Medicine, College of Physicians; Wills Hospital Ophthalmic Society. *Tuesday, May 12th.* Philadelphia Pediatric Society; Botanical Section, Academy of Natural Sciences. *Wednesday, May 13th.* Philadelphia County Medical Society. *Thursday, May 14th.* Section Meeting, Franklin Institute. *Friday, May 15th.* American Philosophical Society.

**Appointments at the Northwestern University Medical School, Chicago.**—Dr. John B. Murphy has resigned as professor of surgery and co-head of the department in Rush Medical College, and has accepted the position of professor of surgery and head of the department in Northwestern University Medical School. Dr. A. W. Meyer, of the University of Minnesota, has accepted the professorship of anatomy, and Dr. A. N. Richards, of the College of Physicians and Surgeons, New York, has been appointed professor of pharmacology.

**The Harvey Lectures.**—The tenth and last lecture in the Harvey Society course will be delivered at the New York Academy of Medicine on Saturday, May 9th, at 8:30 p. m., by Professor A. E. Schafer, of the University of Edinburgh. The subject of the lecture is Artificial Respiration in Man. Professor Schafer was chairman of a committee appointed by the Royal Medical and Chirurgical Society to investigate the phenomena attending death by drowning and the means of promoting resuscitation in the apparently drowned, and his lecture will embody the results of much practical work on the subject of artificial respiration. Professor Schafer came to the United States for the purpose of giving the Hunter lectures at the Johns Hopkins Medical School.

**American Laryngological Association.**—The thirtieth annual congress of this association will be held in Montreal, Canada, on May 11, 12, and 13, 1908. The headquarters of the association will be at the Windsor Hotel. An excellent programme has been prepared and ample arrangements have been made for the entertainment of the visiting members and their friends. The meeting promises to be one of great interest, and all members of the medical profession are cordially invited to attend.

**New York Academy of Medicine.**—At a stated meeting of the academy, held on Thursday evening, May 7th, under the auspices of the Section in Public Health, Dr. Walter Benschel, sanitary superintendent of the New York Department of Health, read a paper entitled Possible Sources of Typhoid Fever in New York City. Among those who took part in the discussion were Dr. E. G. Janeway, Dr. A. Seibert, Dr. J. M. Wainwright, Dr. William H. Park, and Dr. John S. Thacher.

**The Floyd County, Ga., Medical Society.**—The Seventh District Branch of this society met in Rome on March 11th and effected a permanent organization, with the following officers for the ensuing year: President, Dr. R. P. Cox, of Rome; vice president, Dr. C. F. McLaird, of Calhoun; secretary and treasurer, Dr. Harlan L. Erwin, of Dalton. The society meets twice a year, on the second Wednesday in October and March. The next meeting will be held in Cartersville on October 14th.

**Pennsylvania Society for the Prevention of Social Disease.**—A meeting of this society will be held at the College of Physicians, Philadelphia, on May 22d, at which Dr. Helen C. Putnam, of Providence, R. I., will deliver an address outlining her experience in the teaching of hygiene and morality in the public schools. Dr. Putnam is chairman of the Committee on the Teaching of Hygiene in the Public Schools, appointed by the American Academy of Medicine. The meeting will be open to the public.

**American Laryngological, Rhinological, and Otolological Society.**—The fourteenth annual meeting of this society will be held in Pittsburgh, Pa., on May 28, 29, and 30, 1908. The headquarters of the society will be at the Hotel Schenley, and the sessions will be held in the Carnegie Library. The programme, which seems to be a particularly good one, includes a "symposium" on the cosmetic and plastic surgery of the nose, throat, and ear. The oration in otology will be delivered by Dr. A. Jansen, of Berlin, Germany. All members of the medical profession are invited, and a good time is expected.

**The Obstetrical Society of Philadelphia.**—A stated meeting of this society was held on the evening of May 7th. The programme, which was a long one, included the following papers: The Toxæmia of Pregnancy, by Dr. Collin Foulkrod; A Case of Concealed Hemorrhage in Pregnancy compared with a Case of Extrauterine Pregnancy, by Dr. George Erety Shoemaker; The Value of Acetone in the Treatment of Inoperable Carcinoma Uteri, by Dr. F. Hurst Maier; Drainage of the Pelvic Cavity after Abdominal Section, by Dr. Ella B. Everitt; Hypernephroma, by Dr. L. J. Hammond.

**College of Physicians of Philadelphia.**—A stated meeting was held on the evening of May 6th. Dr. Meyer Solis-Cohen read a paper on a Simple and Accurate Method for Testing the Clotting Time of the Blood. Dr. Warren Walker read a paper on Myositis Ossificans Progressiva, and exhibited a patient with the disease. Dr. Gwilym G. Davis presented several patients with congenital dislocation of the hip. A paper by Dr. John H. Jopson, Dr. C. Y. White, and Dr. John Speese on Tumors of the Breast in Childhood was presented, and Dr. Henry Tucker read a paper on the Local Uses of Solutions of Magnesium Sulphate in the Treatment of Erysipelas.

**The Mortality of Chicago.**—According to the report of the Department of Health for the week ending April 25, 1908, there were during the week 623 deaths from all causes, as compared with 678 for the corresponding period in 1907. The annual death rate in 1,000 of population was 19.00. The principal causes of death were: Apoplexy, 11; Bright's disease, 48; bronchitis, 19; consumption, 78; cancer, 23; convulsions, 6; diphtheria, 8; heart diseases, 47; influenza, 6; intestinal diseases, acute, 40; measles, 7; nervous diseases, 19; pneumonia, 112; scarlet fever, 5; suicide, 11; typhoid fever, 3; violence, other than suicide, 26; whooping cough, 1; all other causes, 142.

**Personal.**—Dr. George H. Kirby has resigned as associate in clinical psychiatry at the Pathological Institute of New York, and has accepted the position of director of clinical psychiatry at the Manhattan State Hospital, Ward's Island, N. Y.

Dr. Llewellyn F. Barker, professor of medicine at the Johns Hopkins Medical School, has received the honorary degree of doctor of laws from Queen's University, Kingston, Ontario.

Dr. William H. Warren has been chosen dean of the Medical Department of Washington University, St. Louis, to succeed Dr. Robert Luedeking, who died recently.

**New York Pathological Society.**—The regular meeting of this society will be held at the Academy of Medicine on Wednesday evening, May 13th, at 8:30 o'clock. The programme includes the following papers: Two Atypical Kidney Tumors, by Dr. I. Strauss; A Case of Rhabdomyoma of the Tongue, by Dr. Horst Oertel; Notes on Blood Cultures in Glanders, by Dr. B. Crohn; The Agglutinating Action of Ricin on Erythrocytes in Isotonic Sugar Solution, by Dr. Cyrus W. Field; Report on a Series of Tumors of the Rat and Mouse, with demonstrations, by Dr. Simon Flexner and Dr. J. W. Jobling; Prevention by Atoxyl of Syphilis in Macacus Rhesus, by Dr. Simon Flexner.

**Mortality Statistics of New York.**—During the week ending April 25, 1908, there were reported to the Department of Health of the City of New York 1,536 deaths from all causes, as compared with 1,671 for the corresponding period in 1907. The annual death rate was 18.12 in 1,000 of population. Of the total number of deaths 801 were in Manhattan, 140 in the Bronx, 520 in Brooklyn, 57 in Queens, and 18 in Richmond. The principal causes of death were: Apoplexy, 58; Bright's disease and nephritis, 113; bronchitis, 32; cancer, 65; contagious diseases, 153; diarrheal diseases, 44; diarrheal disease, under five years of age, 43; pneumonia, 262; organic heart diseases, 148; pulmonary tuberculosis, 180; tuberculosis, other than of the lungs, 34; typhoid fever, 11; suicide, 24; homicide, 3; accidents, 59. There were 119 still births.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 2, 1908:*

	—April 25—		—May 2—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis . . . . .	439	180	432	178
Diphtheria . . . . .	344	39	425	45
Measles . . . . .	1,891	39	1,652	41
Scarlet fever . . . . .	929	64	855	60
Smallpox . . . . .	..	..	..	..
Varicella . . . . .	153	..	158	..
Typhoid fever . . . . .	33	11	36	8
Whooping cough . . . . .	14	1	27	..
Cerebrospinal meningitis . . . . .	12	7	12	14
Totals . . . . .	3,815	341	3,648	346

**Colleges and Hospitals Cooperating in Educational Work.**—At a meeting of the Hospital Conference of the City of New York, held at the Academy of Medicine on April 30th, a report of the sub-committee on medical organization and medical education was presented. The committee reported that the faculties of Cornell University Medical College, University and Bellevue Medical College, and the College of Physicians and Surgeons had all agreed that the time had arrived for the readjustment of the curriculum of the medical schools so as to enable the fourth year, or graduating class, to spend additional time in hospital wards as clinical clerks and surgical dressers, or as students participating in the work. At Cornell the faculty has already ordered that the hours from 10 a. m. to 12 m. shall be devoted to extramural teaching for as many students as can be at liberty at that time.

**The Annual Report of the Board of Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine** has just been received. During the twenty-five years of the existence of the institution 15,500 patients have been treated in the hospital and 325,000 patients have been treated in the dispensaries. The following gifts were received during the past year: \$10,000 from the estate of Mary C. Dulles, \$5,000 from the estate of Louisa Dietrich, and \$2,400 from the Charity Ball Committee of 1907. Eighty-eight cases of typhoid fever were treated, with 5 deaths, a mortality of 5.65 per cent.; 59



cases of pneumonia and bronchopneumonia were treated, with 12 deaths, a mortality of 20.33 per cent.; 179 cases of intraabdominal disease were treated, with 19 deaths, a mortality of 10.61 per cent. There is no list of operations in the report, so that the mortality of operation cases cannot be computed. The report of the dean shows that during 1907, one hundred and fifty-eight students matriculated in the college department of the institution. Eight nurses were graduated from the training school during the year. The trustees report the necessity of temporarily stopping work on the new dispensary building, on account of lack of funds.

**Charitable Bequests.**—By the will of Lewis P. Simpson the Methodist Hospital of Philadelphia becomes a reversionary legatee, the money received to be used for the endowment of free beds and for the maintenance of the dispensary.

By the will of Charles H. Newhall, the Lynn, Mass., Hospital receives \$50,000, and the Old Ladies' Home and the Old Men's Home in Lynn receive \$15,000 each.

By the will of Sarah Reeves the Episcopal Hospital, Philadelphia, receives \$5,000 to endow a free bed in memory of Joel and Sarah P. Reeves, parents of the deceased. By the same will the Philadelphia Home for Consumptives receives \$500.

By the will of Patrick Larkin, Carney Hospital, Boston, receives \$5,000; Holy Ghost Hospital and Cambridge Hospital each receive \$1,000.

**A New National Hospital for Cuba.**—Hospital de Alfonso XIII, which was originally built in 1895, is to be rebuilt on the heights of Principe Castle, just outside of the city of Havana. Plans for a two story building have been filed, and the work will be begun as soon as Governor Magoon issues the necessary financial decrees. The present available fund consists of a balance in hand of \$120,000 from the fund granted by the Cuban congress and a grant of \$150,000 from Governor Magoon. The Cuban congress also voted an annual subsidy of \$150,000 until a total of \$750,000 had been collected. Governor Magoon will confirm this latter arrangement, thus giving the board an available fund of \$1,000,000 for the building and equipment of the hospital. It is the intention of the board to make this hospital thoroughly modern in every respect, and no effort is being spared in the search for the latest and best surgical and pharmaceutical equipment. The question of having a department for the study of tropical medicine connected with the hospital is under advisement.

**The Health of Philadelphia.**—During the week ending April 18, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 79 cases, 13 deaths; scarlet fever, 75 cases, 3 deaths; chickenpox, 36 cases, 0 deaths; diphtheria, 71 cases, 12 deaths; cerebrospinal meningitis, 8 cases, 5 deaths; measles, 424 cases, 9 deaths; whooping cough, 22 cases, 9 deaths; pulmonary tuberculosis, 140 cases, 45 deaths; pneumonia, 74 cases, 65 deaths; erysipelas, 4 cases, 2 deaths; puerperal fever, 4 cases, 3 deaths; mumps, 37 cases, 0 deaths; cancer, 16 cases, 23 deaths; septicæmia, 2 cases, 0 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 11; diarrhoea and enteritis, under two years of age, 13. The total deaths for the week numbered 496, in an estimated population of 1,532,738, corresponding to an annual death rate of 16.80 in 1,000 of population. The total infant mortality was 117; under one year of age, 87; between one and two years of age, 30. There were 53 still births; 41 males, and 12 females.

**Changes in the Requirements for Admission to the College of Physicians and Surgeons, New York.**—The forthcoming announcement of this institution, which is the medical department of Columbia University, will contain notice of a change in the requirements for admission, to take effect in September, 1909. All candidates for the degree of doctor of medicine on entering the college will then be required to present a certificate from the Regents of the University of the State of New York, and must also show evidence of the completion of not less than two full years of study in an approved college or scientific school, or graduation from an approved college or scientific school; or a bachelor's degree or its equivalent from some approved European institution, or, in lieu of either of these, evidence of exceptional fitness to undertake the study of medicine. Candidates who have completed one or more years of study in an approved medical school will be ad-

mitted to advanced standing on presentation of proper certificates, provided that before beginning the study of medicine they have fulfilled the qualifications for admission required by the College of Physicians and Surgeons.

**Meetings of Sections of the New York Academy of Medicine.**—The Section in Neurology and Psychiatry will meet on Monday evening, May 11th, at 8:30 o'clock. After the presentation of patients and the reports of cases, Mr. Arthur Train, assistant district attorney, will read a paper entitled *Insanity as a Defense to Crime*. Among those who will take part in the discussion are Judge Dike, Bartow S. Weeks, Esq., Nathan A. Smythe, Esq., Dr. C. L. Dana, Dr. William Hirsch, Dr. William B. Pritchard, Dr. Smith Ely Jelliffe, Dr. James J. Walsh, and Dr. Carlos F. MacDonald.

The Section in Pædiatrics will meet on Thursday evening, May 14th, at 8:15 o'clock. Dr. Max G. Schlapp will report a case of cerebral changes following scarlatina and measles. Dr. Herman Schwarz will present a patient with infantilism and will read a paper entitled *Infantilism and Allied Conditions*, which will be followed by a general discussion.

A special meeting of the Section in Otology will be held on Tuesday, May 26th, to greet Mr. Arthur H. Cheate, F. R. C. S., of London. A buffet luncheon will be served at 2 p. m., and at 8:30 p. m. a lantern slide demonstration of Mr. Cheate's collection of temporal bones will be given in Hosack Hall. The collection will also be on exhibition on the afternoons and evenings of May 22d, 23d, and 25th.

**Prizes Offered for Members of the American Laryngological, Rhinological, and Otolological Society.**—Four prizes of \$100 each have been offered by members of the American Laryngological, Rhinological and Otolological Society, as follows:

By Dr. J. E. Sheppard for the best classification of non-suppurative affections of the middle ear, to be based as far as possible on pathological research.

By Dr. Charles W. Richardson for the best essay on the operative treatment which offers the best results for the cure of chronic suppurative frontal sinusitis.

By Dr. Norval H. Pierce for the best original work on rarification of the labyrinthine capsule.

By Dr. Edward R. Dench for the best essay on chronic non-suppurative inflammation of the middle ear.

The competition is open to members of the society only, and all essays must be in the hands of the secretary before April 15, 1909, who will furnish full information regarding the requirements. The council of the society also announces that the society holds a fund of \$500 for the encouragement of original research work. The whole, or a part, of this fund will be awarded, at the discretion of the council, to the member of the society presenting the best essay embodying original work in subjects relating to laryngology, rhinology, or otology.

#### Society Meetings for the Coming Week:

**MONDAY, May 11th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, May 12th.**—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Newburgh Bay, N. Y., Medical Society; Buffalo Academy of Medicine (Section in Medicine); Medical Society of the County of Rensselaer, N. Y.; Medical Society of the County of Schenectady, N. Y.; Practitioners' Club of Jersey City, N. J. (annual).

**WEDNESDAY, May 13th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond, N. Y.

**THURSDAY, May 14th.**—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.

**FRIDAY, May 15th.**—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Post Graduate Medical School and Hospital; East Side Physicians' Association of the City of New York; New York Microscopical Society; Brooklyn Medical Society.

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

April 30, 1908

1. Some Urinary Infections with a Variety of the Staphylococcus Albus, By ARTHUR L. CHUTE.
2. The Treatment of Abnormal Rigidity of the Cervix Uteri by Deep Incisions. A Report of Two Cases, By NATHANIEL R. MASON.
3. Mattapan Day Camp for Consumptives, Boston, Mass., By DAVID TOWNSEND.
4. The Plaster of Paris Bar or Rope, By ROBERT SOUTTER.
5. Some Observations on a "Figure of Eight" Plaster Jacket, By JOHN D. ADAMS.

2. **The Treatment of Abnormal Rigidity of the Cervix Uteri by Deep Incisions.**—Mason reports two such cases. From his operations he concludes that where immediate delivery is demanded in the presence of an undilated and rigid cervix, multiple deep incisions from the border of the external os to the uterovaginal junction furnish the most rapid and safest method of emptying the uterus. There is no danger of the incisions tearing in cases under full term, or in cases at full term, where the pelvis is normal and the fetus is of moderate size, nor risk of hæmorrhage when clamps are employed before making the incisions. The chance of septic infection is no greater than after the lacerations occurring at the time of normal delivery, and the scars in the cervix and vaginal vault will cause no trouble in the course of subsequent pregnancies and labors.

4. **Plaster of Paris Bar or Rope.**—Soutter remarks that plaster of Paris bandages have been strengthened by strips of wood, steel, iron, cardboard, wood pulp, etc., and by laying the plaster gauze longitudinally instead of in a circular manner. The latter is not as rapid a manner of applying reinforcement as by means of the plaster bar or rope. To make a plaster bar, a very wet plaster of Paris bandage is rapidly unwound back and forth to the desired length. No attempt is made to rub it or to apply it to the partially applied dressing. When the roll is entirely unwound it is held at one end by one hand, while the other is grasped around it and slid down to the other end, moulding it into a bar. It is then slapped into place and rubbed three or four times. This method of reinforcement is more rapid than the time it takes to describe it, says the author. Plaster bars may be used in front and behind on a plaster of Paris spica at the weak points, or to strengthen a plaster jacket. In jackets for forcible correction in cases of curvature of the spine or bad round shoulders, it is often important to apply the jacket very rapidly. By means of two or four ropes a strong, light, and retentive apparatus can be finished in a very short time.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 2, 1908

1. Chemical Problems in Hospital Practice, By OTTO FOHN.
2. The Scientific and Practical Value of Hospital Internship, By the Late NICHOLAS SENN.
3. Tuberculin in Pulmonary Tuberculosis, By PAUL H. RINGER.
4. Relationship between the Spinal Cord, the Sympathetic System, and Therapeutic Measures, By S. D. LUDLUM.

5. The Treatment of Placenta Prævia, By H. S. CROSSEN.
6. Practical Value of Modern Conceptions of Syphilis, By ALFRED SCHALEK.
7. Treatment of Eclampsia, By JOHN F. MORAN.
8. Some of the Motor Phenomena of Chorea Clinically Considered, By FRANK R. FRY.
9. Eye Syndrome of Dementia Præcox, By H. H. TYSON and L. PIERCE CLARK.

2. **The Scientific and Practical Value of Hospital Internship.**—This is the last paper prepared by the late Nicholas Senn, which was read for him. In it he said that one of the most valuable practical advantages of an internship is the association of his colleagues. A noble spirit of rivalry reigns in the little circle, a healthy stimulus for hard, honest work. Books and medical journals are read and their contents discussed. Cases and operations are made the subject of conversation at table and during hours of leisure, and this way each interne receives, to a certain extent, the benefits of the entire service, and such intercourse is the best possible preparation for their future work in medical societies. It is conducive to the development of the gift of debate and a wholesome spirit of criticism. Internes are attracted by medical societies, and often enrich the meetings by the presentation of cases and pathological specimens, thus filling in many gaps in the programme with valuable material. In this way the interne becomes at the very threshold a contributor to medical literature and learns the value of postgraduate education through the medium of medical societies.

### 3. Tuberculin in Pulmonary Tuberculosis.

—Ringer remarks that tuberculin may be employed in: 1. All incipient cases, cases of closed tuberculosis in which ulceration has not taken place and bacilli are not to be demonstrated in the sputum. 2. Uncomplicated, nonfebrile, first and second stage cases. 3. Fibroid cases not running a febrile temperature. 4. Febrile cases in which the temperature does not drop under treatment by rest, and where fever is due to the tuberculotoxine alone and not to mixed infection. In such cases tuberculin should be administered with the greatest caution, in the most infinitesimal doses, with long intervals between successive doses. 5. Advanced, third stage cases. Tuberculin can here occasionally be used, not as a curative agent, but to aid in relieving distressing symptoms. It will often relieve the tight, harassing cough that is so exhausting, render expectoration easier, do away with thoracic pain, and help to make the patient more comfortable. In such cases its administration should be most guarded and the dosage very minute. The contraindications are given as follows: 1. Greatly emaciated or greatly weakened individuals. The general body strength must first be raised by rest and proper diet before such patients will be able to supply those defensive forces which tuberculin stimulates to action. 2. Third stage cases with mixed infection. Those cases constitute the most absolute contraindications to the use of tuberculin. In them a hypersusceptibility is easily excited, violent reactions are prone to occur, a general aggravation of the symptoms may set in, and great harm result. 3. Hæmorrhage: Hæmoptysis occurring during the administration of tuberculin is a signal not for the permanent withdrawal of the



drug, but for its cessation at once and until some time after subsidence of all hæmorrhagic symptoms. 4. Heart disease: A contraindication only if it is feared that owing to possibility of reactions compensation may be lost. 5. Marked increase in pulse frequency, beginning and persisting during administration of tuberculin. 6. Marked loss of weight, beginning and persisting during the administration of tuberculin. 7. Complications: Diabetes, nephritis, hepatic cirrhosis, hysteria, neurasthenia, epilepsy. Of the results the writer remarks that patients tolerating increasing doses are not so prone to the exacerbations and relapses exhibited by those not so treated. More permanent cures have resulted when tuberculin has been used than where it has been omitted; many patients running a slow but steadily downhill course, in spite of open air treatment, improve and get well under tuberculin. Tuberculin has a favorable effect on the chronic toxæmia of tuberculosis, which disappears under its use to an astonishing degree. Cough and sputum frequently cease, or persist greatly lessened in amount. The conclusions the author draws are that tuberculin is the most valuable adjuvant to fresh air, rest, good food, we possess in the treatment of pulmonary tuberculosis. It is indicated in many types of cases, and in the hands of a competent administrator will do no harm. Reactions are often overlooked; they are not to be desired, and when frequent or violent are distinctly harmful to the patient. The dosage should at first be infinitesimal; increase should be very gradual. Time and tolerance bring success in the treatment by means of tuberculin. Tuberculin should never be used save in conjunction with strict hygienic and dietetic measures.

#### 5. The Treatment of Placenta Prævia.—

Crossen states that three points are to be kept in mind in the delivery of placenta prævia. 1, The dilation of the cervix must be gradual because of the danger of serious laceration; 2, there must be compression of the bleeding area during this gradual dilatation, to prevent dangerous hæmorrhage; 3, that method of delivery is to be chosen which gives the best chance of saving the fœtus, provided it does not unduly jeopardize the mother. The cervix should be dilated sufficiently to admit two fingers for more accurate examination. In many cases, particularly in multiparæ, this slight dilatation may be accomplished with the fingers, while in other cases a dilator will be needed. This procedure enables us to decide whether the case is one that will probably require only minor assistance in the process of delivery, or one that requires radical interference at once because of imminent danger to the mother. Delivery is a serious procedure in most of these cases and is accompanied with the danger of sudden fatal hæmorrhage. Consequently, the physician should take care to provide the required assistants, instruments, and materials to meet emergencies that may arise. Two assistants are advisable, one to attend to the anaesthesia and the other to assist the operator and attend to the intravenous administration of saline solution if necessary. If the patient is near a hospital she should be moved there. If the bleeding is not severe, or has been checked by firm packing, the removal to the hospital with the

patient perfectly quiet on a stretcher is less dangerous than an attempted delivery, with its possible serious emergencies, at the home.

6. Practical Value of Modern Conception of Syphilis.—Schalek says that, although it was always stated that one infection of syphilis conferred an absolute and permanent immunity, this was never accepted universally. But the few reports of reinfections could never be confirmed. It is known at present that there is a period during the existence of a chancre when multiple autoinoculations occur, and that, furthermore, there is a time limit to the protection conferred on an individual by his first attack of syphilis, after which reinfection may take place again. The diagnostic feature of one single initial lesion of syphilis, as distinguishing it from the multiplicity of chancroids, should not be relied on any more. Multiple syphilitic chancres have been reported lately by Taylor and others, appearing simultaneously or successively and in different stages of evolution. Finger's explanation of this recurrence seems most rational: Immunity begins and develops gradually with the first appearance of the primary lesion. It grows in intensity during the secondary stage, but never becomes absolute. After reaching its climax it again decreases in its potency until a virus which may have remained latent for a time can produce new pathological changes, or an infection from outside sources becomes a possibility.

7. Treatment of Eclampsia.—Moran observes that if, in spite of vigorous treatment, the volume of the urine is not increased, and the excretion of urea remains stationary or diminishes, together with persistence of menacing constitutional symptoms, it will be necessary, particularly if the fœtus is viable, to terminate the pregnancy. While the etiology of eclampsia is still unsolved, its clinical phenomena and pathology point to a probable intoxication of maternal, fetal, or combined origin. Therefore, sedation, elimination, and evacuation of the uterus are the chief indications in the treatment. The sedatives are valuable for their tranquilizing influence, while the delivery is being promoted or effected by other direct measures. The result in a given case will depend on the severity of the attack, the judgment and skill of the physician, and the rigid observance of asepsis. Essential to success is a well thought out plan of prompt but not over-zealous procedure based on the various phases of the disease, combined with a knowledge of the condition of the cervix and the changes which it must undergo before pregnancy can terminate or be terminated.

#### 9. The Eye Syndrome of Dementia Præcox.

—Tyson and Clark have examined the pupils in eighty-five cases. The result of their examinations is as follows: The findings indicate that dementia præcox is attended by such an ocular and ocular syndrome of alteration and loss, visual field, pupil and corneal sensitive as to materially aid in diagnosing this psychosis. Concentration of the syndrome will particularly aid in the distinctive diagnosis of dementia præcox from the manic depressive group, acquired neurasthenia, hysteria and the various forms of imbecility and constitutional inferiority. The syndrome is a potent corroborative



to the theory that dementia præcox is an autotoxic disease, and that the poison is primarily vascular, which finally induces neuronie degeneration. It points to a toxine of some sort, which is either a metabolic defect in the tissues (ductless gland defect) or, what seems more probable, that the poison is generated in the liver or in the gastrointestinal tract itself. The syndrome is of prognostic value, as the severer grades of eye changes are found in the more rapidly deteriorating cases. The optic nerve lesion is quite in accord with our best knowledge of the pathological anatomy of dementia præcox, in other tracts of the brain (than the optic nerve which itself may be counted an analogue). The early vascular changes in the brain ought to receive more serious investigation.

#### MEDICAL RECORD

May 2, 1908.

1. The Cancer Problem, By EUGENE COLEMAN SAVIDGE.
2. The Effects of Urban Congestion on Italian Women and Children. By ANTONIO STELLA.
3. The Fifth Nerve in Relation to Ophthalmic Conditions, By SAMUEL HORTON BROWN.
4. A Piece of Catheter Voided During Urination. By WALTER S. REYNOLDS.
5. The Inunction of Iodoform in Tuberculous Peritonitis, By SIDNEY F. WILCOX.

1. **The Cancer Problem.**—Savidge in his paper calls our attention to the fact that the yeast plant ferment was found to act on the left isomer, while the ferment of the mold acted upon the right solution. Elemental carbon exists as coal and as diamond. There is a difference between laboratory products and the substance derived from organic compounds, that is, the natural organic products rotate the polarized light either to the right or left, according to quality, but always one way, to the exclusion of the other isomer. There is a force that will cure some cancers and cause some cancers. The radial action of sun and ray is probably in the direction of a cure when it acts repressively on the noxious bacterial life. It is probably acting in the direction of heat when it destroys our assimilative and protective ferment. The author cites a case of a syphilitic who was attacked with smallpox. Recovery from smallpox left the patient permanently cured of his tertiary syphilis; the explanation was that the smallpox germ had killed the syphilis germ. When an item or an aggregate of items restores glandular activity, replaces the disturbed ferment protection, restores the isomeric integrity, that item thereby cures cancer. The author concludes in saying: A certain known, but not understood, "radial" force can act upon products containing the asymmetrical carbon atom to change their isomeric quality as shown by polarized light. That one force can so act presupposes that other forces may so act. The natural ferments contained in the secretions of the body, digestive and protective, "digest" one series of isomers and leave the opposite series untouched. Therefore, the action of this occult "radial" force—this assailing of isomeric integrity—can change protoplasm from digestibility to indigestibility to the natural ferments, and *vice versa*. The local cancer products consists presumably of changed isomers allowed to grow instead of being "digested." This is made all the more probable by the disappearance of the opsonic ferments in the

blood in all such diseases as have been subjected to controlled observation; and, specifically in cancer, by the gradual suppression of the enumerated ferments. These ferments—presumably—begin to modify long before transition from the preliminary to the final state called cancer. Therefore, even if there is no change in isomeric quality, the secretion suppression would explain the growth of the cancer weed cells that effective ferments would have removed. If there is no flaw in these significances, the cure for cancer, as well as its prevention, lies in the realm of synthetical medicine.

2. **The Effects of Urban Congestion on Italian Women and Children.**—Stella gives a great amount of statistical material, and concludes with the following words: Let us arrange for a better distribution of the immigrants not after they have reached Ellis Island, but before they decide to leave their motherland, by informing them of the wonderful resources of this vast continent, outside and beyond the large cities; let us educate them to the principles of hygiene and life, when they are settled here, and above all, let us distribute the work in appropriate areas outside of the city limits, so that proximity of the factory should not be as it is now, in a large percentage of the cases, the chief reason for their congesting the cities. Let us, finally, promote the building of model tenements at a low rent that will not absorb thirty-three per cent. of their income, and stimulate the philanthropy of the rich in this direction, and when we shall have given the people clean, healthy homes, full of light and sunshine, we shall have accomplished the physical and moral regeneration of the masses; we shall have given them that to which every human being is entitled, health and happiness.

#### BRITISH MEDICAL JOURNAL

April 18, 1908.

1. Some Observations on Bronchitis and Emphysema, By SIR J. BARR.
2. The Physiological and Pathological Effects which Follow Exposure to Compressed Air (Arris and Gale Lectures), By MAJOR GREENWOOD, JR.
3. Primary Pneumococcic Peritonitis, By A. CUFF.
4. Observations on the Rectal Temperature after Muscular Exercise, By M. FLACK.
5. Calmette's Ophthalmoreaction, By T. H. BUTLER.
6. A Note on the So Called Stimulating Effect of Alcohol on Protoplasm, By W. H. KESTEREN.

1. **Bronchitis and Emphysema.**—Barr, after discussing the ætiology and pathology of bronchitis and emphysema, has the following to say as regards treatment. *Bronchitis.* The patient should be hardened and protected against the injurious influences of cold, dust, microorganisms, irritating gases, etc. He should live as far as possible in a pure, dry atmosphere which, at least during the acute stage of the disease, should be warm. Every person with a liability to bronchitis should forswear the use of alcohol in all its forms. It is one of the most frequent causes of chronic bronchitis and is never useful in treatment. When bronchitis is secondary to other diseases, the treatment is chiefly symptomatic. When it arises, as is frequently the case, from digestive disturbances, attention should be specially devoted to the stomach and bowels. As a rule the carbohydrates and fats should be cut down, a liberal allowance of nitrogenous food being granted. The

diet should not be too liquid, though a fair amount of hot water may be given. If there is any deficiency of lime salts in the blood, which is often the case when the expectoration is free and albuminous, a moderate amount of milk should be given, also gelatine. But where the expectoration is scanty and tough with bronchial spasm and râles, milk and gelatine should be avoided, the lime salts being in excess. Sodium chloride, which has a high osmotic equivalent, should be restricted. A good emetic is often an excellent preliminary treatment, and in all cases the bowels should be well cleared out with calomel or sodium sulphate. As a rule the fewer drugs used the better. Ammonium carbonate is certainly injurious in the early stages of the disease. Antimony and compound tincture of camphor with ipecac, are excellent remedies. If there is bronchial spasm and tough expectoration, decalcifying agents such as the citrates of potash and soda should be used, while on the other hand, where the expectoration is profuse and albuminous, calcium lactate should be given. In bronchial spasm the nitrites are very valuable, and potassium iodide is an important adjunct. When the acute stage has passed, tonics such as strychnine and quinine should be given. Counterirritation is often extremely valuable, the writer preferring mustard poultices. *Emphysema.* What has been said of bronchitis applies largely to emphysema: The treatment should be chiefly dietetic and hygienic, and prevention is always better than cure. The patient's appetite is frequently too good, he is stout and plethoric, and thus there is a demand for more oxygen than the lungs can supply. Moreover the plethoric and cyanotic conditions lead to congestion of the lungs, greater respiratory efforts are made, and the emphysema is increased. The patient should be starved as much as possible. This is usually difficult, but at any rate the fats and carbohydrates should be diminished. The thin, spare patient does best. Too much table salt should be prohibited, but plenty of fruit and a fair amount of green vegetables can be allowed. The patient should live in a dry, warm atmosphere, and should practice respiratory gymnastics, being taught how to expire rather than inspire. Comparatively few drugs are of any value, the most generally useful being the iodides. Thyroid extract may be added if there is any deficiency in metabolism. If there is much cough, opium must be used.

3. **Pneumococcic Peritonitis.**—Cuff states that it has been established beyond all doubt that cases of peritonitis occur in which most careful search, both ante and post mortem, fails to show any primary lesion in any abdominal viscus. The cause of many such cases is the pneumococcus. Pneumococcic peritonitis is at all times uncommon. It is most often met with in children, being extremely rare in adults. It may be diffuse or localized in the form of an intraperitoneal abscess. Onset is sudden with severe pain, the previous health having usually been good. The course of the disease is very rapid: free fluid in the abdominal cavity is an early sign. The pus is peculiar in that it always contains a large quantity of coagulated lymph like curdled milk. The writer reports a series of five cases from which he draws the following conclusions:—

1. That an acute diffuse or localized peritonitis may be the sole symptom of a pneumococcic infection. 2. Such cases possibly form a considerable proportion of those anomalous cases of peritonitis without visible lesions of any of the abdominal viscera. 3. Their sudden onset after previous freedom from abdominal trouble, together with the frequent accompaniment of diarrhoea, and signs of early systemic poisoning, may perhaps serve to assist in differentiating them from peritonitis caused by other infection. 4. They may be followed by pneumococcic lesions in other organs of the body. 5. Their prognosis is extremely grave.

5. **Calmette's Reaction.**—Butler has carefully investigated the so called ophthalmoreaction for tuberculosis as introduced by Calmette. He concludes that it is a safe and simple practical test that can be used by the general practitioner, and that it does not inconvenience the patient. It is a very useful aid to diagnosis, but occasionally the results are equivocal. The patient's eyes must be carefully examined and the condition noted in a book. It is essential that there be no preexisting conjunctivitis, for the reaction would then be masked. One or two drops of the solution must be instilled into the lower cul-de-sac and the eye held open for a few seconds. If the subject is tuberculous the eye will begin to redden in about three hours, and lachrimation will be complained of. At about the sixth hour the caruncle begins to swell, and there may be a slight fibrous exudation which gathers in filaments in the lower conjunctival sac. The reaction reaches its maximum in from six to thirteen hours; there is no rise in temperature and no general malaise. The inflammation may vary in degree from slight lachrimation and an almost imperceptible enlargement of the caruncle to a severe conjunctivitis which may last for several days or even for weeks. But there is little danger to the eye unless it be affected with tuberculous disease—a rare condition. The intensity of the reaction bears no relationship whatever to the severity of the tuberculous process. Every case of obvious tuberculosis tested by the writer gave the reaction, and only one slight reaction was observed in an apparently healthy individual.

#### LANCET

April 18, 1908

- 1. The Anatomy of the Long Bones Relative to Certain Fractures (Hunterian Lectures, I). By R. THOMPSON.
- 2. The Pygmy and Negro Races of Africa (Hunterian Lectures, III). By F. C. SHERRILL.
- 3. Observations on Blood Pressure, Chlorine Retention and Dechlorination, Hyperacidity, and Variations in the Starch Ratio. By H. HIGGINS.
- 4. The Epidemiology of Diphtheria in the Light of a Possible Relationship between the Diphtheric Affections of Man and Those of the Lower Animals. By L. W. SAMBON.
- 5. A Case of Cavity of the Lung Successfully Treated with Ozone. By G. SIEWER.
- 6. Another Description of the Sacred Tails of the Clay-fish. Treatment by Fracture of the Clavicles with Good Results. By F. H. MURPHY.

1. **Fractures of the Long Bones.** Thompson in the first of his Hunterian lectures, discusses fractures of the neck of the thigh bone, dealing especially with the anatomy of the bone itself. In the ends of the bones of an ordinary adult man there

are developed definite lamellæ running in the main direction along which pressure is transmitted. Certain other lamellæ are also developed, gradually crossing these pressure lamellæ at right angles. These are known as tension lamellæ. Their presence generally increases the elasticity and therefore the strength of the bone. In the young person, as well as in the old, these pressure lamellæ are not well seen, nor are the tension lamellæ. In the young person the cancellous tissue at the ends of the long bones is so dense and the meshes are so fine that the pressure and tension lamellæ can hardly be demonstrated. In the old person the bone fibres are so obscured by the presence of fat that they are very difficult to discover. Relatively large masses of fat develop in the part of the bone which is least subject to pressure. Fractures of the neck of the thigh bone have perfectly definite causes, the statement of which depends to a large extent upon the knowledge of the internal structure of the upper end of the femur. Now, in addition to the two series of lamellæ, there is a third series, which pass from the upper surface of the head to the lower surface of the neck, and thus to the compact layer on the inner surface of the shaft of the femur. This layer or spur of bone is known as the calcar femorale, or Merkel's or Adam's arc, is a nearly vertical ledge of compact bone. It does not always disappear in old age, but, on the other hand, it is not invariably present, even in young people. The calcar in extracapsular fracture of the neck of the femur is responsible for the edge and lower end of the clusel, whose other parts are represented by the head and neck of the femur. The calcar certainly produces the vertical secondary fracture of the great trochanter and upper part of the shaft of the femur, and may be held partially responsible for the horizontal secondary fracture near the base of the great trochanter. In intracapsular fracture of the neck of the femur the pressure starts from the front of the upper part of the neck. If the patient is in the flexed position when the accident happens, the ligamentum teres is not strong enough to resist the sudden force which is put upon it, and so it may be either stretched or ruptured. The anterior surface of the neck of the femur then comes into forcible contact with the corresponding part of the acetabulum, and the fracture is begun. The line of fracture then passes for some distance in a transverse direction along the neck until it meets with the lamellæ coming down from the anterior upper surface of the head of the femur to the posterior and under surface of the neck of the same bone, and is by them deflected so as to form either a posterior or an inferior tongue of bone.

4. **Epidemiology of Diphtheria.**—Sambon calls attention to the widespread prevalence among animals of diphtheria, or, at any rate, of a disease resembling diphtheria, and caused by microorganisms apparently morphologically identical with the Klebs-Löffler bacillus. That diphtheria may be conveyed from the lower animals to man, and vice versa, is a very old and general belief. The simultaneous occurrence of diphtheria epidemics in man and of epizootics of a similar nature in animals has been observed again and again in all ages and places. Human diphtheria bacilli inoculated into

susceptible animals produce the disease, and our position is very much the same as in tuberculosis, where two forms of tubercle bacilli (the human and the bovine) are recognized. And it is generally held that bovine tuberculosis can be and is transmitted to man, and human tuberculosis to animals. The writer holds that the conveyance of diphtheria by means of milk and eggs would explain the great frequency of the disease in young children, because their food consists almost entirely of these two articles given raw or almost raw. It is probably by means of these foodstuffs that the disease is brought into towns, although, of course, it may also be introduced by infected human subjects or by infected animals, especially birds, such as pigeons and sparrows. The pigeon is quite common in the parks and squares of large cities, and it is quite conceivable that horses and sparrows contract the disease from them. The cat, a natural enemy of the sparrow, may contract diphtheria from that bird, which is likely to fall an easy prey when paralyzed by the disease. The rôle of the cat in connection with diphtheria is of great importance. This animal, after prowling in field and gutter, has access to the bedroom and sleeps on the bed with and is fondled by the children. Cats have been noticed to suffer simultaneously with man in almost every outbreak of diphtheria. But in diphtheria, as in plague, one particular kind of animal seems especially concerned in the wider spread of the disease. In plague the rat, owing to its wide distribution, its great numerical prevalence, its close association with man, and, above all, its migratorial habits, is the true cause of the great pandemics which at various intervals desolate the world. In diphtheria probably a similar rôle is played by the pigeon.

#### BERLINER KLINISCHE WOCHENSCHRIFT

March 30, 1908.

1. The Symptomatology and Treatment of Tumors of the Cerebellum, By E. SIEMERLING.
2. Concerning the Practical Importance of Opsonins, By JÜRGENS.
3. The Efficiency of Pepsin and a Simple Method for Its Estimation, By OSKAR GROSS.
4. The Action of the X Rays upon Ferments, By P. F. RICHTER and GERHARTZ.
5. Operative Treatment of Diffuse Purulent Peritonitis, By KOTZENBERG.
6. Contributions to the Surgery of the Brain and Spinal Cord (*Continued*), By HERMANN KÜTTNER.
7. Insects and Ticks as Disease Carriers to Men and Animals, By MOELLERS.

2. **Practical Importance of Opsonins.**—Jürgens considers that the opsonic index must not be relied on too much, but that when it is used carefully and critically in the clinicopathological syndrome it can give the observer a great deal of help.

4. **Action of the X Rays on Ferments.**—Richter and Gerhartz have instituted a number of experiments the results of which go to show that the ferments are affected in no way by the x rays. Some writers have ascribed an excitant, others a restrictive action on ferments to the x rays, but these would seem to be erroneous observations, or at least to rest on very insecure foundations.

5. **Operative Treatment of Diffuse Purulent Peritonitis.**—Kotzenberg includes under diffuse peritonitis only that form in which pus is present



throughout the entire abdomen, the serous covering of the intestine exhibits evident signs of peritonitis, and there are large accumulations of pus not only in the pelvis but also below the liver and the spleen. He considers that the principal points of the rational treatment of such a condition are drainage by means of the tampon drainage of Dreesmann, restoration of the intraabdominal tension by accurate suturing of the abdominal walls in three layers, leaving an opening exactly large enough for the glass drain in the lower angle of the wound, thorough irrigation of the abdominal cavity with salt solution of the proper temperature, which is not removed but allowed to remain in the cavity, and the maintenance of the patient in an oblique position. Particular care must be exercised in the renewal of the tampons in the glass drain.

6. **Contributions to the Surgery of the Brain and Spinal Cord.**—Küttner in this number gives the details of four cases. One of myelitis and myositis ossificans after measles, one of successful removal of a round cell sarcoma from the left frontal lobe, one of extirpation of a round cell sarcoma from the anterior central convolution followed by death, and an exploratory operation for a tumor of the brain which was not found.

## LA RIFORMA MEDICA

March 23, 1908.

1. On Experimental Typhoid Infection in Goats. By UMBERTO GABBI.
2. On the Operative Treatment of Facial Neuralgia by Tansini's Method. By STEPHANO D'ESTE.
3. On Adenoma of the Liver. By O. D'ALLOCCO.
4. On a Case of Anencephalus Caused by Dystocia. By A. BUSSI.

1. **Experimental Typhoid in Goats.**—Gabbi studied typhoid infection experimentally in goats, and reports his results in a preliminary communication. It has been known for some time that the milk of tuberculous cows is capable of carrying tuberculosis to human beings, especially to children. Malta fever is now known to be transmitted through the milk of goats. Researches carried on by the author and his pupils in Sicily and Calabria have shown that not only Maltese goats, but also goats from the regions mentioned carry Malta fever germs, and transmit the disease through their milk without showing any revealing sign which would enable one to distinguish these goats clinically from uninfected animals. The author furthermore noted within the last three or four years that there were many more typhoid patients admitted to the clinic than patients with Malta fever, and it occurred to him that, possibly, the milk of goats may transmit typhoid infection. Fiorentino, a pupil of Gabbi, who was looking for Malta fever in goats, found, in the course of his investigation, that there was a typhoid epidemic in a locality in which six per cent. of the goats were found infected with typhoid. He therefore believes that the milk of goats may be a possible carrier of typhoid infection, and in order to determine this he proposed to find out whether goats are really susceptible to infection with the typhoid bacillus, whether in these mammals experimental infection may be transmitted through the milk, and if so, whether the milk of goats may carry the disease to human beings. The results of the in-

vestigations thus far indicated that the injection of virulent typhoid bacilli in goats produced a brief rise of temperature, and that these bacilli were eliminated through the milk of the animal for several days after the fever had disappeared. The Widal reaction was present in the goats, and could be found on several days after the disappearance of the fever. The goat, as in the case of Malta fever, seems to remain indifferent, practically, to the typhoid infection which passes through it. The milk of these infected goats showed no change save the presence of the bacilli.

March 30, 1908.

1. A Case of Acute Aortic Insufficiency of Traumatic Origin. By UMBERTO DEGANELLO.
2. Contribution to the Study of the Pathogenesis of Cystic Kidneys (*To be continued*). By DOMENICO TADDEI.
3. The Filtrability of Human Vaccine Virus. By ODDO CASAGRANDE.

1. **Traumatic Insufficiency of the Aorta.**—The case reported by Deganello was that of a man, aged thirty-five, driver, who had been well until the day of the accident, which consisted in a severe crushing injury of the thorax, especially of the præcordial region. After the accident there were severe cardiac symptoms for a time, but the patient lived, and a month later presented the evident signs of a cardiac lesion. There was dyspnea, cyanosis, signs of pulmonary congestion, slight palpitation, etc. On examination there were found a noteworthy hypertrophy of the left ventricle and an intense diastolic murmur, which had a musical quality and was heard especially over the aortic region. The pulse was bounding. The symptoms of loss of compensation went on progressively and rapidly, and the patient died five months after the accident. At the autopsy it was found that the two anterior aortic valves were torn for a certain distance from their line of insertion, so that they did not close completely. There was also a dilatation of all the cardiac cavities, especially of the left ventricle, which was also hypertrophic. On histological examination of the valve it was found that some new connective tissue had formed in it in an attempt to heal the laceration. The author urges the necessity of microscopical examination in such cases, as only by this means can we prove the traumatic origin of the lesion.

## ROUSSKY VRATCH

March 15, 1908.

1. On the Presence of Sulphurous Acid in Dried Fruit from California. By S. A. PRUDHYTEK.
2. A New Method of Gastrointestinal Anastomosis. By A. N. ZAMINI.
3. On the Relation of Adenoma to Cancer. By G. A. LUNENBERG.
4. The Indications for and the Technique of Prostectomy. By R. N. KERRICK.
5. Hematoma of the Vagina and External Genitals. By S. S. KRAMSKOY.
6. A Case of Myoma of Ovary. By A. R. KESAN.
7. Materials for the Pathology of Puerperal Rubra. By Z. V. SOKOLNIK.
8. On Pseudopapilloma (*continued*). By R. P. KESAN.

1. **Sulphurous Acid in California Dried Fruit.**—Prudhytek examined fifty-three samples

of various dried fruit in which he found a considerable quantity of sulphurous acid. These various fruits had been imported to St. Petersburg from California. There is no law in Russia preventing the use of sulphurous acid for the preservation of fruit products. There is such a law, however, in Germany. The author advocates the passage of such a law. The medical council of the Empire, on February 26th, decided to forbid the entrance into Russia and the sale of dried fruit from America.

#### AMERICAN JOURNAL OF SURGERY.

March, 1908.

1. The Significance of Abdominal Tenderness in Locating Lesions of Viscera, By T. C. WITHERSPOON.
2. The Induction of Premature Labor in Amaurosis and Amblyopia, in Connection with the Albuminuria of Pregnancy, By THOMAS R. POOLEY.
3. A Use of the Automobile in Surgical Practice, with Report of an Illustrative Case, By W. B. REID.
4. Postoperative Treatment of Adenoid Patients, By BRYAN DE F. SHEEDY.
5. Blood Examination in Surgical Diagnosis. A Practical Study of Its Scope and Technique (*Continued*), By IRA S. WILE.
6. A Case of Stricture of the Esophagus Treated by Gastrostomy and Retrograde Dilatation by Ochsner's Method, By F. W. PARHAM.
7. Report of a Case of Ununited Fracture of the Shaft of the Humerus and Paralysis of the Musculospiral Nerve, By DUNCAN EVE.

1. **Abdominal Tenderness.**—Witherspoon remarks that the location of tenderness undoubtedly is a most valuable aid in arriving at a diagnosis. It is a fact that a viscus usually lies directly under that part of the abdominal wall which is innervated by somatic nerve fibres coming off from the same spinal segment as the nerve fibres which supply the viscus. This is due to developmental shifting, in like degree, of the splanchnic and somatic structures. It may, therefore, be argued by one, that the tenderness is located in the viscus, and by another that it is in the parietes. The location, nevertheless, bears an important relation to the viscus involved regardless of the actual seat of tenderness. One of five general conditions may be signified by abdominal tenderness: 1, a lesion of an abdominal viscus; 2, a lesion of the wall; 3, a lesion of a viscus outside of the abdomen awakening tenderness in the abdominal wall; 4, a central nervous lesion or one which implicates nerve trunks supplying the abdominal wall; and 5, a systematic disorder accompanied by abdominal pain and tenderness. The degree of sensibility of different individuals varies greatly in the normal. One remains practically comfortable under rough handling, while another objects to the mildest pressure. It is always well to note the general sensibility of a patient before proceeding to obtain evidence of a local increase of sensibility. It has probably happened time and again that the first touch of the examiner has called forth an expression of discomfort and led to a premature announcement of "appendicitis," "gallstone disease," or "pelvic inflammation." In commencing to palpate always begin upon an area least suspected of harboring disease. This gives an idea of the normal response; moreover, the patient is placed off guard and when the tender area is approached the muscles are not fixed guarding against pain.

#### 4. Postoperative Treatment of Adenoid Pa-

tients.—Sheedy emphasizes the following points in postoperative treatment of adenoid patients: 1. Keep children in bed for from two to three days after operation, and away from other children. 2. Keep parts clean by use of alkaline washes and medicated mentholated oil solution. 3. Use constitutional and reconstructive medication. 4. See that thoracic gymnastics are practised for a long period. 5. Zinc oxide plaster over the mouth at night to keep the mouth closed until normal breathing is established. 6. Watch for return of the growths.

#### THE JOURNAL OF NERVOUS AND MENTAL DISEASE

April, 1908.

1. Hysteria in Children, By JOHN JENKS THOMAS.
2. A Contribution to the Pathogenesis of Some Epilepsies. A Preliminary Contribution, By SMITH ELY JELLIFFE.

2. **A Contribution to the Pathogenesis of Some Epilepsies.**—Jelliffe remarks that it is practically conceded that there is more than one epilepsy. Clinically we recognize the classical forms of grand mal, petit mal, psychical equivalents, etc.; forms that dement rapidly, which are in marked contrast with those that do not. Pathologically a multiplicity of alterations have been described, all tending to show that different processes are active. Etiologically a similar variability of factors is observable. There are the epilepsies following an acute poison of some nature; usually the toxine of an acute infectious disease. The epilepsies so prone to follow scarlet fever, measles, diphtheria, whooping cough, streptococcus infections, and influenza offer the most striking examples. While it is yet uncertain what are the affinities or perhaps lack of affinities of the poisons of these differing infectious diseases, and their relation to other poisons, it has been amply demonstrated by a number of workers in pathology that alterations in the character of the blood and changes in the walls of the bloodvessels throughout the body are very characteristic, and it is not a far cry to apply the knowledge of such study on vascular alterations to such changes in the brain. Minute hæmorrhages, capillary thrombi from agglutination, endothelial alterations are the precursors of the more extensive and permanent glia alterations, made necessary by the general phagocytic activity of these connective tissue elements. Having had under observation a striking example of poisoning by santonin in a young child, with the production of a permanent epileptic state, Jelliffe made some experimental studies with this substance, in order to gain some information concerning its action on the cortex of lower animals. He concludes that following santonin poisoning there results a definite cellular alteration in the ganglionic areas of the psychomotor area, with death and destruction. This accounts for the profound functional disturbances resembling epileptiform convulsions. That as a result of chronic poisoning by the same substance a definite form of neuronophagia is demonstrated, which by inference from the many studies bearing on this subject, may be interpreted as a forerunner of a glial infiltration. Whether this latter will be found in his specimens the author cannot yet say. Should such be the result, it would afford excellent evidence for a more definite understanding of the cellular mechanisms which lead to the gliosis of many chronic epilepsies.



## Proceedings of Societies.

### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Special Meeting, Held on February 3, 1908, at the Staten Island Academy, St. George, Borough of Richmond.*

Dr HENRY C. JOHNSTON in the Chair.

(Concluded from page 871.)

The diagnosis having been made, the most important point in the treatment was rest. The securing of this, he said, would depend upon the part affected, on the means at hand, and partly on the skill of the surgeon in the use of different forms of treatment. If the upper extremity was involved, a plaster of Paris splint taking in the joint on each side of the affected one would probably be the most efficient device. In disease of the spine the great majority of patients did better if allowed to go about, but if an abscess was forming, the temperature running high, the deformity increasing, or paralysis beginning, the patient should be kept quiet and not allowed to stand. In such cases the wire cuirass, with a head support to exert traction on the spine in its long axis, was the most suitable appliance. This must be so shaped as to exert a corrective influence on the curvature, if one was present, and, if the disease was in the upper dorsal region, an apparatus such as Whitman's shoulder support should be employed to avoid the forward reaching of the shoulders which tended to curve the spine. In the cuirass the patient could be carried out of doors and receive the benefits of fresh air, sunshine, and diversion. This method of treatment was especially available in young children. For ambulatory cases the plaster of Paris jacket (with a jury mast if the disease was high seated) or the Taylor posterior support was applicable.

In disease situated in the lower extremity a splint combining traction with fixation was superior, according to Dr. Sayre's experience, to either the plaster of Paris splint or the Thomas splints for knee and hip. The removal of weight bearing was essential, and the particular method employed to give rest to the inflamed joint was not of much importance, provided it actually did afford rest, and not a pretense of it, as was often the case when a loose and short envelope of plaster of Paris was put around the knee, and the patient allowed to walk about.

The second principle in combatting bone tuberculosis was to increase the vitality of the patient as much as possible. Fresh air and sunshine were vital, and one of the most powerful arguments in favor of treatment by apparatus, as opposed to bed treatment, was the opportunity which this afforded for these essentials while the patient was wholly or partially ambulatory. Caged animals were prone to be affected with tuberculosis, and the same was true of caged human beings. While the necessity of fresh air in abundant amount had long been recognized in pulmonary tuberculosis, in tuberculosis of the bone this had not been insisted upon as it should have been until very lately. Fresh air, not merely for one or two hours a day, but for the whole twenty-four, was the proper quantity, and to secure this it was not always necessary for the patient to go to a country resort.

Opening the windows was one way to get fresh air; yet most persons seemed to think that in order to obtain it one must go out of doors. Many maintained that it was essential that the air should be cold, but the speaker believed that its temperature was not of special importance, and that excessive cold was quite unnecessary. As sunlight was essential, as well as fresh air, the patient, if he could not go out or be placed in the open air, should occupy a room with a southern exposure. Feeding was another essential, and, as the appetite was often capricious in these cases, five or six meals a day might be required in order that the proper amount of nourishment should be received. As both the appetite and digestion were greatly improved by diversion of the mind, this was a point which should always receive attention. Overfeeding, however, was to be guarded against, and a dose of calomel might be required from time to time to clean out the alimentary canal. Many observers believed that by the long continued use of guaiacol or guaiacol carbonate the fermentation processes so often seen in the digestion of tuberculous patients were lessened, and the nutrition thereby improved.

In addition to these well recognized methods of raising the vital resistance, it had been suggested that the patients should be treated with an antibacterial serum, and for this purpose the new tuberculin (T. R.) of Koch and the Marmoreck serum had been employed. At the present time, however, our knowledge of the possibilities of this treatment was extremely small. A number of observers had reported certain effects, but they had not been convincing, and up to the present time the results of serum injection in bone tuberculosis were of more academic interest than practical utility.

The treatment of the abscesses which occurred in a large percentage of cases was most important, and one measure which the speaker had found of great value in properly selected cases was the use of the actual cautery. Before opening one of these tuberculous abscesses it should be borne in mind that in the vast majority of instances such an abscess led up to a sequestrum somewhere in the bone, and that it might be extremely difficult to follow it to its source and thoroughly remove all the diseased tissue. Unless this could be done the door would be laid open for the infection which it was so important to prevent. If the abscess did not interfere with the application of an appropriate brace, it was better not to interfere with it, certainly early in its history. Later on, these collections of tuberculous matter seemed to wall themselves off from the bone where they originated, and in such old abscesses, or at an earlier period if the abscess showed a tendency to become infected, it might be wise to evacuate it through a small incision. Care should be taken to injure the abscess wall as little as possible, and after a thorough washing out with sterile normal salt solution the incision should be closed without drainage. In some instances this incision would heal, but in others it would break down later on, and as subsequent dressings very careful attention would be required to prevent the tract from becoming infected. In the majority of cases the cavity left by the removal of carious bone or a sequestrum, if thoroughly cleansed, had better be left to fill with blood. In it



was clean, new bone would soon be organized, and supplant the blood clot, while, if it was not clean, suppuration would follow. It was advisable to avoid resection of tuberculous joints, if possible, but in exceptional instances (as where the circumstances of the patient rendered it impossible for him to submit to a prolonged course of treatment—lasting perhaps two years) this became necessary, and recovery took place with a stiff joint. In speaking of the local hyperæmia treatment of Bier, designed to improve the nutrition of the part, Dr. Sayre said that the time required for treatment did not seem to be shortened by this procedure. If it was resorted to, he thought that in connection with it proper mechanical support should be employed. The whole aim in the treatment of bone tuberculosis was to cut the disease as short, and to cause as little destruction of tissue, as possible.

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*Meeting of February 17, 1908.*

The President, Dr. THOMAS E. SATTERTHWAITE, in the Chair.

**The Late Dr. Loomis.**—The committee on the death of Dr. H. P. Loomis (Charles H. Knight, M. D., chairman) reported as follows:

The Medical Association of the Greater City of New York is called upon to record, with deep regret, the loss of one of its early members and a frequent contributor to its proceedings, Henry Patterson Loomis, who died at his home in this city on December 22, 1907. He was born in New York in 1858, the son of a father well and widely known as a medical author, practitioner, and consultant. He inherited many qualities of mind and heart which endeared him to his friends and enabled him to achieve distinction in his profession. He was graduated from Princeton University in 1880, and took his medical degree at the Medical Department of the University of the City of New York in 1883. He was an attending physician at Bellevue Hospital and until recently at the New York Hospital. For several years he held a professorship at the University Medical College, and at the time of his death was professor of materia medica, therapeutics, and clinical medicine at Cornell University Medical College. He was a facile writer, a successful clinician, and an apt teacher. His death in the prime of life, and with many years of usefulness before him, is a source of profound sorrow to a wide circle.

**The Death of Dr. R. W. Taylor.**—The committee on the death of Dr. Robert W. Taylor (Edward B. Bronson, M. D., chairman) presented an elaborate report, which was in part as follows:

It is wholly fitting that a halt should be called in our proceedings to do reverence to the memory of one of the most distinguished of our members. To us was rendered what was probably his last public service in that domain of medicine in which his life work was mainly engaged. Even then, hampered as he doubtless was, and with something of his old time vigor abated, through the encroachments of the fatal malady to which he shortly after so suddenly succumbed, there was still in evidence that sincerity of purpose, zeal, and earnestness which had always characterized the spirit of his work.

Though chiefly preeminent in the field of that most intricate and absorbing of all the enigmas of medical research, syphilis, Taylor's name was also famous for signal services looking to the relief of those other ills of erring flesh—the hideous progeny of lust and folly. Through the welter of these afflictions of humanity, involving, as they do, the innocent as well as the erring, he waged a lifelong combat; seeking the roots and remedies of evil, and bearing aloft the torch of hope. Nor did these Augean labors limit the range of his activities. Beginning at a time when more than now were associated in a common specialty both venereal diseases and the general affections of the skin, his interest in and contributions to dermatology were most valuable, and occupied him to the end. The list of his published works in these fields of research is an extensive one. They have had great influence in the medical world, and a considerable number of them were translated and published in foreign tongues.

Beside his literary labors should be placed his long service at Charity (now the City) Hospital, where he trod in the footsteps of those earlier masters, Van Buren and Bumstead, together with his public teachings as professor in the chair of either venereal or skin diseases, first at the Woman's Medical College, later at the College of Physicians and Surgeons and also at the University of Vermont. In all of these labors his work was indefatigable, thorough, and conscientious. With a catholic spirit he combined the temper of the conservative.

But, while acknowledging the intellectual achievements, let us not forget the amiable qualities of the man. By nature impetuous, while sometimes hasty of speech and on occasion resentful of real or fancied injuries, Taylor was a loyal friend and an agreeable man to meet. In his manner, with its air of cordiality, cheeriness, and bonhomie, there was a something that savored of a personal compliment. He liked to be liked, as in his home life he loved to be loved. The pity of it is that in his home, where all should have been happiness and content, one deep shadow of affliction succeeded another, till in his latter days lonely grief tinged his life with sombreness and doubtless accelerated its end. So, in our acclaim over the triumphs of an accomplished career, a successful life, there intrudes the note of pathos, an undertone of sympathetic regret. Peace be to his ashes! Lasting honor to his shade!

**Resolution on the Retirement of Dr. Satterthwaite.**—The following preamble and resolution, presented by the recording secretary, Dr. P. Brynberg Porter, were adopted:

The Medical Association of the Greater City of New York desires to record its high appreciation of the services rendered the society during the past four years by Dr. Thomas E. Satterthwaite, now retiring from the presidency. Dr. Satterthwaite has by his self sacrificing and unremitting labors placed this association on a level of scientific achievement which it had not previously attained. He has successfully carried out the plan of presenting in turn the latest research and practical work in all the various departments of medicine and surgery, and this has been done by the ablest exponents of the subjects treated of, not only in the different boroughs of New York, but in Philadelphia, Washing-

ton, Baltimore, Boston, Albany, Buffalo, and other cities. So admirably has the high aim sought been accomplished that the programmes of our monthly meetings have excited unusual attention and have been universally admitted to be of a scientific excellence and value seldom reached. In many other ways also has Dr. Satterthwaite worked faithfully for the interests of the association, while he has won the affection and esteem of all its fellows by his geniality and urbanity and by the dignity and courtliness with which he has presided.

*Resolved*, That the Medical Association of the Greater City of New York tender to Dr. Satterthwaite its sincere thanks for all the noble work he has done in its behalf, and express to him its profound regret at his retirement, together with its heartfelt wishes for his future welfare and happiness.

#### The Opportunities of a Great Medical Society.

—On retiring from the presidency of the association, Dr. THOMAS E. SATTERTHWAITE made an address on this subject. There were, he said, four large medical bodies in New York: the Academy of Medicine, the New York and Kings County societies, and this association. Each of these assumed certain functions, duties, and responsibilities which were their distinguishing features. After all, however, there were, he thought, some general principles which underlay all other considerations, governing the activities of such organizations. Along what lines, then, and in what manner was progress to be most profitably made? From the programme of the meeting of a county society in Kentucky which he had recently seen it would seem that there was a movement in that locality to have some sort of postgraduate course for the members, with weekly meetings devoted to the consideration of special subjects. This Kentucky society was undertaking a campaign of education, and the plan might well serve as an example for other large general societies. Supposing, however, that another course were pursued, and that a society would, for instance, undertake to "regulate the practice of medicine and surgery," holding out that among its prime objects were the prosecution of unlicensed or criminal practitioners, unregistered midwives, and medical impostors in general; it might always be reasonably objected that the crusade, though laudable in theory, and also in practice if carried on with discretion and good faith, would still be open to the imputation that so called regulation did not invariably regulate. Perhaps, too, some one might be bold enough to ask within what limits the society was proposing to exercise legal functions. Certainly most members of these large societies, if the choice were offered them, would be apt to favor more medicine and less law in their programmes.

For we must, first of all, in some way, keep abreast of the advances in the various departments of medicine and surgery, if we are to practice with safety to our patients and satisfaction to ourselves. No one of us had either the time or the ability to cope successfully with even the chief problems which confronted us, and it would seem as if our larger medical bodies, representing as they do every phase of our art, might easily be the most important factors in disseminating this very im-

portant knowledge, and that in the most palatable and digested form. Who that valued his time would not prefer to spend two hours in hearing some vexed question threshed out by experts, rather than to be forced to listen to a one sided presentation of an unimportant topic, the exploitation of immature ideas, or collections of ill assorted parts? Four years ago this society, through its council, undertook a campaign of education, and had kept it up year by year, only halting its scheme when the general public was looking for special information on such live questions as pure milk, water supplies, disposal of sewage, and the like, or when the opportunity was particularly favorable for discussing more theoretical questions, such as nutrition, immunity, pathogenic protozoa, etc., in which the medical profession in general was always profoundly interested. More than this, who would not believe that opportune discussions on such public questions as those mentioned were instrumental in shaping useful legislation, and that this society did effective work thereby for the city, State, and nation perhaps?

Except for these occasional variations, the year had been divided in such a way that the entire fields of medicine and surgery had been systematically touched upon at their most important points; more time, of course, being devoted to general medicine and surgery, and less, proportionately, to the smaller specialties. For each session the best obtainable expert talent was secured, whether in New York or other cities. As indicative of the efforts made to secure the services of the best men during these four years, more than fifty nonmembers had been invited to contribute to the programmes, and they had represented a geographical area extending from Montreal to Savannah and from Boston to Buffalo. This statement also illustrated the fact (constantly becoming more evident) that many topics important for medical men to be acquainted with could not be discussed advantageously without the help of laymen, such as the chemist, the pharmacist, and the civil engineer. Fortunately, the larger societies operating on this basis attracted representative audiences, so that the lay specialist had an incentive to appear before them, particularly as reports of the meetings were published in the prominent medical journals. Under these circumstances also our general societies should be more attractive to every kind of specialist than they were at present, since meetings such as those described necessarily enlarged his field of view, which otherwise tended to gradually become smaller and smaller. Medicine was both an art and a science. It had abandoned the realm of magic and mysticism, and was amenable to the same general laws as governed in the world of physics. It required the same sort of apparatus, the same kind of reagents, and the same mental attitude and training which are essential to the physicist.

In speaking of the importance of the social element in a large society, Dr. Satterthwaite said that, with some, friendly greetings stood for more than the scientific programme; but whichever were placed first in one's estimation, there was nothing but good to be had from a kindly word and a hearty grasp of the hand. This social side of the association's meetings had been especially emphasized in

the two extra borough meetings recently held, where the attendance was small enough to give each member the opportunity to meet and greet his fellows cordially, and yet large enough to encourage the speakers to do good work. The large societies ought also to provide some practical protection for their members in the legitimate and proper discharge of their professional duties. In closing, he said that the association would have a president possessing all the qualifications necessary for maintaining a high standard of achievement, a membership representative of the best medical men in the city, and, lastly, a sufficient balance in the treasury. He would venture the hope that the campaign of education inaugurated by it would continue to be a dominating feature, and that its teachings would always be sound and its policies wisely aggressive.

(To be concluded.)

### Letters to the Editors.

#### THE PALLIATIVE TREATMENT OF PROSTATIC HYPERTROPHY.

126 EAST THIRTY-FOURTH STREET,  
NEW YORK, April 22, 1908.

To the Editors:

Having read the most valuable article of Dr. Frederic Bierhoff under this title, in your issue for April 18th, I wish to be permitted to say a word about the author's erroneous interpretation of the term "palliative" in the sense of "nonoperative." The more I admire Dr. Bierhoff's writings, the more I regret that such a distinguished author should repeat an error made by others before him.

*Pallium* is a Latin word, and means a covering garment, a cloak; it was the Greek outer garment in distinction from the Roman toga. The *pallium* was given by the Roman emperors (from the fourth century) to the higher bishops. *Pallium caritatis* is the cloak of Christian love. *Palliatio* is new Latin, and means covering with a cloak in the meaning which we figuratively express by the word "whitewashing." Palliative, from the Latin *palliatius*, a, um, means covered with a cloak; in medicine a palliativum, or palliative remedy or treatment, is a remedy or treatment which is employed to ameliorate symptoms, to do for a while until a radical remedy (not necessarily an operation) can be applied or in case a radical cure is out of the question. A palliative cure is the opposite of a radical cure; that is, palliative treatment is directed against the symptoms only (not against the disease itself). *Eo ipso*, even a surgical operation may under certain circumstances be nothing more than a palliative measure. A. ROSE.

#### ANCIENT PHTHISIO THERAPY.

1022 NORTH FIFTH STREET,  
PHILADELPHIA, April 30, 1908.

To the Editors:

In connection with an article entitled A Retrospect in Phtthisiotherapy, by Henry Farnum Stoll, M. D., in the *Journal* of April 18th, I would say that Pliny, in a letter to his friend Valerius Paulius (Book V, Letter 19, Orey's Translation), stated that he was going to send to his (Valerius Paulinus's) estate his freedman Zosimus, who was evidently suffering with pulmonary tuberculosis.

In the letter he says: "It is now some years since he was pronouncing a speech with great vehemence and earnestness, when he spit blood, and, upon that account, being sent by me into Egypt, after a long stay in that country, he returned lately in a confirmed state of health; since which, as he has exercised his voice for many days together, he was threatened with his old infirmity by a little cough and afterward again spit blood. For which reason I determined to send him to your estate in Forojulium, having often heard you say that the air there was healthy, and the milk particularly prevalent in curing disorders of this kind."

From this it is evident that in the early days of the Roman Empire there were some who believed that climate and milk were useful in the treatment of phthisis, and, moreover, it proves the truth of the saying, "There is nothing new under the sun."

J. F. E. COLGAN.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Vitality, Fasting and Nutrition.* A Physiological Study of the Curative Power of Fasting, Together with a New Theory of the Relation of Food to Human Vitality. By HEReward CARRINGTON, Member of the Council of the American Institute for Scientific Research, etc. With an Introduction by A. RABAGLIATI, M. A., M. D., F. R. C. S., Hon. Gynaecologist and Late Senior House Surgeon, Bradford Royal Infirmary, etc. New York: Rebman Company, 1908. Pp. 648. (Price, \$5.)

The author as a result of much reading, and fortified by many quotations, endeavors "to show that what little the medical profession is supposed to know of the nature of disease is totally wrong; that their theories of the origin and nature of disease are erroneous *ab initio*; and that every new discovery made, which they have considered an unmixed blessing and a sign of progress, has, in reality, only led them further and further from the truth, and away from an understanding of the real cause and cure of disease." He asserts that there are only two schools of healing in the world, the hygienic and any other, which includes all others. We are left somewhat at a loss as to what a hygienist is, but his attitude toward disease is defined from a book by Emmet Densmore, who regards it as a "curative action on the part of the ruling (vital) force." The author informs us that no one part of the body can possibly be affected without all other parts being also involved, and we strive to grasp the idea that all talk of local diseases is "non-sense pure and simple, and implies either ignorance or shortsightedness on the part of any man who uses the term as to what constitutes the real nature or essence of disease."

The author asserts that he takes "the broad stand, and defends the philosophic principle," that the supposed action of drugs on certain tissues, organs, or localities is altogether mythical and does not exist in reality, and if proof is wanted you are advised to study the philosophicomical writings of a Dr. Trall, author of *Water Cure for the Million*, which was published in New York in 1860.



Again, the "broad stand" is taken against the germ theory, of which the premises are wrong and the teachings of medical science are erroneous *ab initio*. As the cause of disease is the encumbrance of the system with effete, malassimilated foreign material, and personal susceptibility corresponds to the amount of the morbid matter within the organism, therefore disease itself is merely the process of the system to rid itself of these impurities, and it is in a last analysis a curative crisis.

The second book discusses the physiology and philosophy of fasting, the author inviting attention to the venerable dictum that men eat too much, choke and block the organic functions with food materials, and should relieve such conditions by fasting so that the system may have a chance to throw off impurities.

This gospel has been voiced by many. Burton writes: "Fasting is an all sufficient remedy of itself; for, as Jason Pratensis holds, the bodies of such persons that feed liberally, and live at ease, 'are full of bad spirits and devils, devilish thoughts; no better physic for such parties than to fast.' Hildesheim to this of hunger, adds, 'often baths, much exercise and sweat,' but hunger and fasting he prescribes before the rest. . . . As 'hunger,' saith Ambrose, 'is a friend of virginity, so is it an enemy to lasciviousness, but fulness overthrows chastity, and fostereth all manner of provocations.'" (*Anatomy of Melancholy*, pt. iii, sec. 2, mem. 5, subs. 1.)

The practical application of fasting is shown in a chapter on cases cured by this method, which has the same scientific value as an account of cures at Lourdes or of treatment by Christian Science. The author herein submits a new cause of paralysis: "It is the pressure over the nerves of unduly retained effete material." The theory that the sole function of food is the replacement of tissue, that it supplies no heat and no energy whatever, and that energy flows into the organism in some mysterious way from some external though unknown source is scarcely worth discussion in these columns. We are told that "sleep is that physiological condition of the organism in which the nervous system of the individual (in precisely the same manner as the electric storage battery) is being recharged from without, by the external, all pervading cosmic energy." Those who are not adepts on cosmic energy are incompetent to discuss this theory.

Anæmia is a curing process, we learn, because it is caused by overfeeding. Cancer is due to "an overplus of malassimilated material within the system," and should be cured by fasting in the initial stages. An unwonted conservatism is manifested in the statement that "overeating may be and probably is one of the chief causes of insanity to-day," though this mental attitude changes in his deduction from Kræpelin's histories that it was obvious that the forced feeding was the chief cause of the condition.

The author is in error in assuming that fasting does not appear absurd as a cure for all bodily complaints, even though he concedes that it may have its limitations, as in mental diseases or mechanical obstruction or interference. He begs the question in the statement that in deaths from starvation it is not the fasting but the mental condition that

etc.—that kills the individual. Throughout organic life privation of nutriment will cause death, and those pathologists who work in large cities are familiar with deaths due to starvation. Not only should the histories of famine epidemics indicate the influence of fasting in the causation of disease, but the employment of such a method would in many instances result in an exhaustion associated with toxæmia or acidosis that will terminate fatally.

*Studies in Laboratory Work.* By C. W. DANIELS, M. B., Camb., M. R. C. S. Eng., Director of the London School of Tropical Medicine, etc., and A. T. STANTON, M. D. Tor., M. R. C. S. Eng., D. T. M. and H. Camb., Demonstrator, London School of Tropical Medicine. Second Edition. Thoroughly Revised, with Many New and Additional Illustrations. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. 491.

The first edition of Daniels's laboratory studies in tropical medicine is well known to all students of that branch as a good working guide for use in the field. Since the publication of the first edition, in 1903, the advances made in tropical medicine have been so marked that a new edition is most opportune. The activity in the line of tropical medicine, however, continues, and there are some things in the present edition that must be changed in the next. This statement applies more particularly to zoological nomenclature and the relation between the insect transmitters of protozoon parasites and the parasites which they harbor.

The new edition contains admirable analytical tables for the determination of mosquitoes, ticks, biting flies, tsetse flies, lice, and fleas. The analytical tables for the trematodes, cestodes, and nematodes are about the same as those in the first edition of the book.

The discussion of statistics has been given a special chapter, in which there is a consideration of the value of evidence of the existence of certain diseases when obtained from sources other than personal observation, the spleen test, the endemic index, the preparation of charts, etc. Dr. H. B. G. Newham contributes a section on water analysis.

We think that possibly it would have been better for the practitioner in the field had the authors tabulated the methods of using the different staining processes, giving a time limit for each step of the procedure. It has been our experience that directions for using stains and for employing chemical tests have to be very explicit if those using them for the first time are to get good results.

It appears to us that there are too many typographical errors for the second edition of a work of this kind.

The colored plates are the same as those in the first edition, but the figures in the text are more numerous and are very clear.

*Traité clinique des maladies de l'estomac.* Par le Dr. LUCIEN PRON (d'Alger). Paris: Jules Roussel, 1908.

After a surfeit of treatises on the stomach in which an exaggerated prominence is given to the chemical examination of the gastric secretions, it is a relief to turn to this excellent work, written more from the clinical standpoint—not, however, that the more modern methods of diagnosis have been neglected by Dr. Pron. They are given in sufficient detail, but are properly subordinated to careful study of the symptomatology and the older methods of

accurate bedside observation. These are now often somewhat neglected for the more fashionable laboratory methods, but are, we believe, of greater value to most practising physicians than the difficult quantitative analyses which occupy so much space in many recent books. Only a competent chemist is capable of making such analyses, and there is a good deal of cant and pretense in much of the assumed familiarity with them. As might be expected from a French author, the sections on diet are especially good, and contain many useful hints and practical suggestions as to the selection and cooking of food for dyspeptics. The American victim of cold storage processes and the queer commercial products which come out of cans and boxes will read with poignant interest these gastronomic chapters which emanate from a land where the intelligent preparation of real food is an art understood and practised in the humblest homes. Methods of treatment are considered with unusual fulness, there is a scholarly article on the relation of the stomach to other organs, and the book as a whole gives the impression of a large personal experience supplemented by diligent study of all the important special literature. If a minor criticism is permissible where there is so much to be commended, it may be said that the author's elaborate classification of functional disorders of the stomach appears to be somewhat strained and artificial.

*Die Funktionen der Nervencentra.* Von Prof. Dr. W. v. BECHTEREW, o. Akademiker, Direktor, der psychiatrischen und Nervenkrankheiten der medizinischen Akademie, Präsident des psychoneurologischen Institutes in St. Petersburg. Deutsche Ausgabe, in Verbindung mit dem Verfasser redigiert durch Dr. RICHARD WEINBERG, Professor der Anatomie in St. Petersburg. Erstes Heft: Einleitung, Untersuchungsmethoden, Rückenmark und verlängertes Mark. Mit 96 Abbildungen im Text. Jena: Gustav Fischer, 1908. Pp. 691.

This first volume of the German edition of Bechterew's general treatise on the functions of the nervous system is one of more than usual interest in the vast horde of recent works on the nervous system and its functions. It deals with the methods of investigation of the nervous system and the physiology of the spinal cord and medulla oblongata. It is almost a commonplace to state that activity in the investigation of the nervous system has never been more pronounced than during the last fifteen years. The newer methods of microscopical anatomy have given a definiteness and precision to physiological study that had before been lacking, and the almost impenetrable maze of anatomical structure, thanks to the researches of Weigert, Golgi, von Lenhossek, Cajal, Nissl, and Bielschowsky, has been boldly entered, and the results have been dealt with by such eminent physiologists as Sherrington, Ferrier, Munes, Goetz, Flechsig, and Luciani. It is with these correlations that this work deals.

We cannot enter into a detailed analysis of the work. It is too monumental. We can only point out its practical character, although deprecating its excessive verbosity. In no other work of a similar kind have there been brought together so many of the facts concerning the nervous functions. Thus, as an instance, the author, in treating of the tendon reflexes, departs from the usual line of a general description of what constitutes a reflex with a brief

schematic picture of the reflex arc, in that he discusses the actual nerve paths traveled in each reflex. The entire muscular and sensory physiology is handled in the same detailed and thorough manner.

This work is destined to be one of great importance in the history of our knowledge of the nervous system. It does not purport to be a work of original research, but it is a valuable compilation, admirably conceived and well executed.

*Syphilis.* A Treatise for Practitioners. By EDWARD L. KEYES, Jr., A. B., M. D., Ph. D., Clinical Professor of Genitourinary Surgery, New York Polyclinic Medical School and Hospital, etc. With Sixty-nine Illustrations in the Text and Nine Plates, Seven of which are Colored. New York and London: D. Appleton & Co., 1908. Pp. xxix-577.

The elder Keyes, who contributes a "foreword" to this volume, has long been known for the admirable clearness of his writings, and the son is not in the least his inferior in trenchant diction. The style, indeed, is one of the great charms of the book. The book is interesting throughout; perhaps of particular interest to most readers will turn out to be the section on *tabes dorsalis* and paresis. "Seeing these diseases from a syphilitic point of view," says the author, very frankly, "I naturally encounter only those of manifest syphilitic origin, and, accordingly, must side with those who believe *tabes* to be almost always syphilitic in origin, paresis frequently so." Further along he says: "Juvenile paresis and *tabes* are exclusively syphilitic." He adds: "Most authorities agree that syphilis is not the adequate cause of either malady. 'Syphilis and civilization,' says Krafft-Ebing. And this is the accepted doctrine." Evidently the author does not subscribe to the daring dictum that all *tabes* is syphilis, and our own belief is that he is right in declining to do so.

The initial chapter, *Syphilis in Relation to Public Health*, is impressive and strengthens one's hope that such agencies as the Society of Sanitary and Moral Prophylaxis may in a few years accomplish something substantial in the way of curbing the inroads of prostitution, whether professed or clandestine, on the physical and moral health of the community. Running all through the book, indeed, there is a wholesome undertone which will achieve much more in that direction than police raids or lofty legislation.

The book is very handsome in appearance, though the text is marred by an extreme of the "bobtailed" spelling, which, we presume, is the work of the publishers, not of the authors. We heartily commend Dr. Keyes's treatise.

*An Introduction to Vegetable Physiology.* By J. REYNOLDS GREEN, Sc. D., F. L. S., F. R. S., Fellow of Downing College, Cambridge, Late Professor of Botany to the Pharmaceutical Society of Great Britain, etc. Second Edition. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. xx-459.

As the study of human physiology and pathology advances it becomes more and more evident that the fundamental processes are extremely simple and arrive at the complexity seen in human life only by countless series of generations of growth in structural complexity. It seems only yesterday that the animal physiologist became vitally interested in the problems of physical chemistry, of electrical dissociation in cells, of the intricate nature of cellular fer-



mentation, and of related subjects, all of which involve the most elementary forces of organic and inorganic life.

There has been a tendency to exaggerate the differences that exist in plant and animal life, which the author of this work wishes to show are unessential. There is a fundamental unity of all living substance. Protoplasm, in short, is the same material, whether we call it animal or vegetable. Its conditions of life and its immediate necessities must be practically the same, whatever its degree of differentiation in either direction. Differences of behavior and of structure are to be traced to differences of environment and habit of life more than to those of constitution.

It is not only by reason of these essential similarities that the study of plant physiology should constitute an essential feature in the curriculum of a modern medical school, and a work on plant physiology, one to be read by medical practitioners, but by virtue of the further significant fact that in plants, for the most part, the fundamental physiological processes, because of the simplicity of structure, may be the more readily comprehended and subjected to experimentation.

A good short handbook on plant physiology has not been attainable; those of Pfeffer, Sach, Jost, and Vines are too extensive, and MacDougall's is too elementary. This work of Professor Green's, whose work on fermentation is so well known to physiologists the world over, is admirably adapted to the purposes, and deserves a wide circle of readers.

*Atlas of Typical Operations in Surgery.* By Dr. PH. BOCKENHEIMER and Dr. FRITZ FROHSE. Sixty Illustrations from Water Colors by FRANZ FROHSE (Artist), Berlin. Adapted English Version by J. HOWELL EVANS, M. A., M. B., M. Ch., Oxon., F. R. C. S., England, Demonstrator of Operative Surgery at St. George's Hospital, London, etc. New York: Rebmam Company; London: Rebmam Limited. Quarto, pp. 252.

These superb plates depict high tracheotomy (three plates), hemicraniotomy (two plates), Bassini's operation for the radical cure of inguinal hernia (five plates), ligation of the lingual artery, von Bergmann's method of excision of the tongue (five plates), gastrostomy (two plates), excision of the larynx (five plates), resection of a rib, cellulitis of the hand (its relations), excision of the kidney (two plates), an operation for femoral hernia (two plates), removal of the vermiform appendix, transpleural laparotomy, urethrotomy and prostatectomy (three plates), cellulitis of the neck (its relations), suprapubic cystostomy, laminectomy (two plates), colostomy, enterostomy, anterior gastroenterostomy (three plates), resection of intestine (two plates), pericardiectomy, posterior gastroenterostomy, lateral intestinal anastomosis, excision of the rectum (two plates), operations on the biliary passages (three plates), thyroidectomy (two plates), cesophagotomy, removal of the breast, and operations on the trigeminal nerve and the Gasserian ganglion. In addition to the plates, there are numerous woodcuts of the various instruments and appliances that have been found useful in the operations. The explanatory text, though condensed, is clear and precise. The book is handsomely and substantially bound, and the typography is of the best. It seems to us that no progressive surgeon would be willing to be without it.

*Les Homosexuels de Berlin.* Par le Dr. MAGNUS HIRSCHFELD. Paris: Jules Roussel, 1908. Pp. 103.

This short contribution to the literature of sexual anomalies deals largely with the recent cause célèbre of Berlin, and in tone is a general defense of many practices allowed in ancient times, but more or less frowned upon in polite society, at least as regards avowed attitude.

*Practical Anæsthetics.* By H. EDMUND G. BOYLE, M. R. C. S., L. R. C. P., Assistant Anæsthetist to St. Bartholomew's Hospital, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. viii-178.

We have here another of the series of excellent Oxford medical publications, several of which have already been reviewed in these columns. In this issue the entire subject of general anæsthesia is treated in a thoroughly practical manner, detailed instructions as to the best modern methods of administering nitrous oxide, ether, chloroform, and ethyl chloride, with the different anæsthetic mixtures, their indications as to preference and dangers, being fully described. Their author makes a point that ether is to be preferred in *inducing*, chloroform in *maintaining* anæsthesia. For prolonged surgical anæsthesia the best method in general is the sequence of nitrous oxide, ether, and chloroform. All directions are clearly given, and the book should be of special interest to the surgical hospital interne, who is too often lamentably deficient in his knowledge of the correct use of anæsthetics. The value of the text is enhanced by a number of very good illustrations.

*Nervous and Mental Diseases.* For Students and Practitioners. By CHARLES S. POTTS, M. D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia, etc. Second Edition, Revised and Enlarged. Illustrated with 133 Engravings and Nine Plates. Philadelphia and New York: Lea & Febiger, 1908. Pp. vi-570.

The second edition of this manual makes its appearance in a greatly enlarged and amended form. To it has been added a chapter on mental diseases which has been entirely rewritten, and about fifty pages are devoted to mental troubles. In general the teachings in the first portion of the book on nervous diseases are in accord with those usually held by neurologists the world over, and, presented as they are in a very sketchy manner, they are particularly useful to beginners in this field of medicine. It is because of this didactic mode of presentation that the book has found considerable favor and will continue to be of service.

At the same time we think that the author could have improved his work considerably if a number of his statements had been made less didactic and more inclusive of the general biological point of view. It is impossible to analyze at this time the various features discussed and to point out some of the slight mistakes that have been made; but in general the latter have been few.

So far as the chapter on mental diseases is concerned, we feel that the author's point of view is strangely at variance with modern teachings. To Dr. Potts, insanity is *one* disease which shows itself under various phases. This is a distinct reversion to the idea almost, we might say, of Hippocratic days, and tends to perpetuate the confusion that already exists, not only in the mind of the layman, but in that of the physician, especially if he has had any



experience in mental disorders. To say that mental disorders are not diseases, but symptom groups alone, means very little, for, after all, diseases are nothing but symptom groups. Specific modes of reaction on the part of functional disturbances are just as truly diseases, if the proper concept of what constitutes a disease is borne in mind. Because our methods of analysis are as yet comparatively crude in the field of mental derangement is certainly no justification for relapsing into the *laissez faire* attitude adopted by the author in the second part of this otherwise very excellent manual. To maintain, for instance, that hysteria is a definite disease, whereas general paresis is only a symptom group, is ridiculous. All in all, however, the manual will be a very useful one for those for whom it is devised.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

**Heredity.** By J. Arthur Thomson, M. A., Regius Professor of Natural History in the University of Aberdeen, Author of *The Study of Animal Life*, etc. With 49 Illustrations. New York: G. P. Putnam's Sons; London: John Murray, 1908. Pp. xvi-605.

**Nursing the Insane.** By Clara Barrus, M. D., Woman Assistant Physician to the Middletown State Homeopathic Hospital, Middletown, N. Y. New York: The Macmillan Company, 1908. Pp. x-409.

**Immune Sera. A Concise Exposition of our Present Knowledge Concerning the Constitution and Mode of Action of Antitoxines, Agglutinins, Hæmolytins, Bacteriolysins, Precipitins, Cytotoxines, and Oponins.** By Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Department of Health of the City of New York. Second Edition, Rewritten. First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1907. Pp. viii-154. (Price, \$1.50.)

**Typhoid Fever. Its Causation, Transmission, and Prevention.** By George C. Whipple, Consulting Engineer, with an Introductory Essay by William T. Sedgwick, Professor of Biology, Massachusetts Institute of Technology. First Edition. First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1908. Pp. xii-407. (Price, \$3.)

**Diseases of the Nose, Throat, and Ear. Medical and Surgical.** By William Lincoln Ballenger, M. D., Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois, etc. Illustrated with 471 Engravings and 16 Plates. Philadelphia: Lea & Febiger, 1908. Pp. viii-17 to 905.

#### Miscellany.

**An Appeal to the Medical Profession.**—The Legislature has passed a bill, Senate Bill No. 1033, creating a profession of optometrists, and it is up to the Governor to sign or not to sign as the merits of the case appeal to him.

It creates a board of examiners of "five persons who shall possess sufficient knowledge of theoretical and practical optics to practice optometry, and who shall have been residents of the State actually engaged in the practice of optometry for at least five years."

It provides that any person who has been engaged in the practice of optometry for two years next prior to the passage of the act may receive a license without examination, upon recommendation of the board of examiners.

This bill is an invasion of the sphere of medicine in one of its most important branches, and confers

privileges on certain people which, in accordance with the wording of the act, they are utterly incompetent to exercise.

The bill grants to opticians the right to adjust lenses to people's eyes in need thereof, and denies them the right to use drugs.

Without the use of drugs, in certain cases, even the most competent physicians cannot properly adjust lenses to the eyes, especially in children, and great harm can be produced by attempting such practice without using drugs.

The knowledge of optics alone, however extensive, does not render a person competent to do the work this bill would give opticians the right to do. To examine the eyes and adjust lenses one should have a knowledge of anatomy and physiology at least, but this bill provides only for a knowledge of optics. The many diseased conditions which may influence the eyes, and vision, are not considered at all. The ability to make a diagnosis is necessary to enable one to discriminate between visual defects due to diseases and those due solely to optical errors, both of which often exist at the same time, and this ability requires more than a knowledge of optics.

The passage of this act denotes gross and inexcusable ignorance on the part of members of the legislature, or an utter disregard of the welfare of the community.

It is a most vicious type of special legislation in that it permits an examining board of five members to discriminate between opticians who apply for certificates of exemption. The recommendation of this board is necessary before these certificates can be granted, and this board can limit its recommendations to a chosen few.

If the physicians of this State will go on record with the Governor, opposing this bill, it will never become a law. Will you write at once, urging the Governor to withhold his approval?

Very truly yours,

FRANK VAN FLEET, M. D.,

Chairman Committee on Legislation,  
Medical Society of the County of New York.

WALTER E. LAMBERT, M. D.,

Member Committee on Legislation,  
Medical Society of the State of New York.

**Resolution Adopted on the Death of Sister Louis Gonzaga.**—The medical board of St. Vincent's Hospital adopted, at a recent meeting, the following resolution:

After many fruitful years of continuous, abundant, and merciful labor in the cause of the poor and the suffering of the city, Sister Louis Gonzaga has passed along from an honored post of earthly duty to one of exalted station of reward in the world above.

Those who, heretofore, have been cheered by her gracious presence and genial smile, ever an earnest of beneficent desire and of a pure and humble spirit, will miss her benign presence and bountiful benevolence more and more as time endures. Sister Gonzaga's devotion to duty was not limited by measure nor modified by method; it was free and boundless. Her activities were tireless, and the products of her efforts were worthy of the emulation of those hav-



WOOD, C. E., Assistant Surgeon. Relieved from duty at Stapleton, N. Y., and directed to proceed to Chicago, Ill., reporting to the medical officer in command for duty and assignment to quarters.

#### Board Convened.

A board of medical officers was convened to meet at Seattle, Wash., April 24, 1908, for the purpose of making physical examination of an alien immigrant. Detail for the board: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. R. Underwood, recorder.

#### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending April 25, 1908:*

BANTA, W. P., First Lieutenant and Assistant Surgeon. Granted leave of absence for four months.  
CARTER, E. C., Major and Surgeon. Granted leave of absence for three months, to take effect about June 1st.  
CRAIG, C. F., First Lieutenant and Assistant Surgeon. Granted leave of absence for two months, to take effect about July 1st.  
DAVIS, W. R., Captain and Assistant Surgeon. Granted leave of absence for fifteen days.  
FISCHER, H. C., Major and Surgeon. Relieved from duty at Fort Logan, Col.; ordered to Washington, D. C., for instructions; thence to Fort Slocum, N. Y., to familiarize himself with certain methods pertaining to the examination of recruits; and thence to Columbus Barracks, Ohio, for duty.  
GOSMAN, G. H. R., Captain and Assistant Surgeon. Relieved from duty at Columbus Barracks, Ohio, and ordered to Fort Morgan, Ala., for duty.  
LEWALD, LEON L., Captain and Assistant Surgeon. Relieved from duty at Fort Slocum, N. Y., and ordered to Columbus Barracks, Ohio, for duty.  
POWELL, J. L., Lieutenant Colonel and Deputy Surgeon General. Granted an extension of eight days to leave of absence.  
RAYMOND, H. I., Major and Surgeon. Relieved from duty at Columbus Barracks, Ohio, and ordered to Fort Sam Houston, Tex., for duty.  
RAYMOND, T. U., Major and Surgeon. Granted leave of absence for one month; order for Fort Sam Houston, Tex., amended; will proceed to Fort Logan, Col., for duty.  
ROCKHILL, E. P., Captain and Assistant Surgeon. Relieved from observation and treatment at the General Hospital, Fort Bayard, N. M., and from further duty in the Philippines Division, and ordered to duty at that hospital.  
VOSE, W. E., Captain and Assistant Surgeon. Relieved from duty at Columbus Barracks, Ohio, and ordered to Fort Slocum, N. Y., for duty.  
WILLIAMS, A. W., Captain and Assistant Surgeon. Granted leave of absence for two months; at the expiration, ordered to proceed to Fort H. G. Wright, N. Y., for duty.

#### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending May 2, 1908:*

BACON, S., Assistant Surgeon. Appointed assistant surgeon from April 11, 1908.  
BAKER, M. D., Pharmacist. Ordered to duty at the Naval Medical School Hospital, Washington, D. C.  
BIELLO, A., Appointed an assistant surgeon from April 11, 1908.  
COOK, F. C., Surgeon. Detached from the Naval Academy and ordered to the North Carolina when commissioned.  
HOUGH, F. P. W., Assistant Surgeon. Appointed an assistant surgeon from April 11, 1908.  
PLUMMER, R. W., Surgeon. Commissioned a surgeon from February 23, 1908.  
RHODES, G. C., Assistant Surgeon. Appointed an assistant surgeon from April 11, 1908.  
ROTHGANGER, G., Surgeon. Granted sick leave for three months when discharged from treatment at the Naval Hospital, New York.  
SPEAR, D. A., Assistant Surgeon. Ordered to duty at the Naval Hospital, Washington, D. C.

## Births, Marriages, and Deaths.

#### Married.

COOK—HARE.—In Philadelphia, on Tuesday, April 28th, Mr. Arthur B. Cook, United States Navy, and Miss Marie Amory Hare, daughter of Dr. Hobart Amory Hare.  
EGAN—GENSLER.—In Chicago, on Monday, April 20th, Dr. J. J. Egan and Miss Thekla Gensler.  
GREENLEAF—MCLELLAN.—In Washington, D. C., on Thursday, April 30th, Dr. Henry S. Greenleaf, Medical Department of the United States Army, and Miss Carrie McClellan.  
HIGGINBOTHAM—PHILLIPS.—In Boston, on Tuesday, April 21st, Dr. Fred A. Higginbotham, of Cambridge, and Miss Maud E. Phillips.  
JAMES—JONES.—In Utica, New York, on Wednesday, April 22d, Dr. F. W. James and Miss Lillian Mae Jones.  
LUNG—DE PEYSTER.—In New York, on Tuesday, April 28th, Dr. George A. Lung, United States Navy, and Miss Helen Van Cortlandt de Peyster.  
MARTER—WEST.—In Los Angeles, California, on Saturday, April 25th, Dr. Linnaeus Escher Marter and Miss Emma Brown West.  
O'CONNOR—DE WITT.—In Roxbury, Massachusetts, on Wednesday, April 22d, Dr. Victor F. O'Connor and Miss Lila M. De Witt.  
ZALESKY—DISMUKES.—In St. Augustine, Florida, on Monday, April 27th, Dr. William John Zalesky, United States Navy, and Miss Elizabeth Gibbs Dismukes.

#### Died.

ALDRICH.—In Cleveland, Ohio, on Wednesday, April 29th, Dr. Charles J. Aldrich, aged forty-six years.  
COCHRAN.—In Brooklyn, N. Y., on Wednesday, April 29th, Dr. Alexander Cochran, aged seventy-six years.  
CRAIG.—In Cincinnati, Ohio, on Thursday, April 23d, Dr. A. G. Craig, of Vevay, Indiana.  
DODD.—In North Babylon, Long Island, New York, on Tuesday, April 28th, Dr. E. Dodd, aged sixty-nine years.  
EARLES.—In Milwaukee, Wisconsin, on Tuesday, April 28th, Dr. William Henry Earles, aged fifty-five years.  
ENGLAND.—In Winnipeg, Canada, on Friday, April 24th, Dr. W. S. England, aged forty years.  
FARRINGTON.—In New York, on Monday, May 4th, Dr. Joseph Oakley Farrington, aged seventy-eight years.  
GASKILL.—In Bourbon, Indiana, on Tuesday, April 21st, Dr. I. C. Gaskill.  
HARRIS.—In Kansas City, Missouri, on Wednesday, April 22d, Dr. E. B. Harris, aged seventy years.  
HAY.—In Jamaica Plain, Massachusetts, on Sunday, April 26th, Dr. Gustavus Hay, aged seventy-eight years.  
HEIDEMANN.—In St. Louis, Missouri, on Saturday, April 25th, Dr. J. H. Heidemann, aged sixty-three years.  
HUTCHINSON.—In Wakefield, Massachusetts, on Tuesday, April 21st, Dr. Marcello Hutchinson, aged fifty-eight years.  
LORENZO.—In Monroe, Michigan, on Wednesday, April 22d, Dr. Godfrey Lorenzo, aged seventy-nine years.  
MILLER.—In Harrisburg, Pennsylvania, on Monday, April 27th, Dr. Jacob A. Miller, aged seventy-one years.  
MORTON.—In Baltimore, Maryland, on Monday, April 27th, Dr. J. Cook Morton, aged forty-four years.  
NICKLES.—In Cincinnati, Ohio, on Tuesday, April 21st, Dr. Samuel Nickles, aged seventy-three years.  
RALSTON.—In Pittsburgh, Pennsylvania, on Sunday, April 26th, Dr. Curtis Ralston, aged thirty-two years.  
ROBINSON.—In Monongahela, Pennsylvania, on Sunday, April 26th, Dr. F. C. Robinson, aged eighty-eight years.  
SCAMMELL.—In St. John, New Brunswick, Canada, on Saturday, April 25th, Dr. J. Harris Scammell.  
SHAW.—In Hoosick Falls, New York, on Thursday, April 30th, Dr. J. C. Shaw, aged sixty years.  
SMITH.—In Hornell, New York, on Sunday, April 26th, Dr. L. B. Smith, aged fifty-seven years.  
STIEMER.—In Hillsdale, Michigan, on Saturday, April 25th, Dr. Alexander Stierner.  
TERHUNE.—In Brooklyn, on Thursday, April 30th, Dr. James Jackson Terhune, aged sixty-four years.  
WATSON.—In Chicago, on Friday, April 24th, Dr. Harry Watson, aged twenty-five years.  
WILLOUGHBY.—In Colborne, Ontario, Canada, on Tuesday, April 28th, Hon. Dr. William Armson Willoughby, aged sixty-four years.



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### Original Communications.

#### THE DIAGNOSTIC VALUE OF SYMPTOMS OF THE LARYNX, PHARYNX, AND NOSE, IN NERVOUS DISEASES.\*

BY THOMAS J. HARRIS, M. D.,  
New York.

No more interesting and timely subject could have been selected for consideration to-night than the diagnostic value in general medicine of symptoms referred to the upper air passages, especially the diseases specified in this symposium. At the same time the subject is so broad and far reaching that any presentation of it in the comprehensive way which is demanded will be prevented by the time at our disposal. Particularly true is this in the matter of nervous diseases. Certain phases of the subject have served to provoke unending discussion and debate in the early years of laryngology, and the literature thereon is well nigh inexhaustible.

Any attempt at entering at length upon a consideration of these is neither desirable nor possible. An intelligent appreciation, however, of the diagnostic value of such symptoms demands at least a cursory review of what has been agreed upon after all controversial questions are omitted. It may be said at the outset that affections of the nervous system present symptoms of value and importance from a diagnostic standpoint, in the throat and nose, whether they be true organic affections or only functional disorders such as the so called neuroses. Of the two, the organic affections are much more the important. They show themselves chiefly in the larynx and are in the form of either sensory or motor disturbances. As is well known, the nerve supply of the laryngeal muscles is derived from the vagus, the inferior or recurrent laryngeal nerve conveying motion to all except the cricothyroid, which is supplied by the superior laryngeal, which is also the nerve of sensation. The only dispute in this connection has been whether the spinal accessory shares in this function to a limited extent. It has now generally been agreed that this is not the case. It must further be remembered that these nerves are called upon to perform a double function, first to open the glottis during respiration, and second to bring the cords together for the purpose of phonation. The first is accomplished through the abductor muscles, the two cricoarytenoid (posterior); the second function, through the adductors,

including the cricoarytenoid laterales, the transversus and the thyreoarytenoidii interni.

There can be little question that the centre for respiration is in the medulla, in all probability on the floor of the fourth ventricle, and is not under the control of the will. That there is a second centre for phonation in the cerebrum is also now generally admitted. Indeed in 1884 Krause demonstrated such a centre in the anterior lower extremity of the anterior central convolution of each hemisphere, irritation of which on either side produces bilateral adduction. This observation has subsequently been confirmed by various investigators. The important corollary is, however, to be noted that a lesion involving one centre alone is not sufficient to suspend movement in the larynx, though this occurs when both centres are involved. And in spite of the persistent and ardent attempts made to prove such a direct relation between the cortex and larynx, the summing up of Wright made ten years ago<sup>1</sup> represents the views of most scholars to-day, viz., "there has been no case reported in man of a cortical lesion accompanied by laryngeal paralysis in which the possibility, and few in which the probability, of involvement of the nervous tract below could be excluded. We must, therefore, in view of the positive evidence in animals and the negative evidence in man, admit that Semon's declaration of the nonoccurrence of cortical laryngeal paralysis in man is probably correct." We are accordingly forced to limit the scope of such laryngeal symptoms, from a diagnostic standpoint, to lesions of the medulla or below. When such symptoms are considered we at once find that the motor manifestations are by far the most striking. These may represent either excess or diminution of action. Excess of action is seen in spasms which may be tonic or clonic. Tonic spasms may take the form of a, spasms of the larynx; b, laryngeal crises; c, ictus laryngis. Clonic spasms as a, rhythmic twitchings; and b, tremors. Where an organic nerve lesion is present, it is most frequently one of diminished action or paralysis. These paralyses may involve the superior or the inferior laryngeal nerve. A paralysis of the former alone, causing a failure to respond on the part of the cricothyroid, is exceedingly rare. Mygind has collected reports of thirteen cases, four of his own. Three of these latter showed bulbar symptoms, and in one a degeneration of both superior laryngeal muscles was found on autopsy. A study of paralyses of the inferior laryngeal will reveal that they almost without ex-

\*Read before the New York Academy of Medicine, April 15, 1908.

ception involve the cricoarytenoideus posticus at the onset and only at a late stage of the disease, if ever, attack the adductors. This striking fact was first set forth by Sir Felix Semon in an elaborate paper on the subject, and has since been known as Semon's law. Its clinical significance is at once apparent. A posticus paralysis, which, with the cords immobile in the median line and their free borders taut, would mean, in all probability, a central nerve lesion. If now the picture should in time change to one showing the cords in the so called cadaver position, that is, midway between inspiration and expiration with concave borders, we would know that the entire recurrent nerve has been involved, pointing to the progressive character of the lesion in the bulb. This dictum of Semon has been productive of much independent research which has, on the whole, served to establish its correctness. Onodi has shown the presence of separate fibres in the nerve. Fränkel has demonstrated that when the nerve is frozen, the adductors fibres first succumb. Hooper has found a similar condition when ether was used, and Massini, when he employed chronic acid. Krause endeavored to experiment on animals to show that this apparent paralysis may, under certain conditions, be due to a reflex contraction of the laryngeal muscles. This theory has, however, been abundantly disproved by the fact, among others, that at least one case of posticus paralysis has shown at the necropsy a true atrophy of the cricoarytenoideus posticus. Finally, Grabower has discovered that the nerve endings in the adductors differ morphologically from those in the adductors, pointing to a difference in their function, the one being concerned with phonation, while the others has to do with respiration. Indeed, Semon believes in a "reflex tonic spasm in the posticus muscle constantly present under the influence of the respiratory centre, which serves to keep the glottis always open." The existence of such a reflex would serve, in his opinion, to explain the failure, first, of the adductor fibres in a central lesion in conformity with the "physiological law that irritability of afferent nerves is exhibited earlier than of efferent nerves." Much remains, however, to be done to reconcile seeming discrepancies, as is evidenced by the fact that cases of posticus paralysis have been observed for years where no change in the position of the cords took place.

With this hasty summary of the present day views on the innervation of the larynx, for which we are largely indebted to Curtis's translation of Fredrich's admirable work on *Rhinology, Laryngology, and Otology, and Their Significance in General Medicine*, we shall proceed to consider briefly how we may make use of them in a practical manner in diagnosis. As has been previously stated, this applies chiefly to affections of the medulla and below, although it is true that cerebral hæmorrhage, tumors, abscess, gummata, and pseudobulbar palsy may produce motor changes in the larynx when extensive enough or properly situated.

*Tabes Dorsalis.*—Of the affections, situated in the cord, locomotor ataxia probably presents symptoms more often than any other. These may at times show themselves in the nose by disturbances of the olfactory nerve, such as anosmia or parosmia, but

usually they are limited to the larynx. Of these, some form of paralysis is comparatively common. Gerhardt found seventeen cases in 122 tabetics. Of these, eleven patients showed a posticus involvement, five bilateral, while three had paralysis of the entire recurrent. Semon's statistics are similar, fourteen cases in 100, eleven of which involved the postici, showing an overwhelming preponderance of adductor palsies. In a word, unilateral or bilateral posticus paralysis may be regarded as characteristic of tabes, and from the table of Berger of seventy-one cases of laryngeal palsies found in tabes, the bilateral form is nearly as common as the unilateral. The voice in the latter variety may not show any change, and accordingly such a condition is undoubtedly overlooked unless a systematic examination is made. Indeed, even in the bilateral form, the one symptom is gradually increasing inspiratory dyspnoea, with expiration unaffected. As is well known, this may lead to pronounced asphyxia, in time demanding tracheotomy.

Even more interesting are the various forms of laryngeal motor irritations in tabes. These include (a) ataxia of the cords, a name applied to a condition in which the cords execute irregular movements during phonation and deep respiration, giving rise to the characteristic scanning speech; and (b) laryngeal crises. These, like the palsies, may occur very early in the disease, preceding even the ocular manifestations. The laryngeal crisis is characterized by the simultaneous involvement of all the respiratory muscles, and so differs from an ordinary spasm of the larynx, where only the laryngeal muscles that suffer. It may arise without cause or as a result of a slight local stimulation, such as swallowing or touching the throat. It begins with a tickling or burning in the pharynx, followed by a choking sensation. A loud strident inspiration is heard, followed by a short puffing expiration. The patient gives rise to a cough, which is said to resemble that of whooping cough. While attacks are not usually regarded as dangerous, five fatal cases have been reported. Sensory disturbances in connection with tabes are rare.

*Multiple Sclerosis.*—Multiple sclerosis of the brain and spinal cord will produce symptoms in the larynx almost, if not quite, as frequently as tabes. These have been exhaustively studied by Löri, who followed several cases clinically for years. The common symptom present was a delay in the muscular action. This may take the form of a tremor in phonation. With this goes an abnormal tendency to voice fatigue. After a short use, the voice entirely fails. There will be noted also a scanning speech with frequent interruptions by high pitched explosive sounds. Because, too, the adduction is not complete, the voice is often raspy or hoarse. Finally, we occasionally meet with true paralyses, usually of the adductors. We have recently seen a woman of seventy years, where a diagnosis of laryngeal paralysis had been made because of the weakness of the voice. There were here the symptoms just mentioned, of scanning speech, voice fatigue, and hoarseness, all indicative of a disseminated sclerosis.

*Spasmodic.* Laryngeal symptoms, also motor in nature, and reduced reflex irritability of the

posterior pharynx wall are not uncommon in syringomyelia. Forty cases of paralysis have been collected by Iwanow up to 1907, usually involving the posticus on one or both sides, and occasionally the internus muscle as well. It was on account of the associated paralysis of the trapezius muscle in some of these cases that it was thought at one time that the spinal accessory sent fibres to the larynx.

*Progressive Bulbar Paralysis.*—Progressive bulbar paralysis, often known as glossolabiolaryngeal paralysis, is especially characterized, as the latter name implies, by symptoms referable to the tongue, lips, and larynx. While those of the tongue are wont to be very constant and usually appear early, producing difficulty in speech, increased later by an associated atrophy of the lip muscles, laryngeal paralyses, though important when present, do not occur with any such constancy. They may be the result of paralysis, either of the postici or of the entire recurrent, and may be unilateral or bilateral. Any serious involvement of the muscles here taken, especially in connection with abolishing of the pharyngeal reflexes, may permit the entering of food into the bronchi and so give rise to an inspiratory pneumonia.

*Progressive Muscular Atrophy.*—Progressive muscular atrophy will very commonly show some symptoms in the pharynx or larynx. These are usually of the nature of a paralysis, either of the entire throat and larynx or more often of the larynx. Here a unilateral posticus paralysis is most frequently met with. Occasionally an anæsthesia of the pharynx is also present.

*Neuroses.*—The functional nervous affections which show themselves in the upper air passages are the various neuroses. Of these we shall briefly consider only the two most commonly met with, paralysis agitans and hysteria.

*Paralysis Agitans.*—Paralysis agitans, in a considerable number of cases (five out of twelve cases in one series examined), gives rise to symptoms in the larynx. These are wont to be motor in character. Twitching movements of the cords will be noticed in phonation, and also as a rule in respiration, thus being distinguished from the tremors of multiple sclerosis. The epiglottis may share in the involvement. The speech is also at times scanning, and there is wont to be a sudden change from the high to the low pitch.

*Hysteria.*—Hysteria, as is generally recognized, will give rise to symptoms of one kind or another in the nose and throat in not an inconsiderable number of cases. These may be either sensory or motor. Sensation is often affected. Anæsthesia of the mucous membrane of the nose and pharynx is frequent. It is usually not general, affecting only certain definite areas. The septum is wont to escape as well as the larynx. Hyperæsthesia and analgesia of the pharynx are even more frequent and take the form of a choking sensation, tickling, feeling of a foreign body, and the tumidular globus hysteriens. These often result from some slight trauma, and of themselves may cause by the coughing organic changes in the throat. Hysterical motor symptoms are wont to affect particularly the muscles of the larynx. The most important of these are—

of a preceding catarrhal condition. It may be the first and only sign of hysteria. The clinical picture resembles the spasm which follows occasionally applications to the larynx. There is a series of long drawn out inspiratory whistles, followed by a short, loud expiration, attended by more or less severe dyspnoea, and complicated at times by general convulsions. It differs from the spasm attending an organic lesion by not involving any of the respiratory muscles. The appearance of the cords in the mirror during the attack suggests a posticus paralysis, but when the attack is over they resume their normal position.

(b) *Nervous Laryngeal Cough.*—Nervous laryngeal cough, often referred to as chorea of the larynx, shows, as all the other laryngeal manifestations of hysteria, a lowered vitality, together with heightened nervous irritability. While more generally met with in women, it occasionally occurs in young boys, as we have seen at least twice. Gottstein distinguishes two forms, 1, periodic; 2, continuous, rhythmic. It may persist for hours, or even at times days and weeks, but usually ceases during sleep, eating, and drinking; and only rarely seems to affect the general health seriously. The sound of the cough is characteristically unmelodious, resembling a bark. The cords are seen in the laryngeal mirror to come together at the moment of cough, but different from the picture in the usual cough, they appear very lax. There is also wont to be more or less of a distinct vibration on expiration. The glottis is not entirely closed, as is shown by the absence of cyanosis. 3. Disturbances of coordination are especially interesting. These may affect either the function of 1, respiration or that of 2, phonation, very rarely, if ever, both. As in similar conditions depending on an organic lesion, they take the character of either over action—spasm—or under action—paresis. Cases where respiration is affected are very rare; Treupel has collected seven. The picture, as described by him, is one where the glottis opens on inspiration, succeeded by a pause when the cords are strongly adducted. There is then an expiratory opening of the glottis, complicated by an initial closing, then a pause when the cords resume their normal position. The symptoms of the attack vary in their severity. There is usually great inspiratory dyspnoea, often accompanied by cough; and the beginning is marked by a long drawn, audible sound of inspiratory spasm. The face shows anxiety and fear of suffocation. The attack ceases during sleep.

*Disturbances of Coordination During Phonation.*—These are more common. (a) *Dysphonia spastica* is a term employed to describe the spastic form here. As long as the patient makes no attempt to speak the larynx appears normal, but the moment he tries to make any sound the adductor muscles come spasmodically together and the clunk of the glottis is lost. The patient may be able to get out a few words or utterly fail to produce a sound. Much more frequently still we meet with the (b) parietic manifestations of incoordination in phonation, known as aphonia. This very common manifestation of hysteria is the result, as a usual thing, of a paresis of all the adductors and tensions of the larynx, occasionally of the transversus and rarely of the transversus and internus muscles. The picture

(a) *Laryngeal Spasm.*—This is often the result



is often a changing one. The cords may for a brief moment come together. The false cords meet entirely in many cases.

*To Conclude.*—While in this hurried presentation of the subject we do not pretend to have included all the various nervous affections showing themselves in the region under discussion, we feel that enough has been said to show two things: 1, That pharyngolaryngeal symptoms in nervous diseases are deserving of more attention on the part of the neurologist than they have received up to the present time. And 2, that no field offers greater opportunity to the laryngologist for original study and research than that which embraces the innervation of the larynx.

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# HYSTERIA AND THE REEDUCATION METHOD OF DUBOIS.\*

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I have been asked to discuss the subject of the Dubois reeducation method in psychotherapy, as applied to the psychoneuroses, and I make this attempt fully cognizant of the necessary shortcomings that such a task will reveal. First, with reference to the time that such an exposé would require in order to do the subject justice, which is all too short, and secondly, recognizing my own deficiencies for such a task.

The gradual growth of the principle and application of psychotherapy is a fit subject for the essayist's art. The entire history of medicine is closely interwoven with the development of what is so often called the soul life and with its expressions in religion, and the insufficiencies of thought have been reflected in both. Superstition and faith are twins, brothers of the same family, and as Magnus has well said, both originate in a sense of the inadequacy of human science in the face of natural phenomena demanding an interpretation. The early human mind, all human mind, in the attempt to explain has created an ethical requirement reaching out beyond the comprehension of the individual to a firmer understanding which it has called faith.

Faith, in my opinion, is one of the corner stones of psychotherapy, and hence the method of my introduction: "A new faith, separated, however, from superstition, with which it has too often been associated, is in the simplest of terms the expression of what it is desired to impart by the reeducation method—a faith raised to the level of reason and of knowledge, so far as we may be able to see it, and so far as the intelligence of the patient may be able to grasp it, is the aim of the psychotherapist in using the reeducation method"—I speak at this time in symbols only.

In the earliest phases of the so called temple sleep, I take it we see one of the most primitive expressions of a medicotherapeutic application of the principles of psychotherapy. A careful reading of the ancient theologies no doubt reveals other procedures closely allied, but for our present

purposes, the psychical side of the therapeutics of the priests of the pre-Hippocratic era, in which simple, abiding, childlike, unreasoning faith was the master key, and which has persisted in smaller and smaller degree to our own times, suggests the open door to the present day developments of an old, old idea.

It would be impossible for me, in this short space of time, to trace the course of the leading strings down through the centuries, but I bring to your minds the fact that there have been such, since one of the fundamental features in the therapeutic art of the true mental scientist is the need for the recognition of primitive features in the mind stuff of his patients, who are in need of educating if a synthesis is to be brought about sufficient in degree to meet the demands of the situations in which they may be placed.

Just what classes are in need of psychotherapy in some of its forms, is not my province to discuss. The breadth of the foundation laid down by Dubois precludes even the mention of the different forms of disorder in which the mind disturbance is the primary or contributory factor.

Recognizing the danger that I may beat all about the bush and raise no game, I shall purposely limit my remarks to the consideration of one particular type of reaction which, although hampered by the misinterpretation of ancient and even our own times, must needs blindly grope about in its protean and bizarre aspects as hysteria.

I am led to develop some of my own notions concerning hysteria, because, although recognizing that I shall express them in the most general of terms, should such thought reflect a fairly accurate approximation of the situation, it may be at once appreciated why the psychotherapeutic principle of education is the one best adapted to give results which may be hopefully regarded as permanent.

At the outset I desire to state a position that does not regard hysteria as a disease, or a malady, due to a specific disease process. I regard it rather as a collection, in an adult individual, of primitive traits of psychological response to psychopsychical factors. From the ontogenetic aspect one might express it that hysterical individuals are grown up children; from the standpoint of phylogeny, they are educated, or better, instructed savages. According to the proportion of these childish, or atavistic traits, which may be present in an individual, we find the symptom picture of hysterical traits, of the hysterical temperament, of minor hysteria, or of major hysteria; not that major hysteria represents any greater proportion of these reactions than others, but their manifestation in the psychomotor zone makes them the more striking.

I feel that I am not alone in holding that all of the efforts thus far put forth to make all of the innumerable troubles qualified as hysteria to fit into one category as a morbid entity have been fruitless. Hysteria considered as an entity appears like a gigantic Proteus and escapes all definitions. Seeking to define hysteria by the description of all its manifestations, different authors have been led to include the entire symptomatology of nervous diseases in their definition.

Bernheim, Schwyder, Binswanger, Dubois, and

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many others have protested against this nosological conception, and the former reserves for the crises alone the term hysterical, giving to all the other troubles considered as characteristic of hysteria (stigmata, sensory motor troubles, visceral, etc.) the value of those manifestations having the general character of the psychoneuroses.

We are at one with Bernheim when he says, "hysteria is not a morbid entity," but, in his opinion, the crises constitute the abnormal psychical process to which one cannot without inconvenience apply the denomination hysterical. They can appear episodically in certain individuals; they are often widely enough extended, and continuous enough to permit of our speaking of them as the hysterization of the mentality. All in all, hysteria is the psychopathic manifestation par excellence, the most primitive expression, the most common of the inherent weaknesses of the human personality.

Hysterical modifications appear in mentalities very different one from another. They may be present in the gay and careless infant, in the sensible and impressionable woman, in the anxious and morose man, modeling themselves exactly on the habitual temperament. These psychical characters may be summarized more or less didactically as follows: Instability is a primary hysterical trait. This instability is particularly prominent in the field of the emotions—emotional lability, Kräpelin calls it; depressive states alternate rapidly with periods of exaltation; at one moment the hysterical patient is irritable and over impressionable, the slightest cause giving rise to a flow of tears; again, they are cold, indifferent, and cruel. At one moment intriguing, putting everybody by the ears, accusing others, then again overcome with self reproaches for their own wickedness. In their activities the same variability is manifest. At one time they are filled with an almost pathological (manic) energy; again they show its antitype, an absolute inability to do anything.

A second trait is the marked influence of suggestion. Babinski believes that a marked pathological alteration of this one factor is enough in itself to explain all the phenomena of the hysterical reaction.

A third trait, negativism, flows as a corollary from the second. In the terms of Bleuler's interpretations of negativism it is a necessity consequent on pathological suggestibility.

The egocentric nature is a fourth feature. The attention is fixed almost pathologically on the ego, and the constant search for changes within the person's own body on which to hang complaints is pursued with a definite pleasure and refined meditation. The slightest sensation is caught hold of and magnified. The pains of others, however, are not felt at all, and jealousy and envy arise if other pains are considered of moment to the neglect of theirs. To be sick and the centre of the stage becomes a life work, and a theatrical apprenticeship, with masterly training under the suggestive tutelage of many physicians, usually gives a finished artist in the end.

This pathological egocentricity leads to a number of secondary attributes, all very primitive in their nature. The strutting war chief, proud of his feathers and paint, is showing in his way the self-assertive features that the hysterical patient shows in his at-

tempts to create a sensation. Her romantic accusations, sensational confabulations, self mutilations, and refined theatrical attempts at suicide, all have their real motive power in this desire to be the observed of all observers. Lies, disfigurements, slanderings, stealing, and other crimes are not too much to bring this about. Simulation, in all its various aspects, becomes a useful adjunct in this mechanism to make the limelight constantly play on the individual's acts.

Practically all physical signs result from the second factor of suggestibility, but the more complete analysis of these is apart from our subject. We are confining ourselves to the mental mechanism of these psychic children.

We should note the different characters offered by infantile, male, and female hysteria by the exaggeration of certain psychical mechanisms existing in a more or less marked degree in all individuals. The mental make up of a person may show modifications of a hysterical character which, though often transient and accidental, may sometimes be so pronounced as to constitute a distinct clinical form of a psychoneurosis.

Hysterical manifestations may moreover appear in connection with the more frank insanities (dementia præcox, manic depressive, various degenerative psychoses); they have even been noticed along with general paresis. They may also be found associated with other organic affections of the nervous system—cerebral hæmorrhages, tumors of the brain, tumors of the cord—they may make part of the clinical picture of certain intoxications (alcoholic, carbon dioxide, sulphonal, bromides, analgæsic aniline derivatives). Finally they impress upon certain purely neurosthenic conditions certain characteristics which justify the term *hysteroneurasthenia*.

It is not difficult to perceive why such hysterical manifestations should accompany physical disease; indeed it is in strict accord with our hypothesis that the superior individual is one who by intelligence and by training has developed past his hysterical infancy, or youth, but let intercurrent disease reduce his resistance, or sink the level of his nervous tension, as Janet would express it, and a partial reversion to primitive traits is to be expected. To be a hysterical old woman is another way of saying that an advancing arteriosclerosis has broken down the synthesis of strong manhood and left the disorderly uncontrolled connections of youth, or infancy.

In the normal mentality of a child, one may find the ground plan as it were of most hysterical manifestations, and to speak of a physiological infantile hysteria, while it does not explain, is yet tenable. Hysteria in an adult is closely allied to certain psychic conditions which represent, in fact, a mental retrogression toward the infantile type, of which the chief characteristic is the lack of logical judgment. The hysterical individual is led by the initial defect into a system of autosuggestions which may end up in a profound disturbance of his personality.

The importance of moral causes in the development of hysterical states cannot be overestimated. From this point of view we may consider hysteria as a series of abnormal reactions of the individual to the exigencies of life. These are small

of reaction are often the consequence of the fetters, or the obstacles which the moral and social order imposes upon the expression of the natural tendencies of man and show themselves the more strongly the closer the man approaches the child viewpoint.

In a general way, one may say then with Schnyder that the hysterical modifications of the mentality have as their starting point a defect of judgment, or lack of mental synthesis, which leads to an erroneous conception of real situations, and a consequent inability to adapt oneself to them. Hysteria is, in the first place, a disease of the evolution of the human mind. It represents a break in the development of the mentality. Therefore, hysteria in its pure form is a disease of youthful individuals, just as it is a disease of humanity in its infancy. One rarely meets it in the adult whose mentality has reached its full development. Its reappearance in the years of involution is self evident.

With Schnyder, I believe that one can show that from the phylogenetic point of view, hysteria may be the attribute of evolutionary phases of humanity; in history it appears to blossom each time that the aspirations of the human mind have been held back and repressed by the laws of the established order of the age. Namely, in those periods which have preceded the great moral, social, and political revolutions. Schnyder asserts that the best example of this is seen in the Middle Ages, which was the classical period of "hysteria of the masses," or, as Hellpach has expressed it, "the period of the infancy of individualism," where all the forces of conservatism, with the Church at their head, were struggling in vain to withstand the inroads of newer and better adapted, moral standards of individualism.

I do not feel at one entirely with Hellpach's statement concerning the attitude of clericalism toward the whole movement. What he says is only a half truth, too biased and perhaps prejudiced by the literature of anticlericalism. I prefer to see it in the light of the upward impetuous striving of human effort and culture apart from any preconceived notions we might have regarding efforts at repression, as coming from one side alone. The driving, forward element was just as evident in ecclesiastical as in nonecclesiastical circles, and the bonds of conservatism were not all of religious forging.

With Schnyder and Moebius, I believe that hysteria cannot be considered as the attribute of a people whose civilization is too refined, unless it be the expression of the decadent period of a people.

Empirically we find that certain classes of individuals possess mentalities which offer a favorable soil for the growth of hysteria. There are, on the one hand, the dwellers in rural communities, and on the other the workmen of the proletariat. At the present time it is among those coming from the country that one actually meets the purest types of hysterical conditions. There may still be found, from time to time, in some remote village, an epidemic of hysteria which recalls the classic instances of the kind described in the Middle Ages. We are all familiar with such instances.

I need only remind you of Kräpelin's researches among the natives of Java, where he found hysteria

extremely abundant; in fact it and dementia præcox were the most prevalent types of mental disorder.

Hysteria as seen clinically to-day is the morbid psychic reaction of choice in individuals of simple and naive minds who are transported into conditions of existence to which they find difficulty in adapting themselves. It has been held by many that emigration from the country to the city, by reason of the efforts at adaptation which are necessary to individuals, constitutes an important cause of modern hysteria, in which connection Gaupp's interesting comparisons of the psychoses in rural and urban communities are illuminating.

We have already seen the important rôle which social aspirations play in the hysteria of the proletariat workman, which Hellpach considers to-day as the same thing as the hysteria of the masses of the Middle Ages. "Hysteria is the ordinary response to the exigencies of life in all those people whose roots have been torn up, or who have been disenchanting with their ideas, but who still present the simplicity of psychic reaction of a child."

So much for that aspect of hysteria seen in its simplest phases as an expression of the naive childish type of mind still engrossed with the wonder working of Nature.

There is still another type which has often been written about, particularly by the French school, whereby hysteria is regarded only as a manifestation of mental degeneracy. There is no question that one may say that it is a manifestation of mental insufficiency. But this term "insufficiency" is by no means definite. One can only speak of the mental insufficiency of an individual in regard to the conditions under which such an individual is called upon to live. Mental insufficiency indicates disproportion between the mental aptitude of the individual and the demands imposed upon him by life. There is a mental weakness which may be purely physiological in itself as in the case of a child and to a certain degree in woman; in the same way such mental weakness may be the attribute of the average mentality of a race, of a people, and of a class. According to the external conditions this weakness will pass into insufficiency and will give rise to pathological manifestations such as hysteria.

Following Schnyder I have laid considerable stress upon that aspect of hysteria which may be called *evolutive*, forming, in fact, only an accident in the mental evolution of the individual or of the species. There remains to be discussed very briefly this second group developing not on a simple healthy soil, but on that of a distinct neuropathic heredity, a group which we have for some time termed the degenerative hysterias.

The degeneracy may lead the mentality toward an inferior type which it corresponds to in some particular, as the infantile type. The psychic change is often partial. It may, for example, allow brilliant intellectual faculties to exist along with a loss of the moral sense (superior deviate). It predisposes to hysteria when it diminishes in the individual the qualities of judgment and of rational criticism, permitting these individuals to flounder into psychoneuroses according to the degree in which the conditions of their existence are unfavorable to them. It is in this group that we find the



great disproportions in mental capacities. It is from this mixture that the demifous of the world are made.

To say that the hysterical forms of degeneracy are met with most often in the superior classes of modern society, in what might be called the bourgeois classes—the newly rich, or springing from those unions in which titles and dollars, or family and wealth make an uneven mixture, only details of course a fact of distribution. These forms more rarely present the characteristics of pure, out and out hysteria. The mental degeneracy asserts itself by combinations of hysterical symptoms, and by symptoms belonging to other psychopathological conditions. It is perhaps in this milieu that the purer types of Janet's psychasthenia are encountered.

Finally a word as to a third broad subdivision, not that these subdivisions are anything more than of the most general scope—we find the purely *symptomatic hysterias*. These have already been mentioned. They constitute one of the chief stumbling blocks in the path of psychotherapy. Picture one's attempts to try to reeducate a patient who is suffering from dementia præcox, with an accompanying symptomatic hysteria; or one in whom a carcinoma of the stomach, or a multiple sclerosis, or a tumor of the brain or spinal cord is overlooked. The case reported by Dr. W. A. Timme last year before this society of general spinal carcinosis which went the rounds of many of our members as a hysteria, is only one of many of this type, and I think that I am not unduly critical in holding the opinion that some opposition to psychotherapy is found in the minds of those who have thought it inefficacious in cases of this kind.

But to another phase of the problem of hysteria and of psychotherapy. Does hysteria constitute a morbid modification of mentality more frequently seen at the present time than formerly? What is the future of hysteria? Such questions interest both the physician and the psychologist.

It is very difficult to solve the first question by depending upon statistics, and almost impossible to bring them together upon the subject. However, I believe that the statistical study of hysteria permits us to state that certain forms of hysteria have diminished in frequency as the result of the progress of civilization. These are, first of all, the collective hysterias affecting a whole population, such as were described in the Middle Ages under the various names, saltatory epidemics; dancing manias; witchcraft; inquisitions, etc. Then the individual forms growing out of religious mysticism and the belief in spirits and demons. Manifestations of this kind are still seen to-day, but in a manner isolated and of a more benign character than hitherto. Whatever one may say of it the progress of education in the majority of civilized countries has made the limits of credulity recede. The superstitions of the rustic become more and more rare; but if naive credulity has lost ground, it has given way to those qualities of healthy logic and rational criticism which prevent the influence of false auto suggestions and erroneous conceptions of realities to rule the personality.

It we can believe that the mind of the masses is

becoming more and more free from the false doctrines of the past—from the manufactured ideals meant for the good of certain classes and imposed by all the power possible by these classes, call them religion, or politics, or socialism, or what not; if liberty of thought meets fewer obstacles, and more sympathy, even if the reach for happiness has taken on a more rugged character, social revindication and economic struggles constitute for the modern man an ever renewing source of moral disturbance.

Abandoning more and more the hope of future compensations, as preached by such moderns as Nietzsche, Ibsen, and others, man wishes to possess and to enjoy everything immediately. Impatience, irritability, immoderate ambitions, the idea that happiness consists only in accumulating material advantages, these are the disturbing features for the modern individual. It is not at all astonishing, therefore, that his nervousness bears the mark of these various influences, and is distinguished from a nervousness fed by characters which differ from those of former times. Modern nervousness is translated into neurasthenic or psychasthenic forms more than by purely hysterical forms. Hysterical conditions are still strongly impregnated by mysticism, imagination, fantasy, naivete, and puerility which belongs so to speak to the golden age of nervousness. Modern mentality in the upper levels of culture is more complicated; it lends to man an imagination which is less replete with ideals; it also leads to morbid manifestations which are more adequate to reality.

Hysteria still remains the appanage of primitive mentalities. It will still constitute, for a long time, the morbid manifestation of choice of the feminine mentality, which submits more easily than that of man to concerted influences. However, it is to be foreseen that the contemporary feminist movement, by exposing woman to social conditions analogous to that to which man is submitted, will make her share the risk of a common nervousness. In woman the neurasthenic conditions will tend to supplant hysterical conditions, and there are not wanting many who think this is so to-day.

I believe that the era of the grand manifestations of collective hysteria may be considered as closed. (The factors that have brought this about are beyond our present discussion.) Man possesses to-day in the face of causes of intellectual, political, and social oppression to false ideals means of reaction which he did not formerly possess. Liberty of the press, democratic political institutions, workmen's organizations permit him to manifest his discontent otherwise than by hysteria. These are the present day conversions for what in the past might show themselves in general hysteria. On the other hand, hysteria by reason of individual manifestation is not ready to disappear, for it would be rash to hope that the faculties of logical and rational criticism would so soon dominate the psychical activities of man.

The moral education of man still rests in a large degree on the principle of authority transmitted by the Church, it makes the practice of duty depend upon the fear of punishment and the hope of reward. It does not incite man to seek for pure and simple truth, or to disinterested culture of right;

it does not develop sufficiently his judgment or healthy logic, necessary qualities for the formation of a high moral conception of life. It is this last which will permit man to pursue with serenity the end which he proposes in life, without selfish pre-occupation and without discouragement; it is in this way that he will escape the depressing and dissolving action of the emotions, and that he will accept the inevitable with a healthy philosophy of life, and will not seek in the subterfuge of hysteria a remedy for his insufficiency, or a compensation for his disappointed hopes (Schnyder).

If I may here interpose a thought from Nietzsche which expresses this truth in another form. "Man's shame of man. The weary pessimistic look, the mistrust toward the riddle of life, the chilling No of the surfeit of life—these are not the symptoms of the most evil period of humanity. On the contrary, being swamp plants, they appear only when the swamp to which they belong has sprung into existence. By that I mean the sickly effeminacy and moralization by means of which the animal man is taught to feel ashamed at last of all his instincts. On the road to become an 'angel,' man (and particularly woman) has reared for himself that spoiled stomach and furred tongue, which rendered obnoxious to him not only all the pleasure and innocence of the animal, but made life itself of ill taste to him."

"A strong and well fashioned man will digest his experiences (including deeds and misdeeds) as he will his meals, even if he has to devour hard morsels. In case he fails to get beyond an experience this kind of indigestion is physiological no less than the other, and, in many cases, merely one of the consequences of the other." Nietzsche, *Genealogy of Morals*, p. 78.

As may be seen, we have arrived at a *moral conception of hysteria*, which seems to be the logical termination of a study which has for its object pathological manifestations of the mind which are most intimately bound up with the moral personality of man. If psychology is absolutely indispensable for the analysis of the mechanism of hysterical phenomena, and here we have full justification for those methods of study as outlined by Freud, Jung, Janet, and others, it cannot in itself alone resolve the complex problem of the origins of the hysterical modification of mentality. To all psychological conceptions of hysteria there must be associated a moral conception of it. It is chiefly this moral conception which ought to inspire all rational treatment of hysteria, such as has been indicated by Dubois in maintaining for the psychoneuroses a *moral treatment* in the highest sense of the word. The psychological analysis alone is but a step in the process toward reaching, from the therapeutic point of view, anything but partial results and the suppression of such and such symptoms. To get at hysteria in its very origin, one must penetrate more profoundly into the personality of the patient. He must be helped to reconstruct his mental synthesis on the basis of good logic, and to reconstruct his moral education, a complicated and often arduous task, but in Dubois's terms it is a true treatment of the soul which no physician could repudiate to-day.

## THE MEDICAL PROFESSION'S DUTY TO THE CHILDREN OF AMERICA.\*

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Looking back over history many changes are apparent. Nations have risen, waxed strong, prevailed over lesser peoples and disappeared; kings and rulers have appeared, triumphed for a space and passed away; war and pestilence have devastated the land, pauperized nations and crushed their rising hopes; all these are remembered to-day by a page in history and are relegated alike to a desolate immortality. Evil forces have not always prevailed, however, for there has been a more potent influence for good, and in the midst of gloom and despair the dawn has broken upon events notable for their uplifting influence on the human race and the improvement of health and morals.

No changes have been more marked, either in themselves or in their result, than those in the field of medicine. These changes have been quiet and unostentatious, characteristic of the lives of the men through whose efforts they have come to pass; men who lived lives of self sacrifice, poverty, and even persecution to serve their fellow creatures.

The evolution of medicine is peculiarly interesting. The incantations and gestures of the "medicine man" of the aboriginal tribes have given place to the assayed drugs of the modern pharmacopœia; the terrible carnage of epidemic pestilence has been checked by the simple application of isolation and quarantine; "laudable pus" has disappeared and in its stead we have a clean wound healing by first intention, as a result of cleanliness in the operating room; the ignorant and uncleanly "granny" has been supplanted by the trained obstetrical nurse, and yellow fever and malaria are fast disappearing through the destruction of the mosquito. Through the whole field of investigation, discovery, and improvement there has been a strong and marked tendency toward prevention and this is undoubtedly the keynote of modern medical endeavor.

But while the world has been gradually aroused to the importance of medical matters the most important part of the human race has been singularly neglected. I refer to the children, for only during the past fifteen years have they begun to receive their just proportion of our attention, and to them the physician owes his greatest duty. The affairs of the nation will soon rest on the shoulders of the children of to-day, and how many reach the years of maturity physically capable of coping with the problems which confront them? On whom rests the responsibility of improving the physical, mental, and moral being of the nation? Especially on the physician. Undoubtedly the greatest source of mortality among infants is ignorance in their handling, the correcting of which fact is obviously education, and who alone can supply the necessary instruction to overcome this evil? Manifestly the physician. How then can the physician best do his duty to the children of our nation?

First by educating himself and second by educating the public. Pediatrics should be taught as thoroughly in our medical colleges as is anatomy or

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surgery, yet it is only within the past few years that this branch has been given any attention whatever as a separate course in the curriculum, with the result that men have graduated and become practising physicians knowing nothing concerning this class of patients, consequently these patients have been turned over to the tender mercies of old women and superstition, usually synonymous terms.

The study of pædiatrics is to-day in the class of specialties, and when we consider the fact that out of every one thousand children born into the world two hundred and thirty die during the first twelve months and 10 per cent. of the remainder before the end of the fifth year, does it not seem imperative that a larger proportion of our efforts should be directed to the prevention of this terrible loss to the race during infancy? To this end not only should pædiatrics be taught in the curriculum of our colleges by thoroughly capable pædiatrists, but no course of clinical medicine should be considered complete until a large amount of time shall have been devoted to the study of children. Not every practitioner is expected to acquire the knowledge of a specialist, but every physician licensed to-day must be expected to know enough about children to appreciate his limitations, and when he does this and is honest with his patients and himself he will seek competent advice, when needed, just as he does in surgery or conditions of the eye. Also in order that he may do his duty by the children in his practice he must know the right and wrong in handling them and so teach the parents that they in turn may do their duty.

Every hospital should be supplied with properly equipped children's wards where all conditions peculiar to this class of patients may be given the most approved treatment. In order that they may receive the best treatment the convalescent ward must be distinct from the sick ward, in order that the little patients may be removed from depressing surroundings and be given an opportunity to express their feelings in play and laughter, signs of returning health.

One of the most important matters concerning children which demand the attention of the profession is the "secret nostrum" evil, which has become not only a blot on our civilization, but is a menace to health and even life. I believe that the administration of such substances is responsible for more deaths than we realize, and it is imperative that some definite measures be adopted which will control the distribution of such nostrums and the criminally false statements asserted for them through the medium of clever commercial advertising. If legislation can accomplish nothing, and it seems that it cannot, then the profession must educate the public among whom it moves as to the certain result of relying on the supposed benefit to be derived from the use of articles absurdly alleged to be cures, and that a compound which may do no positive harm may by delay place the patient beyond the aid of intelligent treatment. It seems that something might be done to prevent such quackery from affecting innocent children at least.

And just here a word may be pertinent concerning the so called "ethical proprietaries." These may be made just as dangerous as the secret nostrum if the statements of the manufacturers as to their scope and power are not curtailed. The use of these preparations arises from two sources: First, the parents themselves get into the habit of prescribing for their children in accordance with the printed circular, and the second, which I am ashamed, almost, to admit, through the indifference and ignorance of the profession itself. Physicians not knowing a great deal about children are only too apt themselves to accept the statements of the circular of information and prescribe in original packages—as they are always advised by the manufacturer to do—some proprietary preparation, or to advise the mother to give the baby this or that cough mixture or prepared food. Is it not time to call a halt?

Unfortunately, maternal feeding in this country is fearfully on the decrease and we all know that there is no true substitute for mother's milk, but when the necessity for artificial feeding does arise the greatest care and study on the part of both parent and physician are absolutely essential to success. As cooperation on the part of the mother is necessary, it is our duty to instruct her carefully as to the nature of feeding, the care necessary in the preparation of the meal, and the scrupulous cleanliness which is essential in the handling of milk and utensils, and on these points the average physician is in many instances in as great need of having his attention called to these things as the mother. The busy practitioner with little time at his disposal is too apt to overlook details and to fail to examine the conditions surrounding the child, the character of the stools, the sources from which milk and water are being secured, and the necessities of the individual child. Rules and formulas have been set forth from time to time which are said to overcome the various difficulties of infant feeding. Each discovery or improvement has met with marked success for a while only to fail in some difficult case. All of these various ideas, however, have served their purpose and will ultimately result in a treatment based on rational application of well understood conditions and principles.

The greatest number of failures must be accounted to the fact that we too often lose sight of the individuality of the patient. It is just as true of children as of any other patient that what is one's food is another's poison. When we are not succeeding in an individual case we are too prone to shift responsibility, and unfortunately this is usually done by telling the mother to administer some commercial preparation "guaranteed to suit any case" by following the directions of the circular. Thus the mother is left helpless to rely upon her own uneducated judgment, and the child finally becomes a monkey faced marantic or a fat, rickety or scorbutic wreck; if it does not die. Is this doing our duty by this class of patients? If the physician has not the time to study the difficult cases in his practice, he must do the best he can by his charge and consult one who possesses special knowledge on the subject, just as he would turn over to the surgeon a case of gall-stone or brain abscess. I have yet to meet with a case of feeding which was not

From a manuscript on "Secret Nostrums," by Dr. Royster, and sent to the editor of the *Journal of the American Medical Association*, both American and foreign.



amenable to treatment by properly modified cows' milk. Hence I do not consider the prepared foods of commerce a necessity. Few communities are as yet supplied with up to date laboratories for the scientific and approved preparation of milk formulas, so in most instances the mother must be instructed in this preparation, which as a rule can be done very well, and some of my very best results have been obtained under such circumstances.

An intelligent mother is as great an aid to the physician as the ignorant one is a drawback, hence the importance of the physician personally instructing the mothers of his patients. In doing this we have not only the most important but the most difficult part of our task. As before suggested, ignorance and superstition have played so important a part in the handling of infants that their influence is difficult to overcome. The idea that a teething child must necessarily have green and undigested stools or "inward fevers" is just as erroneous and absurd as the "sun do move" theory, and the fact that milk in some form of modification must form the sole article of diet during the first year of life cannot be too forcibly impressed on the public mind, and a matter of just as great importance is that every child artificially fed must at all times be under the care of a physician.

The improvement and maintaining of a proper milk supply of a community should be the constant care of the medical profession, and in order that this as well as all matters pertaining to the welfare of children be properly attended to, this profession should be represented on all controlling boards.

The value of fresh air in the treatment of all ailments of children as well as its influence on the healthy child cannot be too strongly emphasized. It is not sufficient that the little ones have a daily outing; as near as possible the growing child should live out of doors. High winds and damp atmosphere must, it is true, be avoided, but aside from these two conditions we need not fear the result of outdoor life. The best tonic for a physically subnormal child is fresh air and sunshine. I have repeatedly seen a child that did not seem to be improving on what appeared to be a proper milk formula at once pick up and gain steadily when sent out of doors for the greater part of the time. The old superstition that a sick child must not be exposed to the atmosphere of outdoors is deeply rooted in the popular mind, and we frequently see the room in which a sick child is lying close and stuffy to the point of suffocation. I am now following an almost universal rule in using all the fresh air compatible with the condition of the individual case.

The school children of to-day are in vastly greater need of our attention than those of former times. The strenuous life reflects itself on the school child; further, it has extended itself into the very school room. The temptation to overcrowd the child with multitudinous duties and studies is great. The standard of the grades is constantly being raised, even though the children are probably less prepared physically than they were a generation ago. The question is repeatedly asked why so many men of prominence come from the rural districts; the answer is plain. The quiet life of the country or small town better prepares the nervous system

for the battle before it, while the active and irregular city life produces young adults with already wasted energies almost devoid of that poise of development which is so necessary in a calling of any kind. The old saying, "early to bed, early to rise," etc., is to-day considered a relic of medievalism and is too often laughed at as being out of date, but if the average American mother would pay personal attention to her offspring and not leave them to develop along lines of their own choosing rather than those which are for their good, and not spend so much time and thought in getting them into society, or having them taught "accomplishments" which are really drawbacks to their physical and moral development, and dwell more on matters which tend to develop character and health, we would have as a result the sturdy manhood and womanhood for which in this age the need is so great.

The choreic school child is an object of pity, and the one who is suffering from adenoid vegetations is noticeable at sight and is incapable of mental activity, but nevertheless these creatures are forced beyond their strength to keep up with a grade too advanced for them. From such as these as well as those suffering from eyestrain come many of our laggards and defectives. These children are often kept back in their class and in turn keep the class from advancing, yet most of this could have been overcome or prevented had the family physician observed more carefully the children in his practice and advised the proper measure of treatment in the individual case. All children classed as backward should be given the benefit of a thorough medical examination and all physical defects corrected. Eyestrain should be relieved and adenoids removed, and by this procedure a large percentage of such children will soon be among the average of their class, if not at the head. It is surprising how much the mentality of children is affected by physical defects. The results of treatment in this direction are little short of astonishing, as is clearly proven by the report of the recent "adenoid crusade" of New York city. Those children whose defection is truly mental can be vastly improved in special classes and schools devoted entirely to their instruction, where the difficulties of individual cases may be met and overcome by proper training directed to personal needs.

The fearful and shameful results of ophthalmia neonatorum demand our most careful consideration and the most stringent laws should be adopted and enforced in all States, requiring prophylaxis at birth by careful attention to the hygiene of the eyes of the infant. The neglectful physician is, in large measure, responsible for the baneful result in this condition.

No discussion of this nature would be complete without at least a reference to the inexorable law of heredity. This law hangs over us as a dark shadow and cannot be brushed aside, and until the time arrives when national eugenics become more than a theory the duty of correcting the evils incident thereto lies largely at the door of the physician. The care of the pregnant woman and prophylaxis regarding venereal disease is the duty you owe the generations yet unborn. The opportunity afforded the family physician in uplifting the human race

is one which you should appreciate and grasp and utilize, and in this way better than in any other can you be benefactors to humanity. As I have already said, the health and morals of a nation are always complementary, and the mothers of the land are the powerful agency through which we must accomplish the greatest good. Mothers are the directors of the lives and conduct of their offspring, and from them should come the proper instruction of the children, but from the medical profession must come the instruction for the mother.

The mothers of this country are in appalling need of instruction in the rearing of their children; they must be taught how to feed them; that, as has been said, milk in some form of modification is the only food necessary during the first year of life, and that any other substance during this period is not only harmful, but exceedingly dangerous. That few artificially fed children can digest whole milk even at the twelfth month, hence the weaker formulas increased in total quantity are far better as a rule and more easily digested than the smaller amount of a strong solution. That the lunch of the school child is more important than the home meal, and that its preparation should be attended to with great care. That sweets should form a very limited proportion of the diet of the growing organism, and that fancy dishes should give place to plain but wholesome food.

The mother must be taught also how to direct the child's exercise. This should be as far as possible in the open air and always of a definite character and preferably with a certain amount of system. The associates of children should be carefully watched, and here the whole responsibility must rest on the mother, but the physician must tell her why this is of importance in protecting the morals of the child, as the wrong sort of companions may impart a very erroneous impression of right and wrong. Above all, the mother must be told how to inform the child who is about to change from youth to young but mature physical adult life, about matters pertaining to sex, on a correct understanding of which and on the proper care along these lines depends the protection of the race from the dread results of venereal disease, for one single misstep may result in the acquirement of syphilis and the ultimate production of that pitiable object, a luetic offspring. These matters must be taught by the mother, who, above all, should be the one to instruct the children, and the mother in turn should learn them from the family physician. I repeat, therefore, unhesitatingly, that the medical profession has it within its opportunity to be the greatest factor in the uplift of the nation.

Young men of the graduating class resolve, therefore, in leaving your alma mater that you will be of service to your fellow men; that you will be a force to uplift the fallen, to cheer the despondent, and, above all, to benefit the race; and to this latter end heed the cry of the children who come under your care, for upon them depends the future of our country and the human race; give the humblest child whose habitation is a cottage the same gentle, painstaking care you give the more favored one whose dwelling is a palace, for upon a physician such as

this was passed the encomium of the great philosopher who said:

"But nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases that assail it, the remedies that will benefit it, exercises his art with caution, and pays equal attention to the rich and the poor."

TAYLOR BUILDING.

#### THE ASSOCIATION OF TUBERCULOSIS OF THE LUNGS WITH DIABETES MELLITUS.\*

BY HENRY L. SHIVELY, M. D.,  
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For two diseases so essentially different in their nature as are pulmonary tuberculosis and diabetes mellitus, there are certain points of analogy between them which are at once curious and striking. Diabetes is to be considered a typical example of a disease of metabolism, of disturbed function due to the action of unknown toxins originating within the body itself. The production of these toxins is apparently related in some way to the internal secretion of the islands of Langerhans, and there is accumulating evidence, for which we are largely indebted to the investigations of von Mering and Minkowski and the recent researches of Hanseman, Opis, Herter, and Bosanquet, that the pathological basis of true diabetes is a congenital or acquired insufficiency of these histological elements of the pancreas. Hanseman found the pancreas diseased in seventy per cent. of all of his cases which came to autopsy. In nineteen cases Opis showed the gland to be affected in fifteen, Bosanquet in seventeen out of nineteen cases.

Tuberculosis of the lungs is perhaps the best known and most carefully studied example of a chronic, infectious disease due to a specific micro-organism introduced from without the body. Both diseases are usually progressive in their course and are regularly attended by emaciation; in both there is impairment of the power to utilize carbohydrate food; both diseases are very fatal in early life, and are, on the other hand, comparatively well withstood when they appear after middle age. Both have strong racial affinities. The negro and Irishman, who are extremely susceptible to tuberculosis, are less so than most races to diabetes. Statistics of the Johns Hopkins Hospital show that the negro in Baltimore has only half the susceptibility to diabetes of the general white population. In Ireland the mortality from diabetes is three per 100,000, as compared with seven in 100,000 for England, and five in 100,000 for the whole of Europe. The Jew, who is generally believed to be especially resistant to tuberculosis and in whom the disease certainly often takes a more favorable course than in other nationalities, is singularly prone to diabetes, as are likewise the French and the native populations of India, especially the Hindus. In Paris the mortality from diabetes is fourteen per 100,000. Von Noorden states that at Frankfurt the deaths from diabetes among Jews are more than six times the

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proportion among non-Jews. Bouchardat considers the frequency of diabetes among Hebrews to be due to their fondness for sedentary occupations and disinclination for physical exercise. Von Noorden advances the theory that it is due to a physical degeneracy produced by many centuries of inbreeding. Both tuberculosis and diabetes are more common in cities than in the country, and in both hereditary predisposition is of some account in the etiology. Fitz and Joslin found heredity to play a role in 23.8 per cent. of their cases of diabetes, Naunyn in seventeen per cent. of the cases reported by him, Bouchard in twenty-five per cent., and von Noorden in 18.5 per cent. It has even been suggested that under some circumstances diabetes, like tuberculosis, may be communicable, as in the so called cases of conjugal diabetes reported by Reil and Henke, Oppler, Külz, Schmitz, and others. Naunyn agrees with Senator, however, that these cases are to be explained as coincidences. In both diseases drug treatment is of relatively little value, as compared with the importance of detailed attention to hygiene and diet, and the intelligent cooperation of the patient himself is vitally necessary for any measure of success in either. The prognosis in both is largely dependent upon the social and financial status of the patient, the unfavorable influence of poverty, ignorance, and bad hygienic conditions being most marked. Both diseases exercise a decided effect upon the psychical attitude and morale of the patient. The tendency of the diabetic is to melancholy and a peevish hypochondria. The consumptive, on the other hand, frequently exhibits a blind and fatuous optimism. Finally, both tuberculosis and diabetes are often associated in the same person.

This association has long been a familiar clinical fact. It was first noted in literature by Richard Morton in 1606, his Latin treatise, entitled *Phthisiologia*, containing a chapter *De Tabæ a Diabete*. Diabetic phthisis was more fully studied by John Rollo in 1798. Bardsley asserts that all diabetics are attacked with tuberculosis in the latter stages of their disease. Griesinger found tuberculosis to be present in forty-three per cent. of the 250 cases reported by him. Bouchardat found pulmonary tuberculosis nineteen times in nineteen autopsies. Some of the latter authorities give a less proportion. Thus Germain Sée states that only twenty-three per cent. of diabetics die tuberculous. Naunyn in fifty autopsies found tuberculosis in forty-one per cent. Frerichs found the lungs tuberculous in twenty-five out of fifty autopsies. In most cases the tuberculosis is secondary to the diabetes, but this is not invariably the case. The tissues of the diabetic, which are so vulnerable to eczemas, carbuncles, ulceration of the skin and mucous membranes, furunculosis, and gangrene show also a peculiar susceptibility to tuberculous infection. Bouchardat believed that the polyuria of diabetes created a predisposition to tuberculosis in much the same way as does the prolonged lactation of milk cows and nursing mothers who bear numerous children in quick succession. The tuberculous tendency of diabetics is now, however, very generally considered to be due to the hyperglycemia and hyperglycosis of their tissues, for it is well known that the tubercle bacillus has a sweet tooth, Nocard and

Roux having demonstrated that it is common with many other microorganisms develops most luxuriantly in a culture medium to which sugar has been added.

Before the tubercle bacillus was known diabetic phthisis was often described as a disease *sui generis*, but soon after Koch's discovery Immermann and Rüttimeyer demonstrated that the tubercle bacilli are regularly present. There are, however, certain peculiarities in the pathological conditions present in the lungs in tuberculosis accompanying diabetes, which have been well described by Naunyn. The tuberculous cheesy infiltration is soft, and there is a tendency to the rapid formation of vomice, masses of tuberculous tissue surrounded by a puriform fluid being found in the recent cavities. Some authorities still consider that in diabetes there may be a destructive lesion of the lungs closely simulating tuberculosis without the presence of tubercle bacilli. Such a case has been reported by Roque. Von Noorden is authority for the observation that there frequently exists in the sputum of diabetics a substance which rapidly disintegrates and destroys the tubercle bacillus. Among the curiosities of the literature on the pathology of diabetic tuberculosis is a case reported by Schindelka of a diabetic dog with a complicating tuberculosis of the lungs. Examples of a similar association have been observed in apes.

In view of the emphasis which has been attached in recent years to the pancreatic origin of diabetes it might be surmised perhaps that in the exceptional cases in which tuberculosis precedes the development of diabetes there might be found a tuberculous lesion of the pancreas as a cause of the latter disease. Such, however, is not the case. Kudrewetsky found in a series of 128 cases of tuberculosis of the lungs the pancreas was affected but fifteen times, and in these cases diabetes is not noted as having been present during life. Primary tuberculosis of the pancreas, if it exists at all, is certainly extremely rare. Delafield and Prudden do not mention it as occurring. Cornet says that tuberculosis of the pancreas is always secondary. The only cases referred to in literature are two cited by Senn, one of which was reported by Wilson in 1829, the other by Aran in 1846. Both of these cases antedated a time when any very exact or certain determination of the tuberculous nature of the lesions was possible, and in neither case was diabetes present. The usual lesions of the pancreas in diabetes are an interstitial pancreatitis, atrophy of the glands, a diffuse arteriosclerosis, or a hyaline degeneration of the cells of the islands of Langerhans. Tuberculosis as a cause of diabetes may then be dismissed.

Frequent as is the association of the two diseases, one or the other in its early stages is not infrequently overlooked. It is a safe rule in practice to make repeated examinations of the chest in diabetics, and in tuberculosis the urine should be periodically examined for glucose. Tuberculosis of the lungs in diabetics, especially of the obese type, frequently runs an atypical course. There is often observed a somewhat characteristic, reddish cyanosis of the face instead of the ordinary pallor or hectic flush of tuberculosis. The cough is often slight



and attended by little or no expectoration. Sugar may sometimes be demonstrated in the sputum, and the pulmonary lesion may terminate in gangrene, which is not attended by the characteristic fetor of ordinary gangrene of the lungs. The appetite is usually well preserved and may even be greater than in health. The temperature may not be elevated, and night sweats are often not present. Seegen and von Leyden state that hæmorrhages are of rare occurrence, on account of the higher specific gravity and greater viscosity of the blood. Dieulafoy, however, does not consider hæmorrhages infrequent in diabetic consumptives. On the other hand, if the tuberculosis is the prominent feature, the diabetes may escape recognition. It has been frequently observed where phthisis develops in a subject of diabetes there may be a marked diminution in the quantity of urine and the percentage of sugar will fall. These changes, however, are delusive signs of improvement. The diabetes continues unchecked, and is hastened in its progress by the complicating tuberculosis. In the later stages the dry itching skin of the diabetic becomes moist and there may be profuse night sweats.

Gouty diabetics are said to seldom develop tuberculosis. Rénon has reported at least one such case, however, and others have been described by Charcot, Brouardel, and Naunyn. Diabetics who neglect their diet and thus invite an access of glycosuria are more likely to become tuberculous than careful, conscientious patients who observe a strict regimen.

The recognition of the coexistence of diabetes and tuberculosis has an important bearing upon the prognosis and treatment of the patient. Not infrequently in examining tuberculous patients, cases are discovered to be diabetic who have had no instruction as to diet and who have been receiving a syrupy cough mixture and cod liver oil with extract of malt, the latter consisting of more than fifty per cent. maltose, which is immediately converted into grape sugar in the intestine. Some of these patients are found also to have a marked acidosis, evidenced by the presence of acetone, diacetic acid and beta oxybutyric acid, with an excess of ammonia in the urine. The presence of these acetone bodies, which are to be regarded as a forerunner of the danger of coma, makes it a question of more than theoretical interest whether the administration of large quantities of oils and fats, which is an important part of the dietetic treatment of tuberculosis, may not possibly in some cases hasten a fatal termination in diabetic coma. Magnus Levy has shown that beta oxybutyric acid is in part at least derived from fats, and this is the parent substance of the other acetone bodies, diacetic acid and acetone, into which it is readily changed. In this connection the experimental evidence of Grube is interesting, that pork fat is peculiar in not being a source of beta oxybutyric acid. It could seem practical wisdom in cases showing strong reactions, with the ferric chloride and sodium nitroprusside tests with high dextrose percentage in the urine, to limit the quantity of butter, cream, and oils, with the possible exception of pork fat, and substitute for such tuberculous diabetics alcohol, which Atwater and Benedict have shown may take the place of

fats and carbohydrates as a source of energy, and thus spare, in a measure, the excessive tissue waste which is a conspicuous symptom of both diabetes and tuberculosis. The combustion equivalent of alcohol is seven calories, of fat 9.3 calories, and of sugar four calories. Another indication for the administration of alcohol in diabetes is the presence of acetone substances in the urine. Langstein and von Noorden agree that the effect of alcohol is to diminish acetonuria, and patients taking alcohol in moderate amount show no increase in the sugar content of the urine. The quantity should not exceed two ounces daily, in the form of pure whisky, gin, cognac, or a dry wine. A rational therapy in the acidosis of diabetes also demands an additional allowance of carbohydrate food and the exhibition of alkalies to overcome the diminished alkalinity of the blood. An excessive flesh diet is also considered to be favorable to the acid intoxication which is believed to be a factor in producing diabetic coma. The difficulties in the prevention and treatment of this grave condition are thus apparent.

These difficulties are not diminished by the fact the von Noorden and other are now inclined to doubt the entire theory of acidosis as promulgated by Stadelmann and Naunyn. For those who believe that the acid toxæmia of the acetone substances is adequate to account for the phenomena of diabetic coma, theoretically, all classes of food are more or less contraindicated, carbohydrates on account of their failure to be oxidized and their excretion as sugar, fats on account of their splitting up into fatty acids, and proteids because in excess they also produce acidosis. The only escape from this blind alley is to treat the patient without too much regard for theory. No abstract considerations should determine the diet. The patient's tolerance for carbohydrates must, in every case, be carefully established, and as liberal and varied a diet permitted as is possible. It is better for the patient to gain in weight and improve in health with an increased percentage of sugar than to lose ground with a reduction in the glucose content of the urine. The case is even more difficult with a complicating tuberculosis present. Some authorities advise ignoring the diabetes and treating only the tuberculosis. Dieulafoy in these cases excludes only sugar from the diet. Naunyn has shown, however, that great benefit may be derived by the tuberculous patient with diabetes from a carefully regulated diet. Fortunately many of the indications for treatment are the same for both diseases. A diet of meat, fat, cheese, and eggs is equally good for both. Milk may often be permitted for diabetics, especially when sour or artificially fermented. The drug of greatest value in diabetes, opium, with its derivatives, codeine and heroin, is also indicated for the cough, the hæmorrhages, the diarrhæas, and to promote the euphoria of the advanced consumptive. The diabetic consumptive is very often afebrile, and for such cases exercise in moderation in the fresh air is not contraindicated. Such exercise is distinctly useful for the diabetic, as it has been shown that larger quantities of carbohydrates are tolerated on account of the increased consumption of sugar by the muscles during exercise. Creosote and guaiacol carbonate, which have

continued in favor for tuberculosis, are also believed to relieve the symptoms of diabetes, notably the thirst and polyuria. Arsenic and strychnine, which have their advocates in diabetes, are good systemic tonics for the consumptive. Hydrotherapeutics are valuable in both diseases, as are also the alkaline mineral waters, woolen clothing next the skin, abstinence from tobacco, freedom from worry and care, and a quiet life in the country in a mild, dry, and equable climate.

The prognosis in either disease is sufficiently grave. A diabetic, however, after the age of fifty, with careful dietetic management, may prolong his life for many years and maintain a fair condition of health. Tuberculosis also, developing after middle age, often assumes a relatively benign and nonprogressive character. The lesions in the lungs are frequently of a fibroid type, tending to spontaneous arrest. Such a consumptive with suitable hygiene, diet, and careful regulation of his life may live out all his days and die of some unrelated disease. But usually when diabetes and tuberculosis are associated in the same individual, the mortality is so high as to make treatment of little avail. Naumyn, however, has reported the case of a diabetic, aged fifty-three, who was attacked with tuberculosis in both lungs and a tuberculous ulceration of the larynx, in whom the pulmonary process was arrested, the ulcer of the vocal cord healed, and the patient was in good health sixteen years later. Fraenkel has reported a case of apparent cure in a diabetic physician with well marked tuberculosis of the lungs. Such cases, unfortunately, must be regarded as extremely rare. A practical conclusion which cannot be too strongly urged is the importance of safeguarding the diabetic from tuberculous infection. Diabetics should be rigorously isolated from members of their family who are tuberculous. A recent case at the tuberculosis clinic of the Presbyterian Hospital well illustrates the danger of household infection. A young Irishman, who has been a diabetic for a year and a half, has lived in a tenement with his married sister, who has for three years been a consumptive of rather careless habits. Five months ago he began to cough and has now a well marked lesion of the right upper lobe. A similar case is related by Rénon. A man of sixty, who had been a diabetic for many years, but whose general condition was excellent, had a daughter aged twenty-one who became tuberculous. The father was intimately associated with her while she was taking climatic treatment in the south of France. The daughter died in a few months of acute phthisis. The father also was attacked with tuberculosis of the lungs of a rapidly progressive type, and died several months after the death of his daughter. Obviously, diabetics should not be received in hospital wards which harbor consumptives, nor should they frequent health resorts which are visited by large numbers of tuberculous patients.

Of six cases of associated diabetes and tuberculosis, recently under observation at the tuberculosis clinic of the Presbyterian Hospital, in all but one the diabetes preceded the development of the pulmonary disease. In this case the patient was undoubtedly tuberculous at least a year and a half before the appearance of any diabetic symptoms. Her

diabetes developed during pregnancy and she was delivered of a seven months' child which lived eight weeks. In four cases the tuberculosis developed eighteen months, twelve months, seven months, and two months, respectively, after the patients were known to be diabetic; in the remaining case the time could not be ascertained. This patient, a Hungarian Jewess, died seven months after the development of her tuberculosis. Three of the six patients were Hebrews. In four of the patients the family history was negative, both as to diabetes and tuberculosis, in one case a maternal aunt had diabetes, and in one, as already noted, the patient was probably infected with tuberculosis by a consumptive sister. Four of the cases were afebrile, and in the other two the temperature at no time has been above 100° F. The cases were equally divided as to sex. In the three women pruritus vulvæ was a marked symptom. In four out of the six frequent and considerable hæmoptyses were present. Tubercle bacilli were found in the sputum of three and were absent in three patients. In one patient it was possible to demonstrate the presence of glucose in the sputum with the phenylhydrazin test. The urine showed a strong reaction for acetone in all patients, and in one diacetic acid was also present. A trace of albumin was found in four of the six urines examined. The largest total quantity passed in twenty-four hours was seven and a half quarts, the highest specific gravity was 1.047, the greatest percentage of glucose noted was 7.2, estimated by the polariscope. In one case glucose was present in a urine of very low specific gravity, 1.009. The appetite was excessive in one patient, good in two, variable in two, and poor in one. Of five patients in whom the patellar reflexes were tested, they were abolished in but one. Bouchardat first directed attention to the fact that in diabetes the knee jerk is frequently absent. In one case a complicating laryngeal tuberculosis was present. In the case showing the highest specific gravity and greatest sugar content of the urine the patient several times appeared to be threatened with coma, as evidenced by great muscular prostration, irritability, sighing dyspnoea, drowsiness, and syncopal attacks. The husband of this patient has recently been attacked with tuberculosis of the lungs—apparently a clear case of conjugal infection. In a case of combined tuberculosis of the lungs and diabetes in a Cuban at St. Joseph's Hospital there was an extreme degree of ichthyosis of the skin of the entire trunk and limbs. In this case, as in a similar one reported by Lebert, the ichthyosis had existed for many years prior to the diabetes and tuberculosis.

The majority of the cases of this association of tuberculosis of the lungs with diabetes which I have seen have been in dispensary practice, and it is felt that as a rule in such practice insufficient care is taken in supervising the details of treatment of the diabetic element. In recent years, through the installation of nurses and better equipment of the outdoor departments of hospitals, there has been great improvement in the dispensary care of tuberculous patients, but the diabetic is still comparatively neglected. His diet should be at least as carefully prescribed as his medicines, and the ready made printed diet sheet does not meet this indication. A valu-



able and seemingly practicable extension of the work of district nurses and the diet kitchen, which has been so helpful in the tuberculosis clinic, would be instruction in the preparation and supervision of food for the diabetic, which is now very imperfectly attended to in the tenement home. This comparative neglect of diet is a difficulty which is also experienced in the care of the well to do diabetic. It is not possible in this country to send diabetics to well managed institutions where there are the modern facilities for dietetic treatment under expert supervision which exist abroad. It is probable that the patient who does well at Neuenahr, Carlsbad, or Vichy is as much indebted for his improvement to the painstaking attention to dietetic detail of the local physicians, and to the intelligent co-operation of the hotels and pensions in providing an attractive, ample, and varied menu which makes the dietetic cure a pleasure, as to the alkaline mineral waters which are drunk so seriously in these places. To Külz is due the credit for having first emphasized the importance of institutional treatment for the diabetic. In both tuberculosis and diabetes the careful regulation of the patient's daily life is the important factor, and this can, in most cases, probably be most easily and most efficiently carried out in a well conducted sanatorium. When the two diseases coexist the care of such a case is a dispiriting and usually fruitless task for the physician, but the unfortunate patient's condition may, at least, be made more tolerable, his life may be prolonged, and in rare cases he may, perhaps, recover through wisely directed and faithfully continued adherence to the necessary hygienic and dietetic requirements.

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 303 AMSTERDAM AVENUE.

## THE ASSOCIATION OF TUBERCULOSIS CLINICS OF THE CITY OF NEW YORK.

BY JAMES ALEXANDER MILLER, M. D.,

New York,

President of the Association.

The tuberculosis clinic has taken its place as a permanent institution in our community. This fact is not as yet universally recognized, but I take it that in a few more years every dispensary will have discarded the old haphazard methods, and tuberculosis patients will everywhere receive treatment based as much upon the social environment as upon the physical condition of each case.

The study of these two factors in their relation to each other is the distinguishing feature of special tuberculosis clinics which mark the beginning of organized social service in the practice of medicine.

*Main Features of a Tuberculosis Clinic.*—The more evident advantages of the special tuberculosis clinics may be summarized somewhat as follows:

First. Greater individual attention and study are given to each patient by physicians who are more interested and more skilled in their treatment.

Second. The control of the patients both in the waiting and consultation rooms is more complete, so that any danger of infection to other patients is minimized.

Third. By means of visiting nurses, the social conditions and home surroundings of each case are studied and supervised in conjunction with the advice and treatment given at the clinic. A widespread campaign of education is thus carried on in the tenements.

Fourth. Extra diet in the form of milk and eggs is given to such patients as are unable to supply themselves. Such diet is dispensed upon the physician's prescription as a part of the treatment, and not as charitable relief.

Fifth. Close association with charitable societies, sanatoria, hospitals, and other institutions enables the clinic physicians to know which of such facilities are available for any patient, and to place any such care or assistance at his disposal as may be necessary.

Sixth. Patients who are discharged from hospitals and sanatoria, upon returning to the city, are supervised both at home and at the clinic, and the danger of a relapse is consequently much diminished.

Seventh. An excellent opportunity is offered to younger physicians to become skilled in the management of pulmonary tuberculosis. The training in early diagnosis is especially valuable and much needed by many general practitioners.

It is thus evident that the tuberculosis clinic constitutes a centre for accurate and reliable advice upon all of the varied problems which this disease presents, and should therefore become more and more valuable as its advantages are more widely known and more universally utilized.

*The Development of the Special Clinic Idea in New York.*—The first of these clinics was organized in 1903, and during each succeeding year one or more new clinics have been established, until there are now ten special tuberculosis clinics in the borough of Manhattan. They were each organized independently, and have endeavored to work out the





were truly reception days in the tenements! It is small wonder that patients sometimes moved away to escape our multiplied ministrations. This picture is not overdrawn, but represents fairly accurately the conditions as they existed eighteen months ago.

*Improvements in Methods.*—The first step toward improvement was the requirement of an accurate medical report in each case as a basis of its consideration for relief. To accomplish this the physicians had to remodel their ideas to a more or less uniform standard.

A card for such reports was carefully prepared, based upon the classification of the National Association for the Study and Prevention of Tuberculosis, and for reference this classification was printed in full upon the reverse of the card. This in itself proved a fruitful source of elementary education.

The reports upon the social conditions were furnished by the Charity Organization Society investigators, and, as might be expected, were excellent. They often opened the physician's eyes, and led to many a change in the plan of management. The Charity Organization Society agents on their side learned the importance of relying on medical opinion for diagnosis, and to modify the tendency to which they were inclined, of keeping the families of tuberculosis patients too near the border line of need.

As the physicians began to see the necessity for considering other factors in the treatment of the family than the mere prescription for the sick person, so the charity workers, on the other hand, came to realize the necessity of finding some way for supplying food, rest, air, and sunshine in plenty to the tuberculosis patient, without disastrous moral effects; for if it were not possible to supply these essentials in abundance, it were far better to abandon home relief and bend all energies to getting the patient into a suitable hospital.

In the proper disposition of cases, whether suitable for sanatoria, hospitals, country care, day camp, or home treatment, we all—doctors and nurses and charity workers—gradually came to something approaching a uniform notion.

In the delicate question of milk and eggs distribution from the clinics, that disputed territory of charity and therapeutics, our ideas became clearer, with the result of much more careful supervision, and I may add considerable curtailment of its use.

*Cooperation with the Health Department.*—But we were still laboring with the problem of unnecessary duplication of work. The first move towards its solution was to obtain the consent of the Health Department to consider the visits and reports of the clinic nurses satisfactory substitutes for those of its inspectors and nurses. The next was the closer cooperation between clinic nurses and charity agents, so that their visits supplemented rather than paralleled each other. These changes resulted in considerable relief to the patients by eliminating many unnecessary visits in their homes and also in a great saving of unproductive and conflicting effort.

*The City Is Apportioned to the Clinics by Districts.*—The next step was a long one. It was undertaken with trepidation, but the result has been a great success.

The various clinics adopted the district system. The advantages to be derived from such a system are obvious and they have all been realized. The patient no longer takes a long fatiguing journey to the clinic, and he makes the shorter trip oftener; the nurses can visit more patients and each one more frequently; the physician can exercise better supervision of each case, and require more careful attention to details from both patient and nurse. The saving of time and labor is enormous.

Our method consists simply in referring each applicant at a clinic who does not live in the district to the proper clinic, a reference card being used, one half of which is given to the patient, and the other mailed to the clinic. Should a patient so referred not appear within a week, he is looked up at his home by the nurse from the clinic which has received the notification of his transfer.

#### Explanation of map:

##### MANHATTAN.

NOTE.—Manhattan applicants for examination or treatment should apply at the dispensary in the district in which they live. The dispensary districts are shown on the map.

##### DISPENSARIES.

Department of Health, 55th St. and 6th Ave., weekdays, 9 a. m. to 4 p. m. Mon., Wed., Fri., 8 to 9 p. m.

Bellevue Hospital Dispensary, Foot of East 26th St., weekdays 1 to 3 p. m.

Gouverneur Hospital Dispensary, Gouverneur Ship, Mon., Wed., Fri., 2 to 4 p. m.

Presbyterian Hospital Dispensary, 70th St. and Madison Ave., Mon., Wed., Fri., 1:30 to 3:30 p. m.

Harlem Hospital Dispensary, 136th St. and Lenox Ave., weekdays 9 to 4 p. m.

Vanderbilt Clinic, 60th St. and Amsterdam Ave., weekdays 2 to 3 p. m. Mon., Wed., Fri., 9 to 10:30 a. m.

New York Dispensary, 137 Centre St., weekdays 11 a. m. to 12:30 p. m.

New York Hospital Dispensary, 8 West 10th St., weekdays 2 to 4 p. m.

Mt. Sinai Hospital Dispensary, Madison Ave. and 100th St., weekdays 10 to 11 a. m.

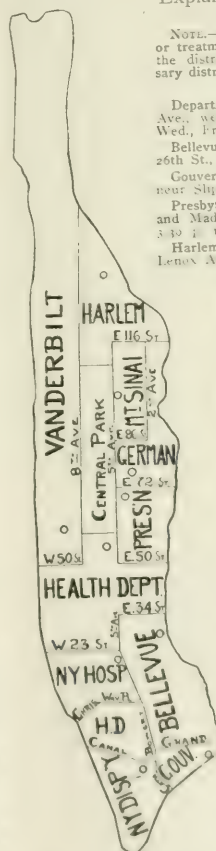
German Hospital Dispensary, 76th St. and Park Ave., weekdays 2 to 4 p. m.

Health Department, Bronx, 31 Ave. and St. Paul's Place, weekdays 2 to 4 p. m.

*Theoretical Objections to the District Plan.*—The chief objections that have been raised to such a system are: 1. The reluctance of the patients to give up their free choice of physicians or institutions; 2, the unequal distribution of numbers among the clinics, and 3, the hesitation on the part of teaching institutions to part with their interesting clinical material.

*The District Plan a Complete Success.*—In experience, none of these anticipated objections has

materialized. There have been practically no complaints on the part of the patient; the numbers at all of the clinics have increased because of more efficient visiting and the better care given to the patients; and a little adjustment of district boundaries easily corrected the slightly unequal distribution that



<sup>1</sup>See map and directory.

resulted at first; and as for teaching, all clinics have had more material than ever before.

It would seem that this classification by districts is much more satisfactory than one upon any such proposed basis as race, creed, or color. The individual clinic can quickly adjust itself to the characteristics of its own districts, and certainly, for purposes of dispensary cooperation and consistent social service this system is admirable. It also checks the abuse of dispensaries by patients who are able to pay.

Eventually we hope to have each district so compact that every house in it will be familiar to the clinic nurse. This will require the cooperation of a much larger number of the dispensaries in the city, but this does not appear impossible, and I know of no other way to effectively control the spread of tuberculosis in the tenements.

*Clinics for Children Are Established.*—A few months ago the majority of the clinics established a separate class for children. The main object was to institute as a routine procedure the thorough examination of all children in the families of our patients and thus discover, if possible, latent and unsuspected cases.

This has proved a most interesting and valuable experiment. In a collective investigation we have examined 431 such children, and found that sixty-two of them, or somewhat over fourteen per cent., either had or were strongly suspected of having pulmonary tuberculosis. The diagnosis in these cases is more difficult even than in the adult, and the various tuberculin tests have been of great value in many doubtful cases.

It seems evident that, contrary to the usually accepted ideas, pulmonary tuberculosis is very frequent in children, that they are infected in a large proportion of cases from close association with advanced cases in their own families or homes, and that the signs and symptoms of the disease remain for a long time so obscure that they would escape detection except for a most rigid examination by a trained observer.

If this is so, it opens up a tremendous field for productive prophylactic work in ferreting out these children, and providing for their care, both before and after they may have become infected.

*The Formation of the Association of Tuberculosis Clinics.*—All of this work that I have endeavored to describe was, as we have seen, developed largely through the membership of the representatives of the various clinics in the relief committee of the Charity Organization Society.

When this fund was exhausted and our committee disbanded a few months ago, it was our firm conviction that it would be most unfortunate to lose the benefits that we had gained by cooperation, and that, on the contrary, we should, if possible, form a closer union between the various clinics to continue and enlarge the work already begun.

Such a union was consequently established by the formation of the Association of Tuberculosis Clinics of New York City.<sup>2</sup> This association is composed

ORGANIZATION OF THE ASSOCIATION.

Officers.—James Alexander Miller, M. D., president; John H. [illegible], [illegible]; Frank H. [illegible], secretary. No. 105 East Twenty-second street.

of active members, who are the representatives of the various clinics, and of associate members, who are selected as representing the different charitable, religious, and social societies and institutions in the city which are coming in contact with tuberculosis as a constant social problem.

It is our aim to enlist the active cooperation of all these agencies in such a way that in each district of the city the tuberculosis clinic may become the centre to which all workers among the poor will naturally turn for expert advice upon all questions and problems which may arise in regard to tuberculosis. To promote this end we are also planning the organization of a women's auxiliary to the association. This auxiliary would be composed of charitable women of standing and influence in the city, who would widen the interest in anti-tuberculosis work, and would take a personal interest in many individual cases, thus helping to carry out the physician's recommendations where otherwise it might be impossible. It is planned that each clinic should have its own separate auxiliary, the chairmen of which shall be associate members of the main association.<sup>3</sup>

*The Cooperation of All Physicians Necessary.*—It is now our foremost aim, however, to interest the physicians of the city in this movement. It should appeal to them especially, because the whole plan of organization is based upon the medical aspects of tuberculosis. We physicians have allowed the laity to run beyond us sometimes in the now widespread campaign against preventable disease.

In this organization, however, it is proposed that medical science shall lead the way, and in this we need the help of all physicians.

This means more than simply referring poor patients to the clinic in the proper district. It means especially a responsibility upon all physicians connected with any medical dispensary to influence their own institution to join in this work.

This may be done in one of two ways: First: By the organization of a special tuberculosis clinic with a visiting nurse, assuming the responsibility for the care of a district of the city, and joining our association; or, secondly: If such a separate clinic is not feasible, then the dispensary should refuse to treat pulmonary tuberculosis, and refer all such patients to the proper special clinic.

There are, at present, a total number of sixty-nine dispensaries in the borough of Manhattan. There is probably a need of twenty or twenty-five

John H. Huddleston, M. D., Abraham Jacoby, M. D., James C. Greenway, M. D., Alfred Meyer, M. D., James Alexander Miller, M. D., Henry S. Patterson, M. D., Henry L. Shively, M. D., Arthur M. Shady, M. D., Bertram H. Waters, M. D.  
Associate Members.—Robert W. Bruere, Association for Improving the Condition of the Poor; John J. Fitzgerald, the Society of St. Vincent de Paul; Miss Jane Elizabeth Hitchcock, Nurses' Settlement; Rev. Walter Laidlaw, the Federation of Churches; Miss Anna Maxwell, Visiting Nurses' Association of the Presbyterian Hospital and Vanderbilt Clinic; Dr. Walter Sands Mills, Department of Public Charities; J. K. Paulding, trustee of Bellevue and Allied Hospitals; Lawrence Veiller, Charity Organization Society; Gaylord S. White, Association of Settlement Workers; Dr. C. M. Cauldwell, St. Joseph's Hospital; Mrs. J. Borden Harriman, Civic Federation and chairman of Presbyterian Auxiliary; Mrs. Richard Irvin, Loomis Sanatorium; Mr. Henri Maillard, Société française de bienfaisance; Mr. Celestino Piva, Italian Benevolent Association; Miss Blanche Potter, Bellevue Clinic Auxiliary; Dr. Frederick L. Vuchenheim, United Hebrew Charities; Mrs. Henry Villard, Diet Kitchen Association.

<sup>2</sup>Since this article was written three clinics have organized auxiliaries with a membership aggregating nearly 200. The idea has met with unlooked for success, and been taken up with astonishing enthusiasm.



special tuberculosis clinics. A canvass is now being made of all these dispensaries to ascertain their attitude toward this district plan, and physicians can help very materially in determining what this attitude shall be.

*Complete Control of Tuberculosis a Possibility.*—For the first time in the history of this city, there seems to some of us a possibility of adequately supervising and subsequently controlling the spread of tuberculosis.

All students of this problem have come to agree that the breeding places of this plague are in the homes of the poor. It is in these homes that we plan to make our fight.

We ask the help and cooperation of all those whose work or interests bring them in touch with any of the varied aspects of tuberculosis.

18 WEST FIFTY-FIRST STREET.

#### TRANSFUSION: HISTORY, DEVELOPMENT, PRESENT STATUS, AND TECHNIQUE OF OPERATION.

BY GEORGE M. DORRANCE, M. D.,  
and

NATE GINSBURG, M. D.,  
Philadelphia.

There are few operations that deserve to be called life preserving to such an eminent degree as transfusion, and among these few there is hardly one that is technically so simple and so devoid of danger in its execution (Leisrink).

The possibility of saving life by the introduction of healthy blood into the circulation of one suffering from sudden loss or gradual depreciation of the vital fluid, naturally presented itself as a resource to the minds of the physicians of the earliest periods. Hebraic, Egyptian, and Syriac medical records all tell of the practice of this procedure in the various ages of which they speak; and steadily downward through the times of Greece and of Rome can traces, well marked and distinct, be discovered of its occasional adoption as a therapeutical resource. Nor was the operation lost sight of in the advance of modern times, for in 1492 we learn that one of the Roman pontiffs was submitted to it at the hands of a Jewish physician; that in 1615 an essay was written upon the subject by Libravius, of Halle; that in 1652 Polli, of Italy, contrived an apparatus for arteriovenous transfusion; and that in 1664 the process was fully described by Daniel, of Leipsic, as one to which he was in the habit of resorting (T. Gaillard Thomas). James R. Chadwick, of Boston, in an original communication in 1874 refers to the employment of transfusion on the person of "Naam," Prince of the Syrian army, who, when stricken with leprosy, to effect a cure, removed the blood from his veins and replaced it with other blood. Medea is represented by Ovid as offering to restore youth and strength to Pelias by replacing his aged blood with that of a young man.

Without discussing the credibility of these and similar statements, it was not until the year 1665 that Richard Lower, an Englishman, first published a complete description of the procedure to be followed in transfusion, and performed the operation upon animals. Denys, of Paris, in 1667, stimulated by accounts of Lower's success in England, experi-

mented on animals, and later in two instances successfully transfused a lamb's blood into the human circulation. The publication of Denys's results gave rise to the most violent excitement in Paris. One party laid claim to the discovery of a universal remedy which would restore health, youth, and vigor, quiet diseases of the mind, calm the most violent dispositions, and might even prolong life beyond its natural term.

The opponents of this operation contended that it was based on false premises, and sought to have its performance stopped. Laury, for instance, an eminent surgeon, maintained that certain particles of the blood were distributed to nourish certain parts of the body, and asked what would become of those ingredients of the blood, which Nature intended should produce the horns of a bull, if a bull's blood were introduced into the human circulation. He also thought that the stupidity and low instincts of the animal would thus be transmitted to the man. Through this writer's unfair efforts the operation was interdicted in France, unless done with the approval of a member of the faculty of Paris. Thus the operation of transfusion sank into oblivion not only in France, but also in other countries.

Blundell in 1818 revived the operation in England, and clearly demonstrated its beneficial effect on persons suffering from excessive hæmorrhage following childbirth. Following the three successful cases of Blundell of transfusion with human blood, Dumas and Prevost in France, and Dieffenbach and Panum in Germany, became very active in experimental work bearing on transfusion of blood from one individual into another. Panum showed scientifically that for transfusion on man, only human blood should be used. Kuhne gave a considerable extension to transfusion in his paper on carbonic oxide poisoning. Martin, in 1859, advocated transfusion in hæmorrhage of parturients. Neudorfer employed it in chronic anæmia, consequent upon purulent discharges; Nussbaum in chlorosis.

Of the most important are the labors of Hüter, who first introduced arterial transfusion. Esmarch, in a personal communication to Leisrink, stated that he performed transfusion on a person during the extirpation of a fibrocavernous tumor from the base of the skull, where much blood was lost, by pumping back new blood into the arm. Also in a case of exarticulation of the femur, Esmarch caught up the flowing blood, and drove it back directly into the femoral vein, following a procedure first recommended by Volkmann in 1808.

Dr. Walter Channing, of Boston, in a paper, published in the *Boston Medical and Surgical Journal*, at this time also strongly advocated the practice of transfusion in properly selected cases. Following these contributions the exponents of transfusion became numerous. Milne-Edward, Dieffenbach, Bischoff, Polli, and Nicholas all strove to elevate it to a legitimate position, but it has only been during the last twenty years that its claims have been admitted. Among later workers and writers on this subject, whose efforts have assisted the adoption of transfusion to save life, are: Oré, of France; Gesellius, of Russia; Hulse and von Bergmann, of Germany; Roussel, of Geneva; Avelling, McDowell, and Higginson, of England; and Crile, Murphy, and others of this country.

T. Lauder Brunton, in 1873, advocated transfusion as a means of preserving life in cases of coal gas poisoning. He states that in these cases the only hope lies in removing the poisoned blood and replacing it by healthy blood. This does not by any means always succeed; but occasionally the recovery from impending death is almost miraculous, as in a case where it was employed by Professor Hüter (*Berliner Klinische Wochenschrift*, 1870, p. 341). The patient, who was a strong, young man, was living in a hotel, and one night had a fire lighted in the stove of his room. Next morning he was found perfectly unconscious, his iris and cornea quite insensible, and his pulse small and rapid. His respiration was weak and intermitting. Just as everything was ready and transfusion of blood was begun, his respiration failed altogether. Notwithstanding this fresh blood was allowed to stream into the patient's radial artery; the poisoned blood was drawn from a vein, and respiration was kept up artificially. Gradually the pulse became stronger, spontaneous respiratory movements again began, and the cornea became sensitive. In about five hours consciousness returned, and in a few days health was completely restored. After recital of this remarkable case of recovery, Brunton was so profoundly impressed with the efficacy of transfusion as a means of preserving life that he also advocated its adoption in treating cases of strychnine poisoning, by blood letting in addition to transfusion. He also believed that the blood of lambs and calves could be transfused into the human being in the event of failure to secure fresh human blood, a procedure which has since been proved to be not only contraindicated, based on physiological grounds, but also fraught with great danger to the recipient. He believed the objection raised by Laury, two hundred years before his time, regarding the transmission of animal characteristics along with the blood of the donor, a theory untenable, and totally disproved by the experiments of Galton on rabbits.

Franz Gesellius, in a classical, historical, critical, and physiological study of the transfusion of blood, refers to the first case of recovery from carbon monoxide poisoning, in which pure blood was used in 1871. This distinguished scientist reviews the literature relating to this procedure, dwelling at length upon the practicability of employing defibrinated blood, the apparatus for transfusion, and a report of cases.

In reviewing the historical development of this procedure we are next attracted to the paper of the eminent physiologist, Bowditch, of Harvard University, published in 1876. Reference was made to the works of Gesellius and Hasse in transfusing blood of various species. In addition to these latter two experimenters, the work of Fiedler and Birch-Hirschfeld were mentioned, mainly along the same lines. The views held by Bowditch were mainly those advanced by earlier workers in this line of research, and are to be noted mainly for the indications offered for performance of transfusion. The notable monograph of T. Gaillard Thomas, published in New York in 1878, is a treatise on the intravenous injection of milk as a substitute for the transfusion of blood. While it is true that this in-

genious observer was inspired by the experiments of Hodder, of Toronto, Canada, in 1850 on cases of Asiatic cholera and also by the previous use of blood for transfusion and the failures that attended the operation, the record of his cases in which milk was employed as a substitute can hardly stand as a proof of the superiority of milk over blood. William Hunter, in 1880, based his opposition to transfusion of blood in the human being on the deleterious effects resulting from the blood, which was saturated with salt solution or a solution of sodium phosphate.

Coincident with the struggle for the survival of the operation of blood transfusion, the history of the development of the apparatus for carrying out the procedure offers an interesting tale. Contention over the advisability and practicability of employing defibrinated or undebrinated blood was waged along with the question of direct or indirect transfusion and the employment of blood from the same or varied species. Hunter, in spite of his pronounced views against the regular employment of transfusion as a routine procedure, admitted the most positive indication for the performance of transfusion, i. e., the sudden collapse from rapid and severe loss of blood. This single statement in a great measure offset his other arguments.

Blood of dissimilar species was proved to be impracticable and dangerous for purposes of introduction into the human circulation. Magendie, Panum, Ponfick, Landois, Hunter, Mittler, Wormmuller, Ploz, and Gyorgyai opposed the transfusion of blood of animals into the human circulation. They ascribed their reasons to dissimilarity in the properties of the different types of blood, and the resulting hæmoly-sis which took place. Experiments in the hands of a large number of workers in this field have proved conclusively the dangers attendant upon introducing blood of animals into the human circulation. Not only was no improvement noted in those cases in which it was done, but serious shock followed the operation, and in no few instances sudden termination of life. Hasse first employed arteriovenous transfusion in thirty-nine cases by introducing lambs' blood into the human circulation. Like those of others, his results were variable and in some instances fatal.

The question of the employment of defibrinated or of undebrinated blood is one which took many years to settle. Prevost, Bischoff, and Panum opposed the use of undebrinated blood on the grounds of the danger of thrombosis and embolism, which was the cause ascribed to the unsuccessful cases. Hunter believed that defibrinated blood was uncertain in action, sometimes quite harmless, and at other times highly dangerous, the result being entirely independent of the quantity injected or the care taken in injecting it. Until 1860 only thirteen cases had been recorded of the use of defibrinated blood (Magendie). In addition to Hunter, Ponfick, Landois, and Gesellius also experienced great difficulties in the employment of defibrinated blood.

The long unsettled question concerning the superiority of defibrinated or undebrinated blood was in a great measure dependent upon the type of instrument used to transfuse the blood. Those who performed direct transfusion naturally opposed de-

fibrination, while others who were compelled to employ a syringe or tube attached to a reservoir favored defibrinated blood, because only in this state could the blood be maintained in a fluid condition for reintroduction into the circulation.

Various instruments and tubes were employed for transfusion. Gesellius, Leisrink, and others employed a glass canula. Nicolas Duranty employed a cold syringe; McDonnell, a slight modification of Duranty's instrument; Higginson, a tube with a bulb attached, and later Aveling employed two canula attached with rubber tubing to a syringe, so that the blood could be sucked from the veins of the donor into the rubber bulb, and then by compression driven into the vessels of the recipient. It was also alleged that with this instrument the quantity of blood transfused could be accurately measured. Chadwick also employed Aveling's apparatus, first filling the bulb and tubes with water to avoid introducing air into the vessels.

It is obvious that with the development of direct transfusion by end to end anastomosis between the artery of the donor and the vein of the recipient (either by a mechanical method or by direct suture) that the questions of defibrination or undefibrination of blood and the employment of complicated, uncertain apparatus are swept aside. The procedure today is one of simplicity and of certain success in the presence of secure asepsis and good assistance. If any factor contributed to the severe symptoms in addition to the development of thrombosis and embolism in former days, tending to cause failure in its performance, the absence of sure asepsis was the principal cause.

#### *The Present Status of Transfusion.*

The indications for transfusion may be considered in two ways, from the physiological and clinical standpoint. It is indicated physiologically when the blood is greatly deficient in quantity or quality; clinically when the blood cannot perform its function of carrying materials from one point to another, or is not able to nourish the blood forming organs so that they can produce corpuscles. The clinical indications are divided into four classes. 1. Acute grave anemia due to hemorrhage; 2, chemical changes in the blood; 3, deficient coagulability of the blood; 4, in certain blood diseases.

1. For anemia due to acute grave hemorrhage, as from an accident, ruptured extrauterine gestation, or postpartum hemorrhage. In this variety the indication is clear and the results have been excellent.

2. Where chemical changes have occurred in the blood and the hemoglobin is not able to perform its interchange of carbon dioxide and oxygen, to its carbon monoxide poisoning and poisoning from its other aniline compounds. Here the transfusion is positive and the results good if the operation is performed early.

3. In hemorrhages where the coagulability of the blood is deficient, as in hemophilia, vitamin K, and in hemorrhage during typhoid fever. In hemophilia it will arrest coagulation and with the other methods of treatment stop the hemorrhage. In all cases will not cure the underlying cause. In all cases, however, transfusion will increase the blood count, all

the blood and make it possible to operate without excessive hemorrhage.

4. In certain blood diseases where the blood forming organs are not sufficiently nourished to produce corpuscles or where the blood corpuscles are deficient in numbers; as in extreme chlorosis, secondary anemias, unclassified anemias of childhood, and in pernicious anemia. In these diseases the transfusion should be repeated if marked improvement or permanent results are to be expected. In pernicious anemia, if this method of treatment is contrasted with the other methods in use, one should be perfectly satisfied with marked temporary benefit.

*Methods of Performing Transfusion.*—The operation of direct transfusion from an artery to a vein, which is the one that should be used, can be performed in several ways; but two factors must always be considered. First, the method must be one that will not cause the blood to coagulate while passing from the donor to the recipient. Second, the method must be simple and easy to perform if it is ever to come into general use.

Method No. 1. By means of the Crile tubes. The tubes were first employed by von Quirolo in 1895, and later modified by Payr, and still later by Crile. In this method the vein is passed through the tube of appropriate size and the free end turned back over the end of the tube, thus forming a cuff, which is tied in place with a fine linen ligature. The artery is then drawn over the venous cuff and tied in place. These tubes have the advantage of keeping the blood stream within the vessels and not permitting any foreign substance to come in contact with it. The disadvantages are that the tubes cannot be used by one not skilled in this work, and, secondly, it is very difficult and at times almost impossible to use them when the patients are very restless.

Method No. 2. By means of tubes of various substances. The tubes are easily applied, but within a very few minutes thrombosis occurs within them even under the most careful application.

Method No. 3. End to end anastomosis by direct suture. This method possesses no advantage over the other methods. Its disadvantages are: 1, That it is exceedingly difficult to perform; 2, the vessels contract; and, 3, thrombosis occurs at the line of suture after a few minutes.

*Technique of Operation.* The donor and the recipient are sterilized and then anesthetized by local infiltration. The arm of the recipient is constricted by an assistant to make the superficial veins prominent. Usually the superficial radial vein is the one selected, and if so should be exposed near the wrist for about one inch and two linen ligatures placed beneath it. The radial artery of the donor should be exposed at the wrist and two linen ligatures placed beneath it. Then the forearms are placed so that the point of the elbow is directed toward the elbow of the recipient. Then divide the radial artery and ligate the distal end with one of the ligatures, and divide the hemorrhage from the previous and following all constructed forearm ligatures, so by placing a small piece of gauze tape around the artery and connect it with the artery so as to compress the artery. Now divide the artery at the proximal end, and apply the ligatures to the distal end, thus dividing the artery from



the tube, ligate it in place, and remove the constriction of the artery, and allow the blood to flow. If the vessels are very small they may be dilated with forceps or small hæmostats. After the desired amount has been transfused the artery and vein are ligated, the tube removed, and the skin sutured. The amount to be transfused will vary with the disease, but it must always be remembered that too large an amount will raise the blood pressure. The operation may be repeated without any bad effects.

#### Report of Cases.

CASE I.—Pernicious anemia. Patient of Dr. D. Riesman, Polyclinic Hospital, Philadelphia. Transfusion by direct suture. Life extended six months. Full report later.

CASE II.—Pernicious anemia. Patient of Dr. D. Riesman. Unsuccessful. Report later.

CASE III.—Acute lymphatic leucæmia. Patient of Dr. Myers Solis-Cohen. Transfusion by suture method. Small amount transfused. The vessels contracted after a short time and very little flowed after that accident. No marked change in condition of patient.

CASE IV.—Shock and acute hæmorrhage. Patient of Dr. Levi J. Hammond, Methodist Hospital. Operation performed after a partial resection of the stomach. Recovery from shock and marked improvement in general condition. Patient died later from complication of gastric operation.

CASE V.—Extreme hæmorrhage from stomach. Patient of Dr. James Lloyd, Methodist Hospital, Philadelphia. On account of extremely restless condition of the patient the Crile tubes or suture method could not be used. The transfusion was tried with glass tubes lined with petrolatum. Operation was not a success. Patient died several hours after the second attempt. A very small amount of hæmoglobin was found in the urine after the transfusion, but I do not know if it was present before.

CASE VI.—Hæmorrhage during typhoid fever. Patient of Dr. Riesman, Jewish Hospital. Small amount transfused. No after hæmorrhage. Recovery. Full report to be published later.

All our patients were in moribund condition when we were given permission to operate.

1716 LOCUST STREET.

#### SOME INCONGRUITIES IN THE MEDICAL PROFESSION.\*

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The title of this address may appear to some of you a pessimistic dissertation on the practice of medicine. No, it is merely an expression of a few striking matters that have appealed to me from time to time, in which I would enlist your interest.

No one denies our steady trend to betterment in all directions. Nevertheless, progress in ethics and our art is of course not in pace with the advancement in the sciences.

Some of my admonitions will, I trust, be salutary; all of them are sincere. I do not flatter myself that I have found solutions to these shortcomings; I hope to induce others better fitted to search for them. It is the privilege of truth to upset the traditional falsehoods that men cherish, but traditional contentment dies hard. We will probably always be creatures of custom and slaves of routine, for the laws of natural selection grind slowly.

#### Local Ethics.

Since the abrogation of the old code of ethics of the American Medical Association, State and county

medical societies have formed later ethical rules, often restricted by conditions of local import, sometimes, as I have personally observed, at variance with fundamental principles in ethics, of questionable utility, and ultimately working disaster to the body politic.

As an illustration: A county medical society adopted a law discountenancing all kinds of contract practice as being unethical, but exempted railway surgeons, military surgeons, and some others. Now, I am fortunately or unfortunately both the one and the other, but I cannot understand by what method of induction in ethics a principle is permitted to be violated arbitrarily. If the principle is correct the exception is immoral, and of course vitiates the spirit of the whole fabric. Contract practice *per se* is neither wrong nor undignified. The unethical feature in it is the same as in private practice, viz.: inadequate remuneration for the services, nothing more, nothing less; and a volume of hysterical pride or resolutions cannot alter this basic law of political economics.

#### Consultations.

Why does the consultant always get a larger fee than the attending physician? The latter has studied the case more closely before, is to have the care of it afterward; bears all the worry, anxiety, responsibility, criticism, does more thinking, more work, than the consultant.

Unless there are some special reasons for it, such as pertains to acknowledged experts, etc., the fees should be reversed, the responsible man getting the larger share, the consultant being really entitled to no more than a reasonable amount for actual services.

#### Fees.

Neither should we in every day practice be restricted to the conventional inflexible fee bill schedule. We should have a sliding scale according to the financial ability of the patient and character of services rendered: not fixed and absolute like that of the merchant. The opulent should pay according to his income, while the middle class pays the customary fee. Too many of these, like the indigent poor, get their services free.

What other calling or class daily gives to the public a considerable part of its time, skill, and means without remuneration, without ostentation, often enough without gratitude? Then why gauge our methods by the tape measure of commerce? I may be pardoned for perpetrating this apothegm, without fear of contradiction: The doctor's business is the only business whose business it is to destroy its business; or, if we must be commercial, and really we are by no means enough so for our own good, why not be consistent with our changed conditions?

Commodities rise, house rents go up, labor is better paid, riches become universal, yet the average doctor's fee is probably the same as when, in the embryonic period of our art, the priest, and later the barber, honored the leech with an occasional "case."

"Men may come and men may go," but the doctor's fossilized fees seem to go on forever, in more senses than one. The world acknowledges that our material emoluments are in no wise commensurate with the intelligence, knowledge, and responsibility required of every physician. Where is so much con-

\*Read before the Association of Seaboard Air-Line Surgeons, at a meeting held on February 10, 1910.

summate skill expected, yes, demanded, as that which deals with the first principles of existence itself, and the essentials which make that existence tolerable?

#### *In Court.*

When doctors are arrayed against each other in giving expert testimony in the courts, the doctor assumes, in spite of himself, a partisan attitude. He prompts his attorneys to confuse and belittle the testimony of his fellow physician on the witness stand. The expert's statements on the opposing side are discredited or made ridiculous, and the medical profession in general becomes the laughing stock of the jury, the press, and the public.

Now, these invidious situations should be obviated, and would be, if the physician would insist upon being true to himself first and last, and thus be true to the profession he is supposed to adorn. Honestly endeavor to meet and consult with the opponent's physician, and, so far as practicable, to harmonize conflicting views. Refuse to be forced by lawyers or employers into an unfair partisanship.

#### *Lack of Harmony.*

Through lack of harmony we have earned the contempt of corporate powers and politicians. Our weakness is as manifest as our boasts, and corporations are not slow to discover and take advantage of it. Where one of us will resent an unfair proposition, another will greedily accept. Where one set of medicos plead for the enactment of a just and righteous law, another set seditiously or surreptitiously opposes or tears it down. The pretense of harmony is as transparent as the selfish impulse which actuates it.

#### *Military.*

Speaking of military surgeons, I am reminded of the common routine of promotions in all branches of the service by reason of seniority. Thus, a surgeon with little or no special ability is promoted to a rank in which he is the acknowledged inferior to another whose commission dated one day or one year later. Is it for the best interests of the service to indefinitely continue this vicious precedent?

And here I shall call you to task for an apparent indifference that the medical profession in this country has evinced in the affairs of the army medical corps. For a number of years past, efforts have been made to increase the corps. Its insufficiency even on a peace footing is a conspicuous feature of our imperfect military organization. Twice has a bill passed the senate and been reported favorably to two congresses, still it has never become a law.

President Roosevelt in his annual message said, "The medical corps should be much larger than the needs of our regular army in war." Yet at present it is smaller than the needs of the service demands even in peace. The fault lies in our apathy, in our failure to demonstrate our patriotism in our own household. We praise the achievements of the Japanese military medical service, yet fail to lend our influence toward the advancement of our own. We surely have competent surgeons. We do not need to be "damned with faint praise." Give us enough trained men to do the work and we will agree to be second to none when the occasion demands. Urge your representatives to pass the law

promptly, and thus demonstrate at once your patriotism and your professional pride.

#### *Politics.*

The exigencies of an active physician's life usually preclude political aspirations. Besides, the successful physician is the one who is devoted soul and body to his art, hence, cares little for the bubble of political fame. But in this the physician does himself and the world a wrong. The public needs just such men in power.

Who is so well qualified to know the public needs as the ideal altruist, the ubiquitous friend, and confidential adviser, the doctor? He makes a model executive officer, and the public is not slow to recognize his virtues. Numerous examples of the successful doctor politician might easily be cited. Enter the arena if you feel convinced that you are needed there.

#### *Books.*

The fast increasing tendency of men who have some original ideas to become inspired thereby to write entire textbooks, is flooding our bookshelves, our brains, and our reading hours. "A few modest volumes would suffice to chronicle the real achievements of medicine; a library is necessary to tell the story of medical speculation and practice."

#### *Preventive Medicine.*

Our American lawmakers have at last passed essential health laws for the protection of the public which have for decades past been in active operation in Eastern "benighted" countries; but the rank and file of the medical army are still sadly derelict in the matter of public hygiene and preventive medicine.

We may appreciate our positions as guardians of the public health, but you will be told by health officers everywhere, that the average medical attendant is not as rigid or reliable in his supervision of infected houses or individuals as this responsibility demands. Earlier and persistent disinfection of infective excreta, and appreciation of the menace of typhoid and other stools for some time after convalescence and more rigorous protection against the milder tuberculous types are urgent needs.

To the failure of early diagnoses and consequent preventive discipline is ascribable the persistence of many preventable diseases.

#### *Isms.*

Many of us ridicule or attempt to obstruct or destroy *isms* or *pathies* with which we are not in accord, while at the same time our incredulity is vanquished without an effort by a new *ipse dixit* from our authority, or insufficient data.

We accept at once Brown-Séquard's orchitic elixir for perennial virility, or a new tuberculin cure for tuberculosis, or the dictum that the *Anopheles gambiae* is the sole carrier of the malarial parasite, or that the *Therbia bacillus* is only transmissible through the stools, or that every appendix and every diseased ovary should be removed or that opsonic indices or x ray radiographs are infallible, and a host of dogmatic doctrines that have not yet passed through the arctic. Says Dr. Max Nordau in his well known book *Entartung*: "Statements hitherto considered unimpeachable because

no one has ever questioned their validity must submit to the demand for proofs, and it then frequently appears that they have none."

Now as a matter of fact there must be a germ of truth in every *ism*. Those extraordinary or occult fads are based upon some sound physiological or pathological principle. We are not defeating them by derision, we will not destroy them by persecution. How few of us really know any more about them than do the most ignorant devotees that worship at their mystic shrines.

Would it not be more effective for our colleges to devote two or three hours each semester to an intelligent dispassionate study of each of them, free from ridicule or levity?

Indeed, our illiberalism in medicine smacks strongly of religious bigotry and intolerance.

### *Egoism.*

The standard of the medical profession is almost Utopian in its loftiness. We are the champions of humanity, charity, patience, self sacrifice, purity, knowledge, and wisdom. Hence, inconsistencies in our theories and practices are more glaring, and violations more flagrant than in any other sphere of life.

How incongruous that jealousy, envy, egoism, should enter such ennobling lives, whether actuated by mercenary greed or selfish ambitions, and beget social and professional demoralization.

Is it not a travesty upon that classical honor which is a vital element in our profession, for a physician who succeeds another in a case to inveigh against the ability of his absent predecessor? Is it not both undignified and cowardly?

Each one of us is the standard bearer and model of the entire body; and it is but a logical inference that the profession be held responsible for your shortcomings. We are in very truth our brother's keeper.

And so, when we chasten ourselves we purify our environs. And the corollary follows:

As one lamp lights another nor grows less,  
So nobleness enkindleth nobleness.

## A CASE OF CHRONIC DIARRHŒA ACCOMPANIED BY PYLORIC INSUFFICIENCY;

*Relieved by Hydrochloric Acid.*

By E. PALIER, M. D.,  
New York.

The following case is interesting from several standpoints, and I believe it deserves to be reported:

Patient was a baker, thirty-five years old, born in Russia. He was somewhat above median height and well built. Family history was negative. Patient had had no serious illness, except the one to be described. In April, 1907, he came to me at a dispensary because of a diarrhœa which he said had lasted for the last five years, having had from one to three stools daily. The diarrhœa was painless, and frequently came on soon after a meal, and the patient had also often to get up several times at night to evacuate the bowels. A flesh diet invariably aggravated the trouble, according to patient's statement. He could not give any definite cause to account for his illness.

The patient was pale and anæmic, but there was very little emaciation, contrary to what might be expected. A physical examination showed nothing abnormal, and no points of tenderness could be elucidated anywhere in the

The stools were semiliquid and contained mucus and big pieces of undigested food. What the patient had eaten could be seen in the stools.

The patient was given a test meal at 3 p. m., and in addition he had had a light meal in the morning; the stomach tube was introduced at 4 p. m., i. e., one hour later; but absolutely nothing could be brought out of the stomach. The same was repeated two days later with similar results; the stomach was entirely empty. Then the tube was introduced three quarters of an hour after a test meal, and only a few cubiccentimetres of stomach contents were obtained. The tube was again introduced half an hour after a test meal, and about twenty cubic centimetres of stomach contents were withdrawn. Two days later the same was repeated with similar results.

The stomach contents were not well digested, but it was not surprising in view of the fact that they were withdrawn so soon after the test meal. But there was a moderate reaction on congo paper, and the hydrochloric acid acidity amounted to about 20.

The patient had been put on a strict antidiarrhœal diet, such as rice soup, boiled milk, very soft eggs, etc., and numerous drugs, both singly and in various combinations, had been given, but without any appreciable good results. Opiates had a slight transitory effect only.

The patient was then given dilute hydrochloric acid, 10 drops in a teaspoonful of water, after each meal, and in one week the stools were reduced to two daily, and in another week the patient had about one good evacuation of well formed feces daily, and he said that he felt perfectly well. At first the hydrochloric acid was given together with small doses of bismuth subnitrate and pepsin. But the latter two had been prescribed previously without any effect, consequently no great influence can be attributed to them. Soon, however only the hydrochloric was given. As improvement continued the intervals of exhibiting this drug were gradually increased, till the patient took it only several times during the week. The stomach contents were examined after the patient had improved, and an hour after a test meal the normal amount, about forty to fifty cubic centimetres, could be withdrawn. They were fairly well digested, and the hydrochloric acidity amounted to about 30. On the days when the stomach contents were examined the patient took no hydrochloric acid.

Now, this drug was given the patient at first because I suspected he had some hypochlorhydria; subsequent examinations of the stomach contents, however, showed that the acidity of the patient's stomach was about normal, or at least there was not such a marked deficiency as to require the administration of hydrochloric acid. Nevertheless, the hydrochloric acid had an excellent effect. Whether or not it had a favorable effect on the intestinal secretion, is a question which we cannot answer with any degree of certainty. But there is one thing certain, and that is that the evacuation of the patient's stomach at first was too rapid, and that it became normal under the administration of hydrochloric acid.

Was there pyloric insufficiency or simple hypermotility of the stomach? Seré, and afterwards Epstein, have called attention to pyloric insufficiency. Some authors seem to think, however, that this affection cannot be demonstrated with certainty, and that what is taken for pyloric insufficiency is simply hypermotility of the stomach. It seems to me, however, that if the pylorus functioned well, hypermotility of the stomach alone could not cause the rapid evacuation of the stomach contents, as the pylorus would offer an effective barrier. If there is accelerated evacuation, the pylorus evidently offers an ineffective resistance. In my case the gastric secretion was about normal, and there was no pathological cause to account for a hypermotility of the stomach.

It is very hazardous to draw conclusions from the results of a certain treatment as to the diagnosis, for we know how often such conclusions are de-



ceptive. But in my case it would be hard to explain how the administration of hydrochloric acid could inhibit the hypermotility. But it seems rational to explain that this drug acted on the pylorus as an irritant, causing it to contract longer, and thus causing a longer retention of the food and a better digestion in the stomach, and therefore less work for the intestines.

Such a hypothesis, I am aware, is antagonistic to conclusions recently reached by Cannon<sup>2</sup> from radiographic researches. According to this investigator, the acidity of the stomach has a relaxing effect on the pylorus, and hastens the evacuation of the stomach, whereas diminished acidity is accompanied by retardation of gastric evacuation. This statement is entirely at variance with what we daily see in our patients. People with hypochlorhydria or entire achlorhydria may have a normal or accelerated emptying of the stomach, whereas some who have a high hyperacidity may have, and they frequently do have, retarded evacuation.

A reviewer<sup>3</sup> of Cannon's work, indeed, raises objections to some of the latter's conclusions. These conclusions are certainly in discord with our daily experience.

In my case the passage of undigested food probably acted as an irritant on the intestines, and they in their turn became affected. This case emphasizes the necessity of an examination of the stomach contents in chronic disorders of the alimentary canal. Furthermore, such patients must be warned against taking any liberties with their digestive apparatus, as relapses usually follow abuses. Such patients are relieved, and can remain well as long as they are careful, but they get unwell again under indiscretion in regimen.

55 EAST NINETY-THIRD STREET.

## Therapeutical Notes.

**Furunculosis.**—In the case of a man aged thirty-seven, afflicted with crops of furuncles making their appearance on arms, neck, and body about every two weeks, Shoemaker (*Medical Bulletin*, April, 1908) prescribed rest for a week and an absolute milk diet, beginning the treatment with a thorough purging by means of calomel, gr. ij, in divided doses, powder form, dry, on the tongue every half hour, followed by a tablespoonful of magnesium sulphate in the morning. The following was then ordered to be taken regularly as prescribed:

R	Extract of iron, codina,	gr. i.
	Arsenic trioxide,	gr. i.
	Calcium sulphide,	gr. i.
	Quinine bisulphate,	gr. xlv.
	Extract of gentian,	gr. i.

M. ft. capsule xxx.

Sig. One capsule after each meal and at bedtime.

**Ichthylol and Resorcin Mixture for Dysentery.** Belletre (*Journal de médecine, de Paris*, April 4, 1908) prescribes the following for the treatment of dysentery:

R	Ichthylol,	gr. xlv.
	Resorcin,	gr. i.
	Glycerin,	gr. i.
	Syrup of quince,	gr. v.

M. ft. mist.

Sig.: One tablespoonful three times a day.

(The patient should be instructed to wash out his mouth with water containing a little lemon juice in order to correct the disagreeable flavor of the medicine.)

**Treatment of Vulvovaginitis.**—The various methods of treating inflammation of the vulva and the vagina in children and in adults are collated in Pron's *Formulaire synthétique de médecine*, as follows: For children it is recommended to bathe the vulva twice daily with a 1 in 2,000 solution of potassium permanganate and at the same time inject it into the vagina under light pressure through a small catheter of narrow calibre. At night introduce a pencil shaped pessary of the following:

R	Salol,	gr. i.
	Cacao butter,	gr. xv.

In the case of adults rest in bed should be imposed, and the patient put on a light diet; cold compresses are applied to the vulva, and renewed every two or three hours, tampons of cotton saturated with a 1 in 2,000 solution of potassium permanganate being placed between the labia pudendi majora. Order a Sitz bath with the following:

R	Belladonna leaves,	gr. i.
	Ilyoseyamus leaves,	gr. i.
	Poppy heads,	No. 2.

When the inflammation subsides use once or twice a day at first an injection of boric acid water, and later, potassium permanganate solution (1 in 2,000 to 1 in 1,000); solution of corrosive sublimate, 1 in 5,000, or the following:

R	Copper sulphate,	gr. i.
	Ferrous sulphate,	gr. i.
	Zinc sulphate,	gr. i.
	Gum acacia,	gr. i.
	Water,	gr. i.

M. ft. injection.

Insert between the labia a tampon saturated with an antiseptic or astringent solution, such as a 1 in 200 solution of lead acetate or a 1 in 40 solution of glycerite of tannin.

Folliculitis is treated with a lotion applied lightly as a paint, using either one of the following prescriptions:

I.	R	Silver nitrate,	gr. xii.
		Distilled water,	gr. i.
		Solve.	

II.	R	Zinc chloride,	gr. xii.
		Distilled water,	gr. i.
		Solve.	

As a dusting powder toward the end of the treatment, use the following:

R	Bismuth subnitrate,	gr. i.
	Bismuth subnitrate,	gr. i.
	Zinc oxide,	gr. i.

M.

For chronic vulvovaginitis in children, in addition to the usual tonic treatment (cod liver oil, syrup of iodide of iron, etc.), sea baths should be prescribed, or a bath at home containing

R	Sodium chloride,	lb. ii.
	Sodium carbonate,	gr. i.

M.

<sup>2</sup>Cannon. The Acid Control of the Pylorus, *American Journal of Physiology*, November, 1907, p. 388.

<sup>3</sup>M. P. Langhans, *La Presse médicale*, January 4, 1908.

**Gargle in Diphtheria.**—The following is credited to Heindl, of Vienna, in *Journal de médecine de Paris*, for April 18th:

R Iodine tribromide, .....gtt. xvj;  
Potassium iodide, .....gr. iii;  
Distilled water, .....5x.  
M. ft. gargarisma. Sig.: Use as a gargle every hour.  
(This solution should be put up in an amber colored glass bottle.)

**Suppository for Fissure of the Anus.**—The following suppository will relieve the pain in fissure of the anus:

R Extract of rhatany, .....gr. vi;  
Extract of opium, .....gr. ss;  
Extract of belladonna, .....gr. ½;  
Cocaine hydrochloride, .....gr. ¾;  
Cacao butter, .....gr. xlv.  
M. ft. supposit. i.

Not more than two of these suppositories should be given during twenty-four hours, the susceptibility of some persons to belladonna being borne in mind.

**Treatment of Posttyphoid Alopecia.**—Alfred Martinet discusses in the *Presse médicale*, for April 18th, the loss of hair in women which usually accompanies an attack of typhoid fever, and suggests a course of treatment, remarking that in the case of young girls the æsthetic result of neglect of precautions to insure the regrowth of the hair may prove disastrous to their prospects in life. He considers the question of when the hair should be cut, and advocates cutting it twice, once at the end of the first week after the fever has abated and when the patient is able to bear the exertion entailed by the process, and again a month or six weeks later. The hair should be washed once a week with soap and water or with a decoction of quillaja, and the new growth of hair stimulated by dry friction of the scalp and the application of an invigorating lotion of either of the following types:

I.

R Pilocarpine hydrochloride, .....gr. vi;  
Ammonia water, .....℥ lxxv;  
Spirit of lavender, .....3iss;  
Compound spirit of ether, .....3vi.

M.

II.

R Solution of formaldehyde, .....℥ xv;  
Glacial acetic acid, .....3i;  
Tincture of jaborandi, .....āā 5vi;  
Acetone, .....  
Alcohol, .....āā 3vi.

M.

The last preparation is very active and strongly irritating, and so must be used with caution.

It is noted by Dr. Martinet that the hair is often slow to regain its former vigor, and the patient should be told that it may take six months to restore it, but that recovery is certain, and the new growth will be full and lasting.

[It may be well to repeat here what was said in an editorial article in the issue of the *Journal* for January 4, 1908, on page 29, regarding a prescription of Sabouraud's for falling of the hair in women, in which it was remarked that the proportions of the ingredients in the formula should be varied to suit individual cases, it being observed that

"when a woman finds a particular prescription proves beneficial in her case, she is very apt, in the goodness of her heart, to pass it around among her friends, but disappointment is almost sure to result, because hardly any two cases in the circle of her acquaintances are exactly alike, and it would be as futile to order one prescription for indiscriminate use as to prescribe the same eyeglasses for all persons with visual errors."]

**For Colicky Pain in the Stomach** the following mixture is recommended in *Bulletin général de thérapeutique*:

R Cocaine hydrochloride, .....gr. ¾;  
Codaine, .....gr. ¾;  
Lime water, .....5v;  
Chloroform water, .....3x.

M. Sig.: One tablespoonful every half hour, but not more than four such doses to be administered in one day.

**Mercurial Stomatitis.**—Queyrat is of the opinion that the disagreeable effects sometimes observed to follow hypodermatic injections of mercurial oil are the result of faulty technique. For his part he never injects more than one grain of mercury a week in a patient weighing 145 pounds. He prescribes for use as an application to the teeth and gums during the time the patient is under treatment the following saponaceous dentifrice:

R Almond soap, .....3x;  
Glycerin, .....3vi;  
Extract of rhatany, .....  
Sodium borate, .....āā gr. xx;  
Oil of anise, .....℥ xx;  
Oil of peppermint, .....℥ vi.

Queyrat insists that the treatment should be suspended on the appearance of nodules at the site of injection. In a case of very severe stomatitis following the careless administration of mercury hypodermatically he was able to afford relief to the subject with irrigations of carbolic water and solution of hydrogen dioxide, touching the spots with tincture of iodine and injections of colloidal platinum and sea water.

**Injection for Hæmorrhoidal Pruritus.**—Adler (*Journal de médecine de Paris*, April 18th) uses the following injection:

R Fluidextract of hamamelis, .....3iv;  
Fluidextract of ergot, .....  
Fluidextract of hydrastis, .....āā 3ii;  
Carbolated olive oil (5 per cent.), .....3v.

M. S.: After shaking well, inject one or two ounces into the rectum.

**Intestinal Antiseptic for Children.**—For a child, five years of age, the following is prescribed:

R Bismuth subgallate, .....gr. ¾;  
Sodium bicarbonate, .....gr. iss;  
Prepared chalk, .....gr. lss.  
M. Sig.: One powder every three hours.

**Coryza.**—One or two days' treatment with the following will relieve a cold in the head, says the *Bulletin général de thérapeutique*, for April 8, 1908:

R Atropine sulphate, .....gr. 1/13;  
Pulverized pulsatilla, .....gr. iii;  
Acetyl salicylic acid, .....  
Quinine hydrochloride, } .....āā gr. xxx.  
Sugar of milk, }

M. In cachet xii eq. div.

Sig.: One cachet three or four times a day, at least one hour apart.

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## THE HOME MANAGEMENT OF CONSUMPTION AMONG THE POOR.

The city of New York is commonly regarded as furnishing an exceptional example of overcrowding of the poor in unsavory tenements, but perhaps it is by reason of the great population of New York that it has excited so much attention, for it certainly seems as if some smaller municipalities might be held up as at least proportionately equal to us in neglect of domiciliary sanitation. The city of Nantes, for instance, appears to be in very bad condition, as we gather from articles by Dr. Bécigneul and Dr. Fargues, published in the *Gazette médicale de Nantes* for April 11th. Dr. Bécigneul, who reports upon the operations of the *Dispensaire antituberculeux* for the year 1907, is able to record a slightly diminished tuberculous mortality for the year in proportion to the entire number of deaths, though the actual mortality from tuberculous disease was greater than it had been before for more than twenty years. In New York we have made a better showing, but our tenement house population is still atrociously housed.

We suppose it may fairly be presumed that in the matter of habitations for the poor Nantes is no more negligent than many another town of moderate size, though some of the conditions set forth by the authors whose names we have mentioned are about as bad as they could be. For example, it was found in the dispensary visitations that, of sixty-seven families of four members each, one occupied

four rooms, six three rooms (one of them in three instances without a window), thirty-two two rooms (one without a window in four cases), and twenty-eight but a single room. Filth, including excrement, accumulated on the common staircase (which it seemed to be nobody's business to clean), together with repulsive drains sometimes regurgitating the sewer contents to the very verge of a bed, added to the horrors and dangers of the cramped air space.

When the management of a case of pulmonary tuberculous disease at the sufferer's own home is undertaken, the work necessary is not confined to ministering to the individual needs of the sick person; it includes the utmost endeavors to prevent the conveyance of the disease to others. When these efforts are hampered by such conditions as those of Nantes, where often as many as four persons had to sleep in one bed, there is scant hope of forestalling infection. It must be evident to the most superficial student of demography that the housing of the poor needs radical improvement if we are to better the public health in any considerable degree.

## THE "ADRENOTHYREOID CENTRE"

By this term, as used by Dr. Charles E. de M. Sajous, of Philadelphia, we understand the pituitary body or some constituent part of that structure, acting through direct nerve connections upon the thyroid and the suprarenal glands. A notable contribution to our conceptions of its action is to be found in a paper recently presented by Dr. Sajous before the American Therapeutic Society and the Philadelphia Branch of the American Pharmaceutical Association. It is entitled *The Autoprotective Resources of the Body—A New Foundation for Scientific Therapeutics*. It is to appear in full in the May number of the *Monthly Cyclopædia of Practical Medicine*, advance sheets of which have been courteously sent to us.

The pituitary body, if we understand Dr. Sajous aright, performs the twofold duty of a sentry (being in great part a sensory organ) and of an aide de camp, calling the thyroid or the suprarenals into defensive action when it has scented danger to the organism. It is on this associated function of defense, fulfilled by what he terms the "adrenal system," that Dr. Sajous thinks that the therapeutics of the future—scientific therapeutics—must largely be founded. The therapeutics of the present time rests extensively on empiricism, and empirical knowledge, as he, in common with many other thoughtful writers, freely admits, always constitutes the cornerstone of a science. It is doubtful, indeed, whether we shall ever wholly escape from empiricism; perhaps it is in no great degree desir-



able that we should do so, and certainly we ought not to seek to break loose from it violently at the expense of what is useful, even if not entirely explicable. This Dr. Sajous freely concedes, but he is none the less mindful of the superiority of a system of therapeutics founded on coordinated facts and susceptible of a rational explanation.

Since Bichat, as it seems to us, there has been no more fascinating projector of a philosophy in medicine than Dr. Sajous. With an enthusiasm bordering on eagerness he leads us on through difficulties at which, left to our own resources, many of us might quail. What will it ultimately matter if he is at length shown not to have paused to struggle with every feature of detail that he encountered? For our part, we prefer his ardent prosecution of a grand idea to the sombre platitudes of the therapeutic nihilist, for it seems reasonably sure to lead to something positive and to help powerfully in lifting into an approach to certainty that feature of medicine which most concerns the community at large and upon the condition of which we must be content to be rated.

#### THE SEASIDE FOR NEURASTHENICS.

In the *Journal de médecine de Bordeaux* for April 12th there is published a portion of a report on this subject prepared by Dr. E. Régis for the Biarritz Congress of Climatotherapy, including the author's conclusions. He remarks that one must take account of the individual's idiosyncrasies, psychical and physical; it is quite important that the seaside should be attractive to the patient. Up to the present time a marine climate has generally been thought to be favorable to depressed persons and injurious to those who are excited, but a reaction against this traditional way of thinking seems now to have set in, and the reverse opinion appears to be justified by observed facts, so that neither excitement nor depression is a formal indication or contraindication of seaside treatment. Apart from idiosyncrasy and other considerations, purely nervous excitation as a manifestation of the neurasthenic condition is benefited, or at least not aggravated, by a marine climate, while seaside treatment is injurious and even dangerous in cerebral excitation due to organic lesions of the nervous system underlying the neurasthenia. Depression, on the other hand, must not be associated with too profound debility.

Unless there is grave intolerance or some subjacent morbid complication, neurasthenia occurring in children and adolescents is notably ameliorated by thalassotherapy, especially if, as is not infrequently the case, there is present retardation of growth, rickets, lymphatism, or spermatorrhoea. All

forms of neurasthenia in females are especially relieved by seaside treatment, preeminently those supervening at puberty or at the menopause and those accompanied by dysmenorrhœa, uterine and ovarian affections, visceral ptoses, anæmia, or general debility. The only contraindications are super-sensitiveness to barometric changes and profound general weakness. Hysteria is no bar to the treatment. Neurasthenia accompanying or closely preceding senility calls for the greatest prudence in prescribing the seaside treatment, on account of the circulatory cerebral derangements with which it is most frequently associated; but there is no absolute contraindication, for certain aged neurasthenics, especially men, are notably benefited by the seaside.

The indications are more dependent on the peculiarities of the individual than on the ætiology of his nervous trouble, or, with certain exceptions, on its clinical form. The marine climate is best adapted to those forms of general neurasthenia in which the asthenic element predominates. Gastrointestinal neurasthenia, especially if it is complicated with mucomembranous enteritis, is injuriously influenced by such a climate. Psychic neurasthenia is under no fixed rule as regards thalassotherapy; in it that treatment is not inadmissible, though delirium, hallucinations, morbid impulses, and epileptic manifestations are more or less prohibitive. The symptomatic neurasthenias, especially the "preorganic," such as those preceding tabes or paralysis, do not usually allow the treatment to be well borne. Opinions differ as to the effects of a marine climate on the nervous system of tuberculous persons, some considering them as sedative, others as excitant.

#### THE TREATMENT OF CANCER OF THE TONGUE IN SYPHILITICS.

In our issue for May 9, 1908, we spoke of the diagnosis of lingual cancer in syphilitic subjects. As regards the treatment, it should be prophylactic, and Hallopeau insisted last year, before the French Academy of Medicine, on the fact that certain types of syphilis should be more actively treated in order to prevent the development of epithelioma. If one is dealing with an initial syphiloma, the growth should be cauterized with acid nitrate of mercury after having been anesthetized. For the leucoplakia, Gaucher and Trapenard advise frequent irrigation of the mouth with alkaline solutions where ulceration is present, but if the latter is absent the diseased structures may be cauterized with a weak solution of potassium bichromate, the excess of the latter being removed by careful irrigation. Cauterization of the fissures should be done with chromic acid or the acid nitrate of mercury, and

when the ulcerations are deep the galvanocautery must be resorted to.

The treatment becomes more delicate when the epithelioma has appeared. Horand is inclined to treat the syphilis with mercury. The iodides may produce oedema and a congestive attack in the cancerous ulceration. On the other hand, mercury has given excellent results with Fournier. Mercury should be administered in the form of subcutaneous injections of calomel, given once a week, five centigrammes in each injection, or with the gray oil, the dose of mercury not being more than seven centigrammes. As soon as the lesions become stationary, and the improvement which in the first place showed itself ceases, the injections are to be stopped. This treatment should not be continued too long, otherwise the epithelioma will become aggravated, and the proper surgical procedures will have to be retarded.

Should a radical operation be declined or prove impossible, medicinal treatment offers as a last resort the use of the hydrobromide or hydrochloride of quinine, in amounts of twenty to thirty grains daily for from fifteen to twenty consecutive days, or in hypodermic or intramuscular injections of a fifty per cent. watery solution. Trypanroth may be given subcutaneously, seven grains dissolved in ten drachms of sterilized salt solution. Four or five injections are to be given, and then one should wait until decolorization of the integument occurs, when one or two more are given. This treatment of carcinoma should always be combined with the use of general tonics.

#### THE ASSOCIATION OF AMERICAN PHYSICIANS.

This year's meeting of the association, held in Washington on Tuesday and Wednesday of this week, was among the most notable gatherings of the organization. There was a large attendance of representative men from various parts of the country, the programme contained titles of many topics of prime importance in the progress of medicine, and the discussions were to the point and free of useless talk. The association, now nearing the completion of its first quarter of a century, has done much to further advancement in our art, and its future course may assuredly be looked for for further solid work.

#### FLIES AND MOSQUITOES

The suburban householder is now engaged in taking down his storm windows and putting up his Venetian blinds, preparing to let in the warm airs of summer and keep out the glare of the sun. It is happily coming to be more and more recognized that

an important part of the spring attire of the house is the installation of window screens for the exclusion of flies and other insects. A study of statistics shows a rapid rise in the morbidity of infectious febrile diseases coincident with the advent of the fly and the mosquito, and the householder who adequately protects his house against the visits of these little pests goes a long way toward insuring himself and his family against these infectious diseases. The mosquito is so obnoxious for its immediate effect, the annoyance of its song and of its sting, that much more effort is put forth to destroy it or to protect the household from its effects than is exerted for the purpose of ridding the house of the fly. While the mosquito is the bearer of at least two specific infectious diseases, malarial fever and yellow fever, the fly is known to be mechanically the bearer of a wide variety of infectious diseases, one of the most dangerous of which is typhoid fever. It is quite probable that many of the cases of typhoid fever, the origin of which cannot be traced, are due to infection through the agency of flies, and the housekeeper who keeps her house free from these pests confers a double benefit on her household in promoting cleanliness and the health of its members.

#### INCREASED PAY FOR THE ARMY MEDICAL OFFICER.

The combination of advanced rank given under the measure reorganizing the medical corps of the Army, which was printed in our issue of April 18th, and of increased pay under the Army appropriation bill, which has just been agreed to by Congress, will, it is hoped, make the medical corps so much more attractive to the younger members of the profession that it may be possible to fill the vacancies in the corps and thus furnish a force more nearly commensurate with the tasks confronting this department of the Army.

The increase in pay provided for in the appropriation bill is well deserved, and is far from being liberal when the increased cost of living is taken into consideration. The present pay tables were adopted many years ago, and a comparison of the cost of living then and now would show an increase of probably  $33\frac{1}{3}$  per cent. Recent studies prove that during the past ten years alone there has been an increase of 25 per cent. in the cost of living. In order, therefore, to place the income of the Army officer on a parity with that which he was receiving 20 years ago, taking the cost of living into consideration, his pay should have been increased 25 per cent. This has not been done in the appropriation bill, save in the case of the first lieutenant, who is therefore relatively better off than his superior officers.

cers. The increase provided in the appropriation bill amounts approximately to 20 per cent. for the captain and major, 16 per cent. for the lieutenant colonel, 14 per cent. for the colonel, and 9 per cent. for the brigadier general. It will thus be seen that, taking the increased cost of living into consideration, Congress has not been unduly liberal to Army officers in the matter of pay.

## DERMATOLOGY AND KNIGHTHOOD.

We learn from an editorial article in the April number of the *British Journal of Dermatology* that on March 19th a complimentary dinner was given in London to Sir Malcolm Morris, to congratulate him on the honor recently conferred upon him by the King. The chairman, Dr. H. Radcliffe-Crocker, president of the Dermatological Section of the Royal Society of Medicine, the article goes on to say, pointed out that this was the first time that a title had been given to a dermatologist "in recognition of services rendered in that special branch of medicine." Would it not have been just as well to allow certain people to keep on taking it for granted that the late Sir Erasmus Wilson owed his title to his achievements in dermatology?

## News Items.

**Changes of Address.**—Dr. William Rumfitt Lee, of the New York Lying-in Hospital, New York, to 342 Second street, Troy, N. Y.; Dr. H. Greenstein, to 341 East Fifty-second street, New York.

**The Gloucester County, N. J., Medical Society** will meet in Woodbury, N. J., on Thursday, May 21st, at 2:30 p. m. The principal feature of the programme will be a paper by Professor Orville Horwitz.

**A Department of Psychology at Chautauqua.**—Arrangements have been made for a department of psychology at Chautauqua, N. Y., this summer, and Professor Charles H. Judd, of Yale, will be one of the lecturers.

**The Portland, Me., Medical Club** met on Thursday, May 7. Dr. John F. Thompson was the host, and Dr. George N. Turner was the essayist of the evening, the subject of his paper being Psoriasis.

**Rochester, N. Y., Academy of Medicine.**—At a regular meeting of this academy, which was held on the evening of May 13th, Dr. E. Wood Ruggles read a paper entitled Honor to Whom Honor Is Due—a Tribute to the Late Dr. Henry Koch.

**New York Academy of Medicine.**—At a meeting of the Section in Laryngology, which will be held on Saturday, May 23d, at 8:15 p. m., Dr. Albert Jansen, of Berlin, Germany, will read a paper on Frontal Sinus Disease. Members of the academy and their guests are invited.

**National Association for the Study and Prevention of Tuberculosis.**—The fourth annual meeting of this association will be held at the Auditorium Hotel, Chicago, on June 5th and 6th. An extensive program has been arranged, and the meeting promises to be both interesting and profitable.

**Medical Society of the County of Kings, N. Y.**—A meeting of the Section in Pediatrics was held on Friday evening, May 15th. Dr. H. B. Wilcox, of Manhattan, read a paper entitled Diabetes Mellitus in Infants and Young Children, and Dr. G. F. Little, of Brooklyn, read a paper on the Marantic Infant.

**Summer Session of the University of Michigan.**—The annual summer session of the department of medicine and surgery of the University of Michigan will open on June 22d and close on July 31st. The course is open to all persons qualified to pursue it to advantage, and no formal requirements for admission are exacted.

**More Pay for the Naval Officer.**—Naval surgeons will be interested to learn that on May 12th the House of Representatives adopted the conference report on the Senate amendments to the naval appropriation bill, the effect of which will be to increase the pay in the Navy and the Marine Corps and of officers on the retired list.

**The Birth Rate of France.**—Vital statistics for the year 1907 show a marked decrease in the number of births in France. During the year there were 774,000 births recorded, which was 33,000 less than for the preceding year, while the average decrease for the past seven years has been 12,000. There were 793,000 deaths during the year.

**A Summer Course in Medicine at the St. Louis University.**—A summer course in medicine, beginning May 25th and ending July 4th, has been arranged by the St. Louis University. It is intended for both students and practitioners of medicine, and instructors have been engaged who will deliver lectures on the various branches of medicine.

**Contagious Diseases in Chicago.**—During the week ending May 2, 1908, there were reported to the Department of Health 517 cases of contagious diseases, as follows: Diphtheria, 59; scarlet fever, 75; smallpox, 4; measles, 281; chickenpox, 23; typhoid fever, 18; whooping cough, 11; tuberculosis, 39; minor contagious diseases, 7.

**Connecticut River Valley Medical Association.**—At the annual meeting of this association, held in Bellows Falls, Vt., on May 5th, the following officers were elected: President, Dr. J. A. Stevenson, of Chester; vice president, Dr. O. L. Corliss, of Walpole, N. H.; secretary, Dr. J. S. Hill, of Bellows Falls; treasurer, Dr. Edward R. Campbell, of Bellows Falls.

**Medical Society of the Missouri Valley.**—The annual dinner of the society will be given at the Victoria Hotel, Chicago, on Wednesday, June 3d, at 6 p. m. Tickets may be obtained from the secretary at the hotel. Ladies are invited. On June 5th there will be an excursion to Milwaukee, where the party will be entertained by Dr. C. O. Thienhaus.

**The Medical Society of Richmond County, N. Y.**—The regular monthly meeting of this society was held at the Staten Island Academy of Medicine on the evening of May 13th. Dr. W. R. Bastedo, of Manhattan, read a paper entitled Gastrointestinal Diseases from an Everyday Standpoint, which was discussed by Dr. George Mord and Dr. Goodwin.

**Buffalo Academy of Medicine.**—At a meeting of the Section in Medicine, which was held on May 12th, the general subject for discussion was bacterial vaccines, papers being read as follows: The Vaccines in Their Application to the Ordinary Pyogenic Case, by Dr. Norman K. MacLean; The Vaccines in Their Relation to Erysipelas, by Dr. Thomas J. Walsh.

**The Society of Medical Jurisprudence, New York.**—At the two hundred and fourteenth regular meeting of this society, which was held at the New York Academy of Medicine on the evening of May 11th, Dr. Thomas Darlington, Health Commissioner of the City of New York, read a paper entitled Food and Drug Adulterations; Their Medical and Legal Significance.

**Richmond, Va., Academy of Medicine and Surgery.**—A meeting of this academy was held on May 12th. Dr. Edward McGuire read a paper on Prolapse of the Ovary, which was discussed by Dr. R. D. Garcin. The Technique of Operations on the Mouth and Neck was the title of a paper read by Dr. J. Shelton Horsley. The discussion on this paper was opened by Dr. J. W. Henson.

**The Bristol, Mass., South District Medical Society.**—The annual meeting of this society was held on Thursday afternoon, May 14th. The general subject for consideration was prostatic hypertrophy. Dr. H. C. Allen read a paper on the pathology of the disease, Dr. A. I. Connell dealt with the question of palliative treatment, and surgical treatment was the subject of a paper by Dr. G. de N. Hough.



**A Special Number of the Women's Medical Journal** has been issued with the report of the annual meeting of the Women's Medical Society of the State of New York. The number contains several interesting communications, a handsome portrait of Dr. Sarah Adamson Dolley, of Rochester, president of the Women's Medical Society of the State of New York, and an appreciative editorial notice of Dr. Dolley and her work.

**Personal.**—Dr. Frank K. Sanders, of Boston, has been appointed president of Washburn College, Topeka, Kan.

Dr. George H. M. Rowe, for twenty-nine years superintendent of the Boston City Hospital, has been obliged to give up his position on account of ill health. The trustees of the hospital have given him an indefinite leave of absence. Dr. J. H. McCullom has been appointed head of the hospital during Dr. Rowe's absence.

On May 19th the alumni of the medical department of Tulane University, New Orleans, will celebrate Dr. S. E. Chaillé's fiftieth anniversary as a teacher in the department.

**The Medical Society of the Borough of the Bronx.**—At a stated meeting of this society, held on the evening of May 13th, the following papers were read: Rupture of the Kidney, by Dr. Joseph J. Higgins; Some Observations of the Juvenile Delinquent from a Medical Standpoint, by Dr. William G. Eynon; The Management and Care of Patients with Hemiplegia resulting from Cerebral Apoplexy, by Dr. William M. Leszynsky.

The Annual Meeting of the National Conference of Jewish Charities was held in Richmond, Va., recently. On the last day of the conference the following officers were elected for the ensuing year: President, Dr. Jacob H. Hollander, of Baltimore; first vice president, Mr. Martin A. Marks, of Cleveland; second vice president, Mrs. Max Lowenberg, of New York; secretary, Mr. Louis Lavine, of Baltimore; treasurer, Mr. Bernard Greensfelder, of St. Louis.

**American Surgical Association.**—At the annual meeting of this association, which was held recently in Richmond, Va., the following officers were elected for the ensuing year: President, Dr. C. B. G. Nancrede, of Ann Arbor, Mich.; vice presidents, Dr. A. P. Gerster, of New York, and Dr. Leonard Freeman, of Denver; treasurer, Dr. Charles A. Powers, of Denver; secretary, Dr. Robert G. Leconte, of Philadelphia. The meeting in 1909 will be held in Philadelphia.

**Medical Society of the Woman's Hospital of Philadelphia.**—At a meeting held on Monday evening, April 20th, the following programme was presented: Demonstration of the venous pulse, by Dr. Frances C. Van Gasken and Dr. Anne H. Thomas; a paper on Laryngeal Complications of Typhoid Fever, by Dr. Emma E. Musson; the report of Septic Cases following Childbirth, by Dr. Caroline M. Purnell; and a paper entitled Technique of the Ophthalmoculiculin Reaction, by Dr. Mary C. McClellan.

**College of Physicians, Philadelphia.**—The following programme was presented at a meeting of the Section in Medical History, which was held on Tuesday evening, April 28th: Some Remarks about Dr. Lettsom, by Dr. Charles J. Burr; The State of Medicine as Depicted by Pepys in the Reign of Charles II; Montaigne's Estimate of the Medical Profession, by Dr. Francis B. Packard; the exhibition of a Pharmacopoeia formerly the property of William Penn, by Professor Joseph P. Remington.

**The Philadelphia Academy of Surgery.**—At a meeting of the Academy, held on Monday evening, May 11th, the following papers were read: *A Case of Hemorrhoids*, by J. S. Transfusion, by Dr. Francis O. Allen; *Two Cases of Intestinal Hemorrhage following Abdominal Operation*, by Dr. Charles F. Mitchell; *A Case of Gastrointestinal Hemorrhage following Radical Operation for Hernia*, by Dr. J. S. Transfusion; *A Specimen of Large Fibrosarcoma of the Uterus, Complicated by a Three Months' Pregnancy*, by Dr. Joseph Horowitz.

**American Gynecological Society.**—The thirty-third annual meeting of this society will be held at the Hotel Marlborough, Philadelphia, on May 29th and 30th. All the members are invited to the Anniversary Hall of the College of Physicians. The officers of the society are: President, Dr. J. Mayhew, Philadelphia; President-elect, Dr. J. Mayhew, Philadelphia; Vice-presidents, Dr. J. Mayhew, Philadelphia; Secretary, Dr. J. Mayhew, Philadelphia; Treasurer, Dr. J. Mayhew, Philadelphia; and Executive Committee, Dr. J. Mayhew, Philadelphia.

**Officers of the American Therapeutic Society.**—At the annual meeting of the society, which was held in Philadelphia last week, the following officers were elected: President, Dr. Frederic H. Gerrish, of Portland, Me.; first vice president, Dr. Alexander D. Blackader, of Montreal, Canada; second vice president, Dr. Howard Van Rensselaer, of Albany, N. Y.; third vice president, Dr. Robert T. Morris, of New York; secretary, Dr. Noble P. Barnes, of Washington, D. C.; treasurer, Dr. A. Ernest Gallant, of New York.

**The Medical Society of Washington County, Md.**, met in regular session on Thursday, May 14th. Dr. E. Tracy Smith read a paper on Parasites, and Dr. Clara S. Carley presented the report of a clinical case. The reading of the papers was followed by a general discussion of the relations at present existing between the society and the Washington County Hospital Association. The value of the post graduate course was considered, and the question of physicians' names appearing in the public press in connection with notices of their cases was discussed.

**The Medical Association of the Greater City of New York.**—A stated meeting of this association will be held in Du Bois Hall, New York Academy of Medicine, on Monday, May 18th, at 8:30 p. m. The programme includes the following: Remarks on the Ultraviolet Ray, High Frequency Currents, and Tabes, suggested by the discussion at the March meeting, by Dr. Henry G. Piffard; a paper by Dr. Edward F. Brush, entitled Dairy Dirt (Harmful Dirt; Harmless Dirt; Pathological Dirt; Aesthetic Dirt; Some New Points Relative to Typhoid Fever and Milk); a paper on Diseases Conveyed by Insects, by Dr. John B. Huber.

**Vital Statistics of the Philippines.**—According to the *Quarterly Report of the Bureau of Health of the Philippine Islands*, during the last quarter of the year 1907 the number of deaths registered was 2,502, corresponding to an annual death rate of 44.42 in 1,000 of population, which is somewhat higher than that of the other three quarters of the year. The report shows an increase in the number of deaths from bronchitis, pneumonia, and cholera, but a slight decrease in the number of deaths due to diseases of the alimentary canal. There were 2,293 births registered during the quarter, an increase of 310 over the preceding quarter.

**The Mortality of Chicago.**—According to the bulletin of the Department of Health, for the week ending May 7, 1908, there were during the week 536 deaths from all causes, as compared with 764 for the corresponding period in 1907. The annual death rate in 1,000 of population was 12.90. The principal causes of death were: Apoplexy, 10; Bright's disease, 28; bronchitis, 22; consumption, 67; cancer, 29; convulsions, 5; diphtheria, 10; heart diseases, 54; influenza, 3; intestinal diseases, acute, 32; measles, 2; nervous diseases, 20; pneumonia, 68; scarlet fever, 4; suicide, 9; violence (other than suicide); whooping cough, 1; all other causes, 141.

**Vital Statistics of New York.**—During the week ending May 2, 1908, there were reported to the Department of Health 7,562 deaths from all causes, corresponding to an annual death rate of 17.60 in 1,000 of population. Of the total number of deaths, 888 were in Manhattan, 88 in the Bronx, 479 in Brooklyn, 65 in Queens, and 20 in Richmond. The principal causes of death were: Contagious diseases, 154; pulmonary tuberculosis, 178; pneumonia, 271; organic heart disease, 145; cancer, 62; apoplexy, 100; infectious diseases (under five years of age), 54; suicide, 20; homicide, 2; accidents, 73. There were 151 still births. The number of births recorded during the week was 23,700, and

## Infectious Diseases in New York:

It is suggested to use strong evidence in favor of the treatment of choice in the following treatment of new cases and double selection for the new double cases. The

**Scientific Society Meetings in Philadelphia for the Week Ending May 23, 1908.**—*Monday, May 18th*, North-east Branch, Philadelphia County Medical Society. *Tuesday, May 19th*, Dermatological Society; Academy of Natural Sciences; North Branch, Philadelphia County Medical Society. *Wednesday, May 20th*, Section in Otology and Laryngology, College of Physicians; Association of Clinical Assistants, Wills Hospital; Franklin Institute. *Thursday, May 21st*, Section in Gynecology, College of Physicians; Section meeting, Franklin Institute; Medical Society, Woman's Hospital. *Friday, May 22d*, South Branch, Philadelphia County Medical Society; Northern Medical Association; Philadelphia Neurological Society.

**Philadelphia Polyclinic and College for Graduates in Medicine.**—The following are registered at this college: Dr. N. P. Wood, of Denver, Col.; Dr. W. B. Kearney, of San Francisco, Cal.; Dr. G. C. Snyder, of Moxahala, Ohio; Dr. T. C. Bakes, of Katon, N. M.; Dr. James M. Blackwood, of New Castle, Pa.; Dr. S. Ira McDowell, of Dallastown, Pa.; Dr. L. A. Larson, of Kane, Pa.; Dr. E. H. Hickman, of Kane, Pa.; Dr. Douglas F. A. Jacoby, of Newport, R. I.; Dr. John Lear, of Allentown, Pa.; Dr. Henry F. Schwartz, of Reading, Pa.; Dr. J. C. McAllister, of Ridgway, Pa.; Dr. Norman H. Goodenow, of North Yakima, Wash.; Dr. A. J. Hill, of Canton, Ohio; Dr. Herman D. Andrews, of Buffalo, N. Y.; Dr. H. Wells Woodward, of Washington, D. C.; Dr. H. W. Cowper, of Buffalo, N. Y.; Dr. W. E. McLoughlin, of Minneapolis, Minn.; Dr. Charles H. Brown, of Franklin, Pa.; Dr. J. H. Orison, of Lahore, India, and Dr. R. D. Nicholls, of Glassport, Pa.

**The Health of the Canal Zone.**—During the month of March there were 198 deaths in the Canal Zone, including the cities of Panama and Colon, in a population of 114,920, corresponding to an annual death rate of 20.67 in 1,000 of population. There was 1 death from typhoid fever, 6 from zestivoautumnal malaria; 18 from clinical malaria; 1 from malarial cachexia; 1 from haemoglobinuric fever; 3 from amoebic dysentery; 1 from clinical dysentery; 3 from beriberi; 2 from purulent infection and septicaemia; 17 from tuberculosis of the lungs; 5 from other forms of tuberculosis; 3 from tetanus; 9 from bronchopneumonia; 13 from pneumonia; and 11 from diarrhoea and enteritis, under two years of age. The death rate among the white employees of the commission was 16.75 in 1,000; among the black employees, 10.80 in 1,000; and among all the employees, 12.47 in 1,000. The morbidity rate among all employees was 18.23 in 1,000 of population.

**Charitable Bequests and Donations.**—By the will of Joseph Channon the Bethesda Children's Home, the Children's Hospital, the Episcopal Hospital, the Foster Home, the German Hospital, the Germantown Hospital, the Germantown Relief Society, the Orphan's Home and Asylum for the Aged of the Lutheran Church, Germantown, the Masonic Home of Pennsylvania, the Methodist Episcopal Home for the Aged, the Methodist Episcopal Hospital, the Methodist Episcopal Orphanage, the Odd Fellows' Home, the Samaritan Hospital, the Southern Home for Destitute Children, and the Woman's Hospital, of Philadelphia, became reversionary legatees.

By the will of John A. Brill, the German Hospital, Hayes Mechanics' Home, the Society for Organizing Charities, and the Free Hospital for Poor Consumptives (Whitehaven Sanitarium) receive \$5,000 each; the Home for Incurables receives \$3,000, and the Home for Crippled Children receives \$2,000.

Lord Strathcona and Lord Mount Stephen have each donated the sum of \$1,000 to the General Hospital of Winnipeg, Canada.

The estate of the late Mrs. Thomas T. Kinney has made a gift of \$10,000 to the Babies' Hospital, Newark, N. J., as an endowment fund.

The board of directors of the Whitehaven Sanitarium for consumptives announces the gift of a new cottage, with a capacity of sixteen beds, by Mrs. Henry Phipps, of Pittsburgh.

**The Health of Pittsburgh.**—During the week ending April 18, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chickenpox, 12 cases, 0 deaths; typhoid fever, 26 cases, 6 deaths; scarlet fever, 13 cases, 1 death; diphtheria, 8 cases, 3 deaths; measles, 191 cases, 10 deaths; whooping cough, 8 cases, 1 death; pulmonary tuberculosis, 20 cases, 11 deaths. The total deaths for the week numbered 160 in an estimated population of 403,330, corresponding to an annual

death rate of 20.62 in 1,000 of population. During the week ending April 25, 1908, the following cases of transmissible diseases were reported: Chickenpox, 7 cases, 0 deaths; typhoid fever, 29 cases, 2 deaths; scarlet fever, 21 cases, 2 deaths; diphtheria, 8 cases, 3 deaths; measles, 252 cases, 6 deaths; whooping cough, 26 cases, 2 deaths; pulmonary tuberculosis, 10 cases, 10 deaths. The total deaths for the week numbered 192, in an estimated population of 403,330, corresponding to an annual death rate of 24.75 in 1,000 of population.

**The Health of Philadelphia.**—During the week ending, April 25, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Philadelphia: Typhoid fever, 95 cases, 13 deaths; scarlet fever, 52 cases, 6 deaths; chickenpox, 41 cases, 0 deaths; diphtheria, 54 cases, 9 deaths; cerebrospinal meningitis, 1 case, 0 deaths; measles, 508 cases, 10 deaths; whooping cough, 38 cases, 1 death; pulmonary tuberculosis, 109 cases, 56 deaths; pneumonia, 80 cases, 56 deaths; erysipelas, 10 cases, 0 deaths; puerperal fever, 5 cases, 2 deaths; mumps, 33 cases, 0 deaths; cancer, 23 cases, 25 deaths; tetanus, 1 case, 1 death. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 14; diarrhoea and enteritis, under two years of age, 11. The total deaths for the week numbered 499 in an estimated population of 1,532,738, corresponding to an annual death rate of 16.90 in 1,000 of population. The total infant mortality was 111; under one year of age, 75; between one and two years of age, 36. There were 39 still births; 20 males, and 19 females.

**American Protogological Society.**—The tenth annual meeting of this society will be held in Chicago, June 1st and 2d. The preliminary programme, which we have just received, includes a long list of papers by well known specialists in diseases of the rectum, among whom are the following: Dr. William M. Beach, of Pittsburgh, Pa.; Dr. John L. Jelks, of Memphis, Tenn.; Dr. Samuel T. Earle, of Baltimore; Dr. Samuel G. Gant, of New York; Dr. Joseph M. Mathews, of Louisville, Ky.; Dr. William L. Dickinson, of Saginaw, Mich.; Dr. Jerome M. Lynch, of New York; Dr. J. A. MacMillan, of Detroit; Dr. T. C. Hill, of Boston; Dr. Collier F. Martin, of Philadelphia; Dr. George B. Evans, of Dayton, Ohio; Dr. Dwight H. Murray, of Syracuse, N. Y.; Dr. James P. Tuttle, of New York; Dr. Louis J. Hirschman, of Detroit; Dr. J. Rawson Pennington, of Chicago; Dr. Louis J. Krouse, of Cincinnati; Dr. Edwin A. Hamilton, of Columbus, Ohio; Dr. B. Merrill Ricketts, of Cincinnati; Dr. Leon Straus, of St. Louis; and Dr. Lewis H. Adler, Jr., of Philadelphia. The officers of the society are: President, Dr. A. Bennett Cooke, of Nashville, Tenn.; vice president, Dr. Louis J. Krouse, of Cincinnati, Ohio; secretary and treasurer, Dr. Lewis H. Adler, Jr., of Philadelphia.

**The Army Pay Bill and the Officers of the Medical Corps.**—The Army appropriation bill which provides for the pay of officers and men of the Army has, after various amendments, been at last agreed to by a conference committee of the Senate and the House of Representatives. The report of the conference committee has been accepted and it is quite probable that the measure will be signed by the President in the near future. In our issue of April 18th we printed the text of the measure providing for the reorganization of the Army Medical Department, which changes the title of the department to Medical Corps, drops the titles of surgeon, assistant surgeon, etc., and leaves the officers of the corps to be designated simply by their military titles. This measure also provides for a material increase in the number of the officers in the corps and for the establishment of a reserve medical corps. The appropriation bill as finally adopted provides for a flat increase of \$500 a year in the salary of officers, save that the increase in the pay of the first lieutenant and captain is only \$400. The measure also provides for an increase in the pay of enlisted men and noncommissioned officers of the hospital corps, and specifically provides against the use of this rate of pay as a basis on which to compute the pay of naval officers.

**Clinical Week at Boston University.**—In response to many requests from physicians throughout New England, the faculty of the Medical School of Boston University has arranged for a short course of general clinical instruction. This course will be held during commencement week, June 1 to 6, 1908. The sessions will begin daily at 9 a. m. and continue till 4 p. m., the entire time being fully occupied by clinics, clinical lectures, lectures and demonstra-



tions. More than thirty professors and lecturers will participate, each dealing with the particular subject in his own line that he considers of most general value. General medicine, surgery, gynecology, and the various specialties will all be represented, as well as other miscellaneous subjects. The course will be so arranged that each attendant can be present at every exercise and can thus obtain a survey of a large field in a comparatively short time. Sessions will be held at the Medical School buildings, at the Out Patient Department of the Hospital, and in the amphitheatre and the clinical lecture room of the main building of the hospital. Free use will be made of the large amount of clinical material available in these closely connected institutions, as well as that from other sources. The course will be open without fee to graduates of any reputable medical college. The number admitted will be limited, tickets being issued in the order of application. Further information and tickets admitting to all sessions may be obtained from the registrar, Dr. Frank C. Richardson, 80 East Concord street, Boston.

**Philadelphia County Medical Society.**—A meeting of the West Branch of this society was held on Friday evening, May 15th. The guest of the evening was Dr. Theodore B. Appel, of Lancaster, Pa., who read a paper entitled Lancaster County and Its People and the Practice of Medicine Therein. The paper gave a historical sketch of the people of the county, describing some of their characteristics and the difficulties the medical man meets in practicing among them. Dr. Julius F. Sachse also contributed some historical notes on medical practice in Lancaster County. Dr. A. B. Hirsh exhibited a copy of the manual of practice of the hydropathic institution that existed at Ephrata Springs early in the last century, and related some of the experiences of medical students in Lancaster County. Dr. Samuel Skillern read a paper entitled Reminiscences of the Practice of Medicine in the Early Days of Western Philadelphia. Dr. Charles W. Dulles opened the discussion on this paper.

At a meeting of the Central Branch of this Society, which was held on Wednesday, May 13th, the evening was devoted to a "symposium" on lateral curvature. Dr. James K. Young presented patients who had been cured of lateral curvature by light gymnastics and selective exercises. Dr. H. O. Feiss, of Cleveland, Ohio, read a paper on the Mechanism of Lateral Curvature. Dr. H. Augustus Wilson exhibited lantern slides showing faulty postures in school children which produce lateral curvature. Dr. Harry Hudson demonstrated his new scolometer. Among those who took part in the discussion were Dr. de Forrest Willard, Dr. James P. Mann, and Dr. J. Torrance Rugh.

#### Society Meetings for the Coming Week:

**Monday, May 18th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Hartford, Conn., Medical Society.

**Tuesday, May 19th.**—New York Academy of Medicine (Section in Medicine); Medical Society of the County of Westchester, N. Y.; Buffalo Academy of Medicine (Section in Pathology); Tri-Professional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Binghamton, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital; Syracuse, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association.

**Wednesday, May 20th.**—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery; Woman's Medical Association of New York City (New York Academy of Medicine, annual); Medical-Legal Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club (annual); New Haven, Conn., Medical Association; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York.

**Thursday, May 21st.**—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Tinselman Club of Buffalo, N. Y.

**Friday, May 22nd.**—Academy of Pathological Science, New York; New York Society of German Physicians; New York Clinical Society.

**Saturday, May 23rd.**—West End Medical Society, New York; New York Medical and Surgical Society; Harvard Medical Society, New York; Lenox Medical and Surgical Society, New York.

## Proceedings of Societies.

**THE ASSOCIATION OF AMERICAN PHYSICIANS.**  
*Twenty-third Annual Meeting, Held in Washington, May 12 and 13, 1908.*

The President, Dr. JAMES TYSON, of Philadelphia, in the Chair.

**The President's Address.**—Dr. TYSON referred to the organization and development of the association, and spoke of some of the eminent men who had been members and officers in past years. He referred to the numerous papers of great scientific importance that had been read at its meetings and that were collected into the twenty-two volumes of its *Proceedings*. During the year Dr. Charles Follen Folsom, of Boston, and Dr. James Carroll, of the United States Army, had been removed by death.

**Experimental Ligation of the Coronary Arteries of Dogs, and Its Bearing on the Treatment of Angina Pectoris.**—Dr. JOSEPH L. MILLER and Dr. S. A. MATTHEWS, of Chicago, said in this paper that it had been found that after ligation of the main trunk of one of the coronary arteries the heart stopped beating. According to some investigators, both ventricles stopped at once; according to others, the ventricle which was supplied by the ligated vessel ceased beating first. According to Spalteholz and Hirsch, the coronary arteries were not terminal arteries. The work undertaken by the writers of the paper had had for its object the determination of the relation of ligation of the coronary arteries to the symptom complex known as angina pectoris. It was noted that after the operation clinical features closely resembling those of angina pectoris developed. The animals used were divided into three groups. One group was untreated; one was treated with nitroglycerin after the operation; and the other group was treated with digitalis or strophanthus. Nitroglycerin apparently did the animals no good after the operation, but strophanthus, on the other hand, elevated the blood pressure and improved the systole. These results appeared to confirm the statement that the digitalis group was better for the treatment of angina pectoris than the nitrates.

Dr. WILLIAM H. WELCH, of Baltimore, asked if the investigation had added anything to our knowledge of the terminations of the coronary arteries. It was generally believed that the intramuscular branches of the coronary arteries were terminal, and that the epicardial branches had anastomoses. It had always been held that anæmic necrosis was constant after closure of the intramuscular vessels.

Dr. S. SOLIS COHEN, of Philadelphia, said that it was by no means sure that the post mortem lesions represented the conditions present in the early stages of angina pectoris. These lesions represented the results of permanent interference with the circulation. The paroxysm of angina pectoris was a temporary condition, not a permanent one. Those paroxysms which ended in death could not, of course, be relieved with nitroglycerin. On the other hand, the temporary attacks were relieved with nitroglycerin.

Dr. ROBERT W. HATCHER, of Chicago, said that it was his opinion that the blood pressure had much to do with the attacks of angina pectoris and the influence of the nitrates. If there was a high sys-



tolie blood pressure the nitrites relieved the attack; if, on the contrary, the systolic pressure was low, the nitrites failed to relieve.

Dr. ALEXANDER MCPHEDRAN, of Toronto, said that, in his experience, when the blood pressure was high, the nitrites did not relieve the attack. He referred to a case in which the systolic pressure was 217 millimetres, in which no results were obtained with nitroglycerin.

Dr. MILLER said that he had not studied the effects of the ligation of the intramuscular vessels. In his experiments the left ventricle had always been arrested first. He believed that the paroxysms of angina pectoris were not due to a temporary condition, but that we were dealing with the permanent occlusion of a vessel. The necessary feature of treatment in such cases was to endeavor to improve the condition of the heart muscle, not to relieve peripheral tension.

**Some Lesions of Experimental Nephritis.**—Dr. H. A. CHRISTIAN, of Boston, presented the results of a study of the pathological conditions found in experimentally produced nephritis in dogs. He had found, first, a glomerular lesion which presented the appearance of droplets, of varying degrees of coarseness, which stained blueblack with Mallory's phosphotungstic acid, hæmatoxylin method, in the walls of the glomerular vessels. These droplets were found in eleven out of thirteen animals in which nephritis had been produced by uranium nitrate. In twelve control animals in which the nephritis had been produced by other substances this lesion was found but twice, and then in relatively small amount. Second, he had found hyaline droplets in the renal epithelium lining the tubules in dogs poisoned by uranium nitrate, in cases of acute nephritis in man, and in the toxic nephritides of other animals. Third, in some of the animals poisoned by uranium nitrate he had found a change in the epithelium lining the collecting tubules, and to a less extent in that lining the convoluted tubules, which was characterized by an increase in the thickness of the hyaline layer at the base of the epithelial cells, and a loss of nuclei and of the granules in the cytoplasm of the cells.

**A Review of Theoretical Considerations and Experimental Work Relative to Opsonins, with Observations Made at the Saranac Laboratory.**—Dr. EDWIN R. BALDWIN, of Saranac Lake, N. Y., doubted the occurrence of specific opsonins in blood serum. He believed them to be the same as the body known as the amboceptor. At the Saranac Laboratory he and his coworkers had found that protective inoculations of weakly virulent opsonized bacilli in guinea pigs provoked more extensive and more severe local inflammation. After the use of tuberculin for diagnostic purposes, no constant influence on the opsonic index was noted.

**A Classification of Acidoses.**—Dr. JAMES EWING, of New York, said that acid intoxication occurred in diabetes, starvation, phosphorus poisoning, the toxæmia of pregnancy, cyclic vomiting of children, delayed chloroform poisoning, and other morbid conditions, in each of which the abstraction of fixed alkalis or the direct toxic action of the salts of the acid compounds was supposed to contribute to or to dominate the symptoms. He sug-

gested the following division of these conditions: 1. Experimental type, hydrochloric acid poisoning; clinical forms, diabetic acidosis and the acidosis of starvation; the acetone bodies were present and the urinary ammonia was proportional to them; there were no characteristic pathological lesions in this form. 2. Experimental type, extirpation of the liver or Eck fistula; clinical forms, phosphorus poisoning, toxæmia of pregnancy, cyclic vomiting, chloroform poisoning; lactic acid was formed in the urine and urinary ammonia was in excess of the acetone bodies; pathologically, excessive fatty degeneration was found. While the urinary ammonia was accepted as the measure of acidosis, there was reason to believe that its significance was not the same in the two types of acid intoxication. The marked difference in the observed pathological changes in the two types would seem to distinguish them still further.

Dr. LEWELLYN F. BARKER, of Baltimore, referred to cases of acidosis in which there was high urinary organic acidity.

Dr. J. P. CROZER GRIFFITH, of Philadelphia, referred to the cyclic vomiting which was said by some observers to be due to acetonaemia, but said that he could not agree to that theory.

Dr. DAVID L. EDSALL, of Philadelphia, agreed that there were two types of acidosis, but the whole subject was still very indefinite.

Dr. S. SOLIS COHEN, of Philadelphia, said that the acid excreted was certainly doing no harm, and asked if there was not also acid retention. He could conceive that acid intoxication might be due to the excessive neutralization of alkalis.

Dr. EWING said that it was doubtful if the acetone in the blood was sufficient to account for the symptoms of cyclic vomiting in children. He was aware of the uncertainty of the whole subject. The significance of the formation of ammonia was not definitely known, but it was thought to be a compensatory process. He, however, believed it to be more than that. The estimation of acidosis by the urinary ammonia was unsatisfactory.

**Experiments with an Ash Free Diet.**—Dr. E. P. JOSLIN and Dr. H. W. GOODALL, of Boston, had fed two healthy men on Taylor's ash free diet, composed of the whites of eighteen eggs, 200 grammes of crystallized sugar, and 120 grammes of olive oil freed from salts, until the daily excretion of chlorine was as low as 0.17 gramme. No symptoms of acid intoxication appeared, and at no time was acetone detected either on the breath or in the urine. The two subjects experienced marked loss of weight. In a first experiment the weight was regained within four days after a return to an ordinary diet. In a second experiment the weight was nearly all recovered in three days, when twelve grammes of salt was added to the salt free diet daily. The assimilation of food was excellent, although the subjects had no appetite and were mentally depressed. In one of the subjects 4,090 c.c. of urine was passed four days after the return to a normal diet in which there were twenty-five grammes of chlorine. The urinary ammonia was increased slightly toward the end of the experiment. In a case of diabetes with moderate nephritis absolute carbohydrate intolerance developed during an acute

illness. The chlorine in the urine gradually fell to less than 0.4 gramme in twenty-four hours, but the change in acidosis was insignificant. The experiments did not confirm the observation that an ash free diet produced acidosis. The withdrawal of salts, on the other hand, caused no change in metabolism, and produced no acidosis.

Dr. EDSALL said that Dr. Taylor's experiments had no bearing on diabetic acidosis or on the metabolic changes of carbohydrates and fats. The results did show that there were two forms of acidosis. As Taylor got an acidosis in himself on this diet, it indicated that there was more than one cause for the condition; at times acidosis might follow the administration of a salt free diet.

Dr. EWING said that he had drawn the same conclusion from Taylor's work that Dr. Joslin had. The central point in the discussion was, How much withdrawal of alkalies could be stood without the production of symptoms?

Dr. JOSLIN said that Dr. Taylor deserved great credit for inaugurating a new form of diet, which had led to interesting results.

#### On the Relation of the Parathyroid Glands to Calcium Metabolism and the Nature of Tetany.

—Dr. W. G. MACCALLUM and Dr. CARL VOEGTLIN, of Baltimore, pointed out that the convulsive and other symptoms of tetany which resulted from the extirpation of the parathyroid glands might be rapidly benefited by the administration of a soluble salt of calcium. Given by the mouth, it was not so rapidly curative as by intravenous administration. Metabolism studies on dogs with tetany had shown an increased calcium elimination, while the blood and the tissues were found to be deficient in calcium. It appeared probable that the parathyroid bodies had a control over the calcium metabolism, and that loss of calcium from the brain and the other tissues was the cause of tetany.

Dr. JOHN H. MUSSER, of Philadelphia, referred to a case of adenocarcinoma of the thyroid body and lymph nodes of the neck in which the parathyroid bodies were probably removed with the diseased tissues. Five days after the operation tetany developed. Large doses of calcium lactate, in combination with morphine, relieved the symptoms. Forty-eight hours after the calcium lactate was withdrawn the symptoms of tetany returned. Calcium lactate was again given, and the symptoms disappeared.

Dr. E. H. GOODMAN, of Philadelphia, had studied the metabolism in Dr. Musser's patient. The calcium balance was minus on one day of tetany and plus on another day. He thought there was no relation between calcium and tetany. The persistently high urinary nitrogen excretion in this case made one suspicious of an acidosis as responsible for the symptoms. It was possible that calcium under such circumstances acted as any base would act.

Dr. S. J. METZGER, of New York, referred to a case of tetany in the practice of Dr. Elsberg. Upon the administration of calcium lactate the symptoms subsided. When the calcium salt was omitted for forty-eight hours the symptoms returned, to disappear upon the readministration of calcium lactate. It appeared to him that calcium was capable of correcting the balance of inorganic salts; similar results would be produced by sodium, potassium, or

magnesium. In other words, it might act by preserving the equilibrium of inorganic metabolism.

Dr. EDSALL referred to a case of myasthenia gravis, in which a study of the metabolism showed an excess of calcium in the urine. Similar results had been seen in his laboratory in acromegaly and in cases of acidosis. He did not know whether there was an excess or a diminution of calcium in the blood. He had given calcium lactate to the patient with myasthenia gravis with benefit.

Dr. MACCALLUM had seen a case of tetany in a woman which was relieved by calcium lactate and recurred when the calcium salt was stopped. He had also an idea that there was a relation between acidosis and tetany, as the amount of ammonia in the blood was increased.

**An Unusual Paroxysmal Syndrome Probably Allied to Recurrent Vomiting, with a Study of the Nitrogen Metabolism.**—Dr. THEODORE JANEWAY, of New York, reported the case of a girl, aged sixteen years, who had had attacks characterized by epigastric pain, general abdominal pain, pain in the shoulder, hips, and other joints, loss of appetite and salivation, fever to 104°, a rapid pulse to 140, nausea, vomiting with retching, a heavy but not sweet breath, rigidity and tenderness of the abdomen, mostly in the right lower quadrant, polymorphonuclear leucocytosis, and loss of weight. These attacks had been experienced since birth at varying intervals. After the attack there was leucopenia, with renewal of weight and strength. The saliva was always acid; the vomitus contained abundant free hydrochloric acid; the stomach contents between the attacks showed excessive hydrochloric acid; the urine usually showed a trace of albumin and acetone. A study of the metabolism on a purin free diet showed little deviation from the normal, except for a marked decrease in the uric acid and a slight increase in the urinary ammonia during two of the attacks. The condition might be due to a recurring infection, such as a small pancreatic calculus, with inflammation, a recurring toxæmia, or a neurosis.

Dr. E. P. JOSLIN, of Boston; Dr. WALTER B. JAMES, of New York, and Dr. DAVID L. EDSALL, of Philadelphia, referred to similar cases. Dr. Edsall had eliminated fats from the diet in his case, and the patient had had no attacks for a year.

Dr. JANEWAY referred to the possibility of such a patient being operated on for appendicitis.

**Some Cases Presenting a Recurrent Syndrome Apparently Due to Exposure to Heat.**—Dr. EDSALL reported four cases which he had observed in which, after exposure to intense heat, the patients had exhibited a high degree of hypermyotonia, resembling tetany. There was no exaggeration of the reflexes, no central nervous system symptoms, and all indications pointed to a peripheral condition due to heat. There were cramps in the legs. Blood pressure observations, blood counts, and ordinary routine urinary examinations indicated that the condition was probably toxic. Since observing these cases he had discovered by correspondence that in the merchant marine, the United States Navy, and the Pennsylvania Railroad service the syndrome was well known and was considered to be due to heat. In the navy as many as 100 cases to 1,000 men have been observed annually.

*To be continued.*

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

May 7, 1908.

To Reginald Heber Fitz, M. D., LL. D., in Honor of his Sixty-fifth Birthday.

1. Reginald Heber Fitz.
2. Some Blood Pressure Observations in Eclampsia,  
By GEORGE S. C. BADGER.
3. Two Cases of Atypical Leuchæmia,  
By WILLISTON W. BARKER.
4. On the Toxine of Eclampsia, By WILLIAM F. BOOS.
5. The Tent Ward at the Massachusetts General Hospital,  
By L. H. BURLINGHAM.
6. The Histology of Multiple Myeloma. A Comparative Study of Sixteen Cases, By HENRY A. CHRISTIAN.
7. The Use of Human Milk in Typhoid Fever to Increase the Bacteriolytic Power of the Blood,  
By FRANCIS P. DENNY.
8. Bronchopneumonia: Its Clinical Types in Relation to Ætiology,  
By CHARLES HUNTER.
9. The Diagnosis of Circulatory Conditions by Temperature Measurements,  
By THEODORE JEWETT EASTMAN.
10. On the Translation of Clinical Descriptive Terms into their Histological Equivalents in Diseases of the Nose and Throat,  
By J. L. GOODALE.
11. The Clinical Value of the Estimation of Ammonia in Diabetes,  
By HARRY W. GOODALL and ELLIOTT P. JOSLIN.
12. The Study of the Functions of the Alimentary Tract for the Digestion and Absorption of Food by the Examination of Fæces in Clinical Work,  
By HENRY F. HEWES and HERMAN W. OSLER.
13. Blood Cultures in Typhoid Fever, with Comments upon the Hospital Treatment,  
By ELLIOTT P. JOSLIN and CHARLES P. OVERLANDER.
14. The Use of Tuberculin in the Treatment of Localized Tuberculosis Excluding Pulmonary Tuberculosis,  
By ROGER I. LEE.
15. Hodgkin's Disease with Eosinophilia: Report of a Case with Autopsy,  
By MERRICK LINCOLN.
16. Sahli's Butyrometric Test of Gastric Function,  
By FRANCIS W. PALFREY.
17. On the Occurrence of Steatorrhœa Unassociated with Jaundice or Demonstrable Pancreatic Disease,  
By JOSEPH H. PRATT and ROYAL HATCH.
18. Fact and Speculation Concerning the Nature of Typhoid Fever,  
By MARK WYMAN RICHARDSON.
19. Primary Sarcoma of the Pleura,  
By WILLIAM B. ROBBINS.
20. General Streptococcus Infection through Unrecognized Channels: A Report of Two Cases,  
By WILBUR A. SAWYER.
21. The Origin of Urinary Casts; An Experimental Study,  
By R. M. SMITH.
22. Age in Its Relation to Arteriosclerosis and Death from Arteriosclerosis,  
By WILLIAM H. SMITH.
23. Tuberculous Peritonitis,  
By ARTHUR K. STONE.
24. On the Early Diastolic Heart Sound (the so Called Third Heart Sound), By WILLIAM SYDNEY THAYER.
25. The Value of Lumbar Puncture in Syphilitic and Parasyphilitic Diseases of the Nervous System,  
By G. A. WATERMAN.
26. Acute Yellow Atrophy of the Liver,  
By FRANKLIN W. WHITE.

2. **Some Blood Pressure Observations in Eclampsia.**—Badger has studied this question and observes that the blood pressure in eclampsia is high, and of diagnostic and prognostic importance. In spite of improvements in subjective symptoms and increase in the quantity of urine, the blood pressure may remain high, in which case the prognosis is grave, and labor ought to be induced. The continuance of high blood pressure during the puerperium warrants a grave prognosis as to complete recovery.

6. **The Histology of Multiple Myeloma.**—Christian has observed eleven cases of multiple mye-

loma. The histological study of these cases shows a striking similarity of cell structure with differences of minor degree. The common characteristics of the cells are a finely granular, slightly basophilic cytoplasm, an eccentrically placed nucleus, a nucleolus, centrosomes, a nuclear membrane, and a tendency to mural arrangement of the chromatin. Certain nuclear changes, regarded as the results of degeneration, are commonly found. Mitotic figures occur in most of the cases studied by him, though absent in a few. Myelomata are to be classed with the tumors. They tend to remain localized in the bone marrow, but almost all show evidence of invasive growth into adjacent structures, and in a few metastasis has taken place. These tumors, then, are malignant in the usual sense of the word, but their malignant properties are apt to appear relatively late in many cases. With these characteristics there is a greater resemblance of the tumor cells to bone marrow plasma cells than to myelocytes. In most of the cases reported by other observers the cells show these characteristics and these tumors from a group within which the cells of individual cases show no greater variation than occurs in other tumor groups.

9. **The Diagnosis of Circulatory Conditions by Temperature Measurements.**—Eastman has found that the variation in temperature between rectum and hand in healthy persons averages  $0.6^{\circ}$  to  $1.3^{\circ}$  C., and is greater in cases of cardiac disease, except in aortic insufficiency. There is a characteristic difference in the peripheral circulation in aortic insufficiency as contrasted with other heart lesions. Muscular exertion, even to fatigue, in a person with a normal heart, causes a rise in temperature in the extremities. Fatigue in a case of cardiac decompensation causes a fall in the peripheral temperature. Therefore this method of temperature measurement is a simple and useful addition to the other methods in use for the examination of cardiac cases, and for the distinction of cardiac sufficiency or insufficiency. It is a means of determining the effect of exercise, either active or passive, upon cardiac cases, and furnishes us with a method of distinguishing the œdema arising from passive congestion from that due to nephritis.

11. **The Clinical Value of the Estimation of Ammonia in Diabetes.**—Goodall and Joslin find that quantities of ammonia reaching 5 grammes in twenty-four hours indicate an extremely severe form of diabetes, which usually proves fatal within a year. Patients under forty years of age tolerate an acidosis estimated in terms of 4 to 5 grammes ammonia far better than those above fifty years tolerate an acidosis of 2.5 to 4 grammes ammonia. An acidosis in an individual above fifty years of age is of a very serious prognostic import. A knowledge of the ammonia excretion usually helps in the treatment of a case of diabetes, and generally, but not always, gives warning of impending danger. The value of a knowledge of the ammonia excretion in the prognosis of a diabetic patient is enhanced by a knowledge of the quantity of albumin and carbohydrate in the diet. A lowering of the carbohydrate intake in a severe case of diabetes from a total of 80 grammes to 55 grammes in twenty-four hours produces little effect upon the acidosis.

21. **The Origin of Urinary Casts.**—Smith has



made some experiments on rabbits in producing nephritis, using uranium nitrate, potassium bichromate, trypan red, arsenic, and cantharides. He found that it is possible by the injections of irritants to produce in rabbits an albuminuria and cylindruria dependent upon lesions of the kidney simulating nephritis in man. Granular casts are the first to appear in the urine when the kidney is attacked by an irritant. Casts are more common in the urine when the kidney lesion is primarily a necrosis of the tubular epithelium, and arise from the degeneration and necrosis of the cells of the tubular epithelium of the kidney. Entire necrotic cells may desquamate and at first remain distinct from one another, then become massed together, and finally formed into a definite plug, taking the shape of the tubule in which it is formed. The same process takes place with cell fragments and granular material derived from disintegrated cells. The casts are all granular at first and later become hyaline as they pass down the tubule in the urinary stream.

**22. Age in Its Relation to Arteriosclerosis and Death from Arteriosclerosis.**—Smith found that in his series of 2,000 autopsies, 442 cases, or 22.1 per cent., showed more or less arteriosclerosis. Arteriosclerosis was three times as common in the male as in the female. It occurred no earlier in the colored race in this series. The average age of the cardiorenal group was nearly fifty-five. The average age of the cerebral group was nearly sixty. Fifty per cent. of the cases of cerebral hemorrhage occurred in the fifth and sixth decades, and was three times as common in the male as in the female. All the cases of aneurysm were in males. The average age of death was nearly forty-five. Death from gangrene and diabetes was incident to the last decades—the sixth and seventh; the average age nearly sixty-five.

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 16, 1908

1. Paravertebral Triangle of Dulness (Grocio's Sign) in a Case of Abdominal Multilocular Cystadenoma.  
By FRANK SALTZSTEIN.
2. Distinction of *Bacillus Coli Communis* from Allied Species in Water.  
By D. RIVAS.
3. Psychotherapy, with Some of Its Results.  
By BLANCHET M. HENRIET.
4. Typhoid Fever.  
By J. H. LANDIS.
5. Intracanal Drainage of the Prostatic Sinus.  
By J. LUTHERUS EVANS.
6. Practical Cystoscopy: Its Scope and Limitations, with a Review of the Prominent Cystoscopes of the Present Day.  
By ROBERTSON LEITCH.
7. Hatchup and Chert Palate.  
By ARTHUR WOOD HENRIET.

**2. Distinction of *Bacillus Coli Communis* from Allied Species in Water.**—Rivas thinks that the saccharolytic group represents not only one but different kinds of microorganisms commonly found in nature, especially in water, characterized by its predominating action in splitting dextrose. The constant occurrence of this group in water may prove to be a factor in itself which may shed a new light on our vital problems of the bacteriology of water. The *Bacillus communis* must not be confounded with the colon group, which he calls "saccharolytic group," believing that this group should have no relation to the colon bacillus. Since the saccharolytic group is shown to be more closely related to what at present

is regarded as the colon group, the substitution of "saccharolytic group" for "colon group" is more comprehensible, and he thinks will aid considerably, not only in relieving the confusion which the colon group presents, but especially in establishing the colon bacillus as a distinct type of microorganism and not an indefinite chain of them, as it is considered at present. *Bacillus coli communis*, in addition to the recognized characteristics, will fail to exhaust the sugar in 1 per cent. dextrose bouillon at 37° C. in forty-eight hours, while contrary to this, the saccharolytic group may in many ways present characteristics of the colon bacillus, but will always exhaust the sugar in forty-eight hours at 37° C. in 1 per cent. dextrose bouillon. *Bacillus coli communis* should be discarded as an agent for exhausting the sugar in the meat juice and one of the saccharolytic group should be used instead.

**3. Psychotherapy.**—Hinkle understands under psychotherapy all forms of mental treatment, whether accompanied by hypnosis or without. The hypnotic state is not primarily the result desired, but the receptive condition induced by that state, in order that the curative suggestion given may be accepted without interference from the objective self. Hypnosis of itself without suggestion never accomplished anything; the forceful directions given the patient during the responsive state of hypnosis achieve the results. The author has had six years of experience with suggestive therapy, the last two years exclusively, and she finds that the most intelligent Americans yield more readily to mental treatment than the foreign born clinical patients. There are two distinct types of patients—the one who is afraid he will go to sleep, and the other who is afraid he will not. Both of these have to be met and dealt with accordingly. The former, after a few simple explanations, usually lose this feeling. The latter class are perhaps a little more difficult, because as a rule they have fixed ideas as to the only way in which they can be helped, and if they are not conscious of being asleep and amnesic they will declare that they are not influenced at all, and by their own strong autosuggestion in many cases will counteract the physician's influence. In a few of these cases, when reason could not be used, she has employed hypnotic drugs for their quieting influence and to heighten the verbal suggestion. In all she has used these drugs about six times, giving either bromide or paraldehyde. The results have been favorable in all the cases except one insomniac patient, and in that case she could neither influence the patient with drugs or without, and apparently made no impression of any kind. It is not wise to use drug therapy at the same time as suggestive therapy, for the divided attention of the patient seems to weaken the suggestive effect, and for that reason he never combines the two unless it is especially indicated, or is merely the prescribing of a simple tonic.

**6. Practical Cystoscopy: Its Scope and Limitations.**—Lewis remarks that the purposes of urethral catheterization are twofold, for diagnosis and for treatment. The diagnosis of (A) is based on the origin of pus, blood, tuberculous products, or bacteria; the various pyogenic infections, abnormally desquamated epithelium, etc., as to whether they come from (1) the bladder, (2) the right ureter, (3) the

left ureter, (4) the right kidney, (5) the left kidney, (6) the right or (7) the left perirenal space, communicating with the corresponding kidney or ureter. (B) To recognize and locate obstructive conditions in the right or left ureter from (1) stricture, (2) stone, (3) adjacent tumor, (4) bend or kink in the ureter from movable or dislocated kidney, (5) valvular junction of the ureter with its pelvis. (C) To determine (1) the number of kidneys present; (2) if only one, which is absent. (D) To determine the number of ureters present. (E) To determine the functional activity of each kidney separately and relatively, with respect to its excretion of urea, albumin, quantity of urine, the specific gravity, etc. (F) To determine the size and capacity of each kidney pelvis, with respect to (1) hydronephrosis, (2) pyonephrosis, (3) total obliteration of secreting tissue. (G) If there is kidney disease present, to determine (1) if only one kidney is affected or both; (2) if only one, which is the affected one; (3) if both, which is the one more affected; (4) if removal of the worse one be advisable, is the other one able to carry on kidney function sufficiently; (5) if removal of one be advisable and the other is capable of supporting life, will the operation remove the infection from the body, removing the possibility of dissemination or recontamination? For Treatment.—(A) To enlarge narrowings or strictures at (1) the ureter openings, or (2) in the channels at any point; (3) by facilitating drainage through the increased ureter calibre thus obtained, to assist in the improvement of pyelitis or pyonephrosis, unilateral or bilateral. (B) To irrigate and medicate (1) the ureters, (2) the kidney pelvis, of one or both sides. (C) To assist, by anesthetizing, lubricating, or enlarging a ureteral orifice, the passage through it of a calculus or plug of pus, blood, etc. (D) To use the ureter, after it is catheterized, as a guide in certain abdominal and pelvic operations. (E) By prolonged catheterization and drainage of a ureter, to facilitate the cure of ureteral fistula.

#### MEDICAL RECORD.

May 9, 1908.

1. Darwinism and Diabetes, By R. G. ECCLES.
2. Cerebellar Hemorrhage; Remarks on the Functions of the Cerebellum. By JOSEPH COLLINS.
3. Report of Nine Cases of Fracture of the Carpal Scaphoid, By LEONARD W. ELY.
4. The Pulse of the Nervous System, By J. HENRY DOWD.
5. Some Considerations in the Management of Burns and Scalds in Infants and Children, By MEDWIN LEALE.
6. A Report of Fifty Cases Tested by the Calmette Ophthalmoreaction Test for Tuberculosis, By CHARLES GRAEF.
7. Success and Failure in Nauheim Cures, By PAUL C. FRANZE.

1. **Darwinism and Diabetes.**—Eccles remarks that nothing in Nature is more closely associated with every form of evolution than is disease. The healing forces are as truly physiological as are those of assimilation and growth. The processes of disease are aimed not at the destruction of life, but at the saving of it. If it were not for disease in the popular sense the human race would soon be extinct. These sentences the author has taken from a speech of Sir Frederick Treves. For centuries there has been presented the strange spectacle of men of science struggling to the utmost to thwart, to curb, to

annihilate, a process of cure. Unfortunately for the ailing, this strange spectacle is far from having ceased, although in one or two instances it has been checked. The author takes up one general reaction of organisms toward adverse condition, hyperglycæmia and glycosuria. He states that the present attitude of almost the entire profession toward it is pre-Darwinian. Citing some clinical cases of the influence of sugar, he says that these evidences have been confirmed by animal experiments. Exceedingly large quantities, as compared with the amount in normal blood, have been subcutaneously injected into dogs, without the slightest signs of toxicity. The experiments demonstrated that the animal body has great power in utilizing dextrose when administered in this way. The fear of sugar, as sugar, is probably a vestige of the time when no one was allowed to sell it but the dealer in poisons, and he dared not dispose of it without a physician's prescription. The ghosts of such antiquated notions still continue to interfere with logical thinking even among many who think themselves entirely emancipated from them. If more evidence is still demanded in proof of the harmlessness of sugar the geographical and social distribution of diabetes ought to be sufficient. Find a place where sugarcane is grown, and sugar consumed in abundance, and one is found in which diabetes is exceedingly rare or else is unknown. Find a region where carbohydrate food constitutes the bulk of that consumed and that place will be found to contain little diabetes. Discover a race that subsists exclusively on carbohydrate food and we discover one that knows no diabetes. Find a religion whose votaries must subsist exclusively on a vegetable diet and one will be found that knows little or nothing about diabetes. Now, on the other hand, the discovery of a class, people, or faith, where meats are largely consumed is quite likely to be one in which the death rate from diabetes is at its maximum. Such at least has, so far, been the results reported by those who have made a study of its geography. If we turn to Europe and America what do we discover? The very men and women whose daily food comes most nearly up to the standard of diet prescribed for diabetics are the very men and women in whom the cases of diabetes are most numerous and most fatal. They are the people whose daily ration is filled with fish, flesh, and fowl, and in which but little room is left for bread or potatoes. The plain people who subsist on the more economical diet, a diet chiefly carbohydrate, know but little of diabetes. It is those who regale on table d'hôte dinners who are the sufferers. They fill up on chicken and turkey, quail and partridge, venison and mutton, beef and oysters, fish and lobster, with only a minimum of carbohydrates. With an increase in the wealth of a nation comes an increase in the number of cases of diabetes, and *pari passu* with this, an increase in the consumption of proteid with a corresponding decrease in the consumption of carbohydrates.

3. **Fracture of the Carpal Scaphoid.**—Ely draws the following conclusion from nine cases: Fracture of the scaphoid is comparatively frequent, and is often mistaken for sprain of the wrist. It often escapes detection and recovers without any treatment. It is usually caused by a fall on the extended hand. It may be caused by punching with



the clenched fist, or rarely by superflexion of the hand. The one important symptom is tenderness over the scaphoid on the dorsum of the wrist in the "tabatière," or slightly internal to this spot. All the other classic symptoms of a fracture may be absent, except pain on motion. If the fracture is accompanied by a dislocation of the semilunar, extension of the fingers, especially of the middle finger, will be limited and painful, and the disability will be much greater. The prognosis of simple uncomplicated fracture of the scaphoid is good; that of fracture with dislocation is less favorable. A good treatment of simple fracture is immediate immobilization. If the semilunar is dislocated, a piece of the scaphoid often goes with it. If a dislocation is present, the dislocated bone must be replaced. If this is not possible, then it should be removed. Roughly speaking, sensitiveness over the scaphoid, with a history of a fall on the extended hand, without much disability or swelling, means simple fracture. If great swelling and disability are present, and the middle finger is held in rigid flexion, a dislocation accompanies the fracture.

**6. The Calmette Ophthalmoreaction Test for Tuberculosis.**—Graef has tested the tuberculin ophthalmoreaction of Calmette in fifty cases. He thinks that the test seems to be a fairly reliable one, well worthy of wide and repeated trial at least. In some advanced cases no reaction will occur, a matter of little moment if the test proves reliable in early cases, whatever the reason for this peculiarity may be. Some allowance should be made for possible faults in the tuberculin as furnished at present. From the observations made on these cases he regards the ophthalmoreaction as good evidence of the presence of tuberculosis. In one of the cases a diagnosis made in this way was afterward confirmed by finding the bacilli in the sputum.

#### BRITISH MEDICAL JOURNAL.

April 25, 1908.

1. The Cystic Forms *Xanthelasma Palpebrarum*,  
By J. HUTCHINSON.
2. Notes on the Treatment of Puerperal Fever,  
By A. K. GORDON.
3. The Diagnosis and Treatment of Renal Mobility,  
By G. BARLING.
4. A Case of Ureterotrigonal Anastomosis for Ectopia  
Vesicæ,  
By J. S. RIDDELL.
5. Prolapse of the Inverted Bladder through the Urethra,  
By C. LEEDEHAM-GREEN.
6. "Solitary Kidney," with the Notes of a Rare Case,  
By B. J. WARD.
7. Remarks on Traumatic Rupture of the Kidney,  
By C. A. GRIFFITHS.
8. Certain Infections of the Urinary Tract, with Special  
Reference to Tubercle, Gonococcus, and Bactera  
Culi Communis,  
By G. I. FLEMING.
9. The Diagnosis of Impacted Calculus in the Ureter,  
By C. A. RILEY.
10. The Physiological and Pathological Factors which  
Follow Exposure to Compressed Air (Lectures and  
Gale Lectures, II),  
By MAURICE GREENWOOD, JR.

**1. Xanthelasma Palpebrarum.**—Hutchinson states that the usual site of *xanthelasma palpebrarum*—the wash leather patches on the eyelids—is in crescentic grouping above and below the inner canthus of the eyelids. They occur in adults or middle aged persons who have usually accounted themselves "bilious," and are more common in dark complexioned persons than in the fair. After middle age they cease to develop and may disappear,

which suggests that the sexual system may have something to say to the recurring attacks of liver disturbance. Those who develop these wash leather patches have almost always been liable to periodic disturbances of pigmentation in the eyelids. Once a month or oftener the thin skin of the eyelids has been prone to become dark by temporary increase of pigment. In women they often reveal the menstrual periods. It is from these attacks of temporary, but often recurring, attacks of pigmentation that the *xanthelasma* patches take their origin. They result from the deposit of a fatty acid derived from the bile and are to be regarded as a late result. They are not the only consequence of the recurring nutritional disturbances: The gland structures may suffer also and now and then the papillæ. The writer classifies the several forms which occur as follows: 1. *Xanthelasma planum* or *flavum*, the wash leather type described originally by Rayer. 2. *Xanthelasma sebaceum*, where comedones are present. 3. *Xanthelasma cysticum*, when cysts are present. 4. *Xanthelasma pigmentosum*, when dark pigmentation is the only condition.

**2. Puerperal Fever.**—Gordon holds that puerperal fever is wound fever. The wound is present after every labor at the placental site. When it becomes infected we may have: 1. Rapidly generalized septicæmia, from passage of the organisms directly into the veins of the part. This form is usually fatal in from one to three days, and the circulating blood generally contains streptococci. 2. Direct extension through the Fallopian tubes to the peritoneal cavity, and resulting general suppurative peritonitis. 3. Extension as far as the Fallopian tubes only, with formation of adhesions, shutting off the general peritoneal cavity, resulting in the occurrence of pyosalpinx, pelvic peritonitis, or tubo-ovarian abscess. 4. Lymphatic extension, causing parametritis, which may go on to suppuration. The infecting agent in all forms is usually a streptococcus, but the colon bacillus is often found later. Occasionally the whole system becomes invaded by this bacillus as a terminal infection. The following points must be observed in treatment: 1. The avoidance of anything that may interfere with the closing of the placental site, such as the retention of placental tissue, etc. 2. Care should be taken that no other wound be made, *e. g.*, with the forceps. 3. Infection of the wound should be avoided by abstention from too frequent vaginal examinations, and by the wearing of rubber gloves. 4. Douching the vagina is seldom necessary and always risky. A rubber syringe should never be used. 5. The vulva should be kept covered with an antiseptic pad. There are two main modes of treatment: The passive and the active. The former is based on the belief that between the organisms and the host lies a barrier of leucocytes which should be left intact and not destroyed by any local disinfection. The writer, however, believes in active treatment—curtailing and swabbing with strongly bactericidal chemicals. In the treatment of the septicæmic conditions themselves there is nothing equal to large quantities of sterilized saline solution given per rectum or subcutaneously. With these may be combined camolene and alcohol, both in fairly large doses. Antipyretic drugs are usually harmful; cold water is the best treatment for pyrexia *per se*. Anti-



streptococcic serum is useful in a limited number of cases only, but is never harmful. The serum should be polyvalent, *i. e.*, prepared from many strains of streptococci, some of which should have been obtained from cases of puerperal fever. At least 50 c.c. should be given subcutaneously, and twice as much is preferable. The dose should not be repeated, as joint pains and pyrexia are apt to result. The type of case in which these bactericidal serums are of benefit is that in which the streptococci are present in the circulating blood. They probably do not affect the local lesion at all, and their value in checking absorption of toxins from the lesion is problematical. They are not supposed to have any antitoxic value.

**6. Solitary Kidney.**—Ward reports a case of that rare condition known as "solitary kidney." The term has been widely and loosely used, and includes the three following classes: 1. Congenital absence of development of one kidney, its vessels, and the corresponding ureter. The remaining kidney is hypertrophied and may occupy its normal position in the loin, the ureter opening into the bladder in its normal position. 2. Fusion of the two kidneys into one mass, the simplest and best known form of which is the "horse shoe kidney," in which two of the poles are united by a bridge of kidney substance across the middle line. There are never less than two ureters, and sometimes three or four. 3. Cases in which one kidney is either rudimentary, degenerated, or so diseased as to be incapable itself of carrying on the excretory needs of the body. This is the class most frequently met with by surgeons. The methods of diagnosis at our command are cystoscopy, segregation of the urine by separation of the bladder into two halves by a special instrument, and inspection of the two kidneys, this last requiring a second operation.

## LANCET

April 25, 1908.

1. The Gresham Professors of Physic (Gresham Lecture),  
By F. M. LANDWITZ.
2. The Anatomy of the Long Bones Relative to Certain  
Fractures (Hunterian Lectures, II),  
By R. THOMPSON.
3. On So Called Rheumatic Iritis.  
By C. HIGGINS.
4. The Influenza Bacillus as a Cause of Fatal Endocarditis after Eight Years (?) (An Influenza Carrier?),  
By F. J. SMITH.
5. The Accuracy of Opsonic Estimations,  
By L. NOON and A. FLEMING.
6. Chronic Polycythæmia,  
By E. CANTLEY.

**2. Fractures of the Long Bones.**—Thompson, in the second of his Hunterian lectures, discusses fractures of the upper extremity and shoulder girdle. In Colles's fracture the main pressure is transmitted through the posterior part of the radius. When a breaking strain is applied the anterior or concave part of the radius, which really corresponds to the convex side of the arm, is put upon the stretch and smashes first, and then the line of fracture is directed along the line of pressure lamellæ, *i. e.*, along the grain of the bone. Hence the obliquity of the line of fracture from below, obliquely upwards and backwards. The transverse line of fracture may be explained by the fact that in coronal sections of the bone the lamellæ are not nearly so pronounced as in sagittal sections, and therefore will not affect the line of fracture to any marked extent. In fracture of the clavicle, no pressure, or very lit-

tle, is transmitted through the acromioclavicular joint, even when blows are struck upon the outer edge of the acromion process. This absence of direct pressure through the acromioclavicular joint is explained by the presence of the trapezoid ligament and its attachment to the coracoid process of the scapula and the clavicle. The pressure which passes through the coracoid process and the trapezoid materially affects the internal structure of the clavicle. The obliquity of the adjacent surfaces of the acromio clavicular joint and the presence of the triangular fibro cartilage still further diminish shock. By direct impinging of the coracoid process against the clavicle fractures of the clavicle between the conoid and trapezoid ligaments are produced, and with such fractures not only is displacement possible, but impaction may also take place. By bending of the clavicle over the coracoid process fracture of the shaft of that bone may be produced.

**3. Rheumatic Iritis.**—Higgins states that iritis dependent on rheumatism no doubt frequently occurs, but a very large number of cases so called are due to the poison of gonorrhœa, and the worst cases almost always. The patients are almost always men, over thirty years of age, and give a history of gonorrhœa, often of repeated attacks. In most cases an attack has not immediately preceded the iritis. More likely the last attack of gonorrhœa was some years previously. In most cases there has been no gonorrhœal rheumatism. The iritis is severe and all the usual symptoms are well marked. It is painful, often severely so; there is swelling of the iris, generally much photophobia; a strong tendency for adhesions to form, though there is no very great amount of exudation, with much ciliary and conjunctival congestion. There are also a decided inclination to contraction of the pupil, which strongly resists the action of mydriatics, of which there is often a marked intolerance; a tendency to increased tension; a general intractability, rendering treatment most difficult and its results most disappointing; and an unlimited capacity for recurrences continuing through any number of years. The liability continues through the whole of sexual life. It is probable that in many men who have had gonorrhœa severely and frequently there is left for many years in some part of the urinogenital apparatus a very much attenuated virus which gives no trouble locally, but from time to time becomes more active, and though still setting up no local irritation is capable after absorption of causing inflammation in synovial membranes or in the iris. It looks almost as if the iris becomes, on occasions, an excretory organ and tries to eliminate the poison, receiving considerable damage itself in the attempt. There must also be a large personal element or idiosyncrasy. The results of gonorrhœal iritis include all those consequent on iritis in its worst forms: Synechia, more or less extensive, occluded and excluded pupil, complete adhesion of the posterior surface of the iris to the lens capsule, *bombé* iris with its attendant evils, capsular cataract, glaucoma, with changes in structure of the iris, and loss of vision, varying from slight impairment to total blindness. Treatment is most unsatisfactory. Mydriatics irritate, and rise of tension is very frequent, so that they must be used with caution. Heat is very useful, especially where pain is a marked symp-

tom or where the tension is markedly increased. Blisters are not of much service, but leeches are often very beneficial, acting almost like magic in relieving pain. The writer sounds a note of warning against the use of cocaine and adrenalin. They do reduce vascularity and relieve pain, but their after effects are positively harmful, for they cause paralysis of the blood vessels and thus add fuel to the fire which they are intended to extinguish. None of them should be used, except for local anæsthesia in prevention of bleeding during an operation, or for the examination of painful or sensitive parts. Constitutional treatment should consist of free purgation and washing out the system by copious draughts of hot water; mercury, iodides, salicylates, and quinine. Salicylates are rarely useful, but aspirin relieves pain.

**6. Chronic Polycythæmia.**—Cantley reports a case of chronic polycythæmia occurring in a man, aged forty-seven years. Although any condition of cyanosis induces polycythæmia, it does not follow that the increase in the number of the red cells is due to the cyanosis. More probably there is an actual increase in the production of red cells, and the cyanosis is consequent on the increasing viscosity of the blood and difficulty in its efficient aeration. The considerable increase in the number of leucocytes, especially the polymorphonuclear forms, suggests that we have to deal with an inflammatory affection of the blood forming organs, possibly the result of some toxin. Venesection in the case here reported relieved the patient considerably. The omission of milk from the diet, and large doses of citrate of soda did not appear to produce any beneficial effect.

#### LA PRESSE MEDICALE

April 4, 1908.

1. The Treatment of Measles, By J. HALLE.
2. Should We Use Ethyl Chloride Mixed with Oxygen for Anæsthesia of Short Duration? By LUCIEN CAMUS.
3. Apropos of the Specificity of the Cutaneous Reactions, By R. ROMME.

**1. The Treatment of Measles.**—Halle remarks that there is no specific treatment of measles, and, as we are unacquainted with the germ responsible for the disease, and the disease seems to affect the human race alone, that it is not likely that we shall soon find a seropathic treatment with which to combat it. Although measles is known to be rarely mortal, yet under certain circumstances its fatality may become very great, and Halle considers that careful attention should be paid to children suffering from it, either in its simple or complicated form. In simple measles the child should remain in a well ventilated room kept at an even temperature, and proper hygienic precautions should be observed. Attention should be paid to the skin, the eyes, the nose, the mouth, the genitals, the digestive and the respiratory apparatus. Special attention should be paid to the dietary, into which the author enters very fully. In complicated measles the treatment given simple measles is indicated, together with the addition of therapeutic measures directed actively against the complications. The forms mentioned are the dyspnoea with absence of any physical signs of lung trouble, the hæmorrhagic, the hyperpyrexia, the atonic, and the adynamic. The complicating diseases mentioned are bronchopneumonia, laryngitis, diphtheria, otitis, and stomatitis.

**2. Ethyl Chloride for Anæsthesia.**—Camus considers that it is simpler and easier to give pure ethyl chloride gradually than when it is mixed with either oxygen or air, and that it produces anæsthesia more regularly. He asserts that the ethyl chloride should be given in known, small doses, so that it may be absorbed slowly, and the nervous system become gradually affected.

April 8, 1908.

1. The Reeducation of the False Gastropathies, By J. DEJERINE and E. GAUCKLER.
2. The Physicochemical Properties of Radium, By L. MATOUT.

**1. Reeducation of the False Gastropathies.**—Dejerine and Gauckler allege that in very many of the cases of gastric trouble that are met with the trouble is purely psychic and there is no true gastropathy. To correct these cases the authors present a set of rules covering the feeding of the patients for several weeks.

#### LA SEMAINE MEDICALE.

April 8, 1908.

Cyclothymia, By M. G. DENY.

**Cyclothymia.**—Deny states that this term was first introduced by Kahlbaum in 1882 to indicate circular insanity or neurasthenia, a condition which has attracted the attention of some writers. Deny finds that so many more women than men are affected that the female sex might be considered a predisposing cause of the disease. It may last all one's life without resulting in insanity. Its exacerbations coincide in general with the epochs of puberty and the menopause, and may be provoked by excesses, the emotions, severe hæmorrhages, and repeated pregnancies.

#### BERLINER KLINISCHE WOCHENSCHRIFT

April 6, 1908.

1. Simulation of a Condition of Idiocy Maintained for Years, By KNAPP.
2. Syringomyelia, By R. MILCHNER.
3. Contribution to the Antiferment Action of Human Blood, By MARCUS.
4. The Forms of the Tubercle Bacillus Not Demonstrable According to Ziehl's Method, By HANS MÜCH.
5. The Importance of Serum Diagnosis in the Pathology and Treatment of Syphilis, By A. BLASCHKO.
6. Concerning the Influence of the Reaction Upon the Accomplishment of Wassermann's Complement Union in Syphilis, By K. ALTMANN.
7. Symptomatology and Treatment of Cerebellar Tumors (continued), By L. STREIBLING.
8. Contributions to the Surgery of the Brain and Spinal Cord (continued), By HERMANN K. SCHNEIDER.

**1. Simulation of Idiocy.**—Knapp reports an interesting case in which a man maintained a simulation of idiocy for years for the purpose of mulcting the insurance companies in which he had taken out policies insuring his health. By this means he had greatly increased his income during the time his simulation remained undetected.

**2. Syringomyelia.**—Milchner describes a case of this disease met with in a man thirty-two years of age. It seemed to date back to a fall when the patient was ten years old, in which he struck on the back of his head, but suffered no immediate ill effects.

**3. Antiferment Action of the Human Blood.**—Marius says that for the determination of the power of the human blood to restrain the digestion of albumin by the Müller-Eichmann method a one per

cent. solution of trypsin is a positive test substance. The antitryptic strength of the blood serum corresponds to the normal when it prevents the formation of dimples on the Loeffler plate of a threefold volume of a one per cent. solution of trypsin. It is therefore diminished when it renders inactive less than a threefold volume of the trypsin solution, and increased in strength when it renders inactive a greater quantity. The antitryptic power of the blood serum varies from the normal in various pathological conditions. Further researches are necessary to determine whether any valuable clinical, diagnostic, or prognostic conclusions may be derived from the weakened or strengthened power of the blood serum to inhibit trypsin digestion.

7. **Cerebellar Tumors.**—Siemerling adds four more carefully observed cases, and then reviews the symptomatology presented in this condition.

8. **Surgery of the Brain and Spinal Cord.**—Küttner adds the following cases: One of palliative trepanation for a brain tumor, which was not localized, with almost complete restoration; one of cyst of the surface of the brain after fracture with depression productive of general traumatic epilepsy, which was operated on with a good result; one of exploratory laminectomy for a suspected gliomatosis of the spinal cord; one of tumor (psammoma) of the spinal cord successfully removed; one of fibroma of the caudia equina successfully removed. Throughout this long and valuable paper comments are made with regard to the individual cases, but very little is added in the way of general comment.

#### GAZZETTA DEGLI OSPEDALI E DELLE CLINICHE

March 22, 1908.

1. Yefimov's Test for the Diagnosis of Intestinal Worms, By M. V. CARLETTI and L. DOZZI.
2. Eosinophilia and the Antibodies in the Serum, By BAZZICALUPO.
3. On Hernial Tumors of the Omentum, By E. ARCOLEO.
4. Hyperæmia in Acute Superficial Inguinal Adenitis, By UGO GROINI.
5. A Case of Dorsal Dislocation of the Middle Carpal Bone, By V. SCOCIA.

1. **Yefimov's Test in the Urine for Worms.**—Carletti and Dozzi say that Yefimov's chemical and microscopical tests for the presence of worms is of no value. The chemical test which was suggested by the Russian author mentioned was as follows: From 5 to 10 cc. of recently voided urine were treated with five or ten drops of a solution of mercuric nitrate. A precipitate formed. If the latter was white, milky, the patient did not have any worms. If, however, the precipitate was greyish or more or less dirty, almost black, then the patient had intestinal worms. In order to avoid possible causes of error, the author advises that the patient should not take any medicine for several days before the test, because alkalis, sulphates, and compounds of lead, iron, etc., produce a greyish color in the precipitate. Albumin, glucose, indican, etc., do not modify the reaction. Pus, on the other hand, will cause it to color the precipitate a dark tint. The second reaction recommended by Yefimov is more important than the first, and not only indicates the presence of worms, but even shows what variety of worms is present. It consists in the microscopical examination of the crystals, which are obtained by evaporating a drop of the urine on a slide. Gran-

ular crystals indicate the presence of cestodes, while crystals in the shape of crosses show the presence of nematodes, or round worms. The simplicity of this test led the authors to experiment with it. They examined in a number of patients, some of whom were tuberculous, while others suffered from a variety of diseases, both the feces and the urine. The feces were examined in order to find out whether the eggs of parasites were present; the urine whether Yefimov's test could be obtained. The conclusions which the authors make as the result of the examination of eighty patients are: (1) The chemical reaction with the acid nitrate of mercury does not usually present the marked characteristics described by Yefimov. The color of the precipitate varies greatly without reference to the presence of worms. In two cases, in which the feces did not show the presence of intestinal worms, there was a distinctly dark precipitate. On the other hand, the precipitate was white in three cases in which the feces showed the presence of worms. (2) The presence of crystals in the urine of these patients did not correspond to the presence of worms. The shape of the crystals varied greatly in the same case at different times. In ten patients, who showed no eggs of parasites in the feces, only three showed crystals in the urine.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

April 7, 1908.

1. Functional Diminution of the Heart, By MORITZ.
2. Concerning the Alternating Pulse and Its Relations to the Bigeminal Pulse, By VON TABORA.
3. Sudden Death in Patients with Heart Disease, By KISCH.
4. Studies Concerning Tobacco Smoke, By LEHMANN.
5. Concerning a Simple Method of Demonstration of the Function of the Pancreas in Healthy and Diseased Persons, By SCHLECHT.
6. Demonstration of Pus by Millon's Reagent, By DREYER.
7. The Antiferments in Human Blood Serum, By JOCHMANN and KANTOROWICZ.
8. Concerning Skin Reactions after Inoculations with Dead Typhoid, Paratyphus Bacillus, and Coli Cultures, By LINK.
9. The X Ray Demonstration of Ossification of the Cartilages of the Ribs, By CRÖDEL.
10. Perhydrasemilkagar, a New Nutrient Material for Bacteria, By FRÄNKEL and MUCH.
11. A Simple Nutrient Material for Gonococci, By PIORKOWSKI.
12. Concerning the Transmutation of Lymphosarcomatosis and Tuberculosis, together with a Contribution to Experimental Cirrhosis of the Liver, By BRANDTS.
13. Persistent Anæsthesia in the Tuberculous Larynx, By HOFFMANN.
14. Fibrolysin in Groupous Pneumonia with Delayed Resolution, By KRISINGER.
15. Diagram of the Body, By HILDEBRANDT.
16. Concerning Thymus Persists and Apoptectiform Thyms Death, with Remarks Concerning the Relations of the Persistent Thyms to Exophthalmic Goitre (Concluded), By HART.
17. Obituary of Carl Binz, By SCHMIZ.
18. Japanese Women as Prostitutes and Prostitution in Japan.

2. **The Alternating Pulse and Its Relations to the Bigeminal Pulse.**—Von Tabora means by alternating pulse that form in which a stronger contraction of the heart alternates with a weaker one so that the interval between the latter and the former is as great or greater than that between the weaker and the subsequent stronger contraction. In the bigeminal form the stronger contraction alternates with the weaker but with an interval that is



always less than that between the weaker and the subsequent stronger contraction. Thus in the alternating pulse the weaker contraction of the heart takes place either at the right time or after the right time, in the bigeminal always before. The alternating pulse seems to be comparatively rare and the author reports a case.

**3. Sudden Death in Heart Disease.**—Kisch finds from a study of 156 cases of sudden death in patients with heart disease that prior to the age of thirty there is very little tendency to sudden death from cardiac lesions. Indeed where there is good compensation sudden death is almost as rare as in people without heart trouble. From thirty to fifty the number of sudden deaths increased progressively, and after the age of fifty valvular lesions form a factor which under certain pathological conditions may cause sudden death. As regards the conditions of the heart and vessels in these 156 cases thirty-five were cases of cor adiposum, thirty-two of myodegeneratio cordis, fifty-nine of endarteritis chronica, thirty-six of endarteritis aortae, seven of sclerosis of the coronary arteries, thirteen of mitral insufficiency, nineteen of mitral and aortic insufficiency, thirteen of aortic aneurysm, three of rupture of the heart, thirty-six of chronic nephritis, twenty-one of chronic emphysema of the lungs, and seven of cerebral hæmorrhage. It happened most often in persons with very fatty hearts and in persons with general arteriosclerosis. The immediately actuating cause is sometimes difficult to determine. Mental excitement is sometimes sufficient, sometimes it is caused by an increase of the blood pressure. Hereditary and meteorological influences also seem to take a part.

**4. Tobacco Smoke.**—Lehmann states that nicotine is an uneven mixture of a number of substances and a very strong poison. He does not think nicotine responsible for all the toxic symptoms produced by smoking and questions why, if nicotine is responsible, children exhibit symptoms of apparent nicotine poisoning after smoking parts of plants that are free from nicotine, why cigars that contain an equal amount of nicotine differ greatly in their effects, why cigars that are rich in nicotine are frequently milder than others that are markedly poor in nicotine, and why cigar tobacco seems to be so much stronger when smoked in a pipe.

**11. A Simple Nutrient Material for Gonococci.**—Piorkowski prepares his nutrient material in the following manner: A litre of fresh milk is mixed with 5 ccm. of dilute hydrochloric acid (1 in 4) and kept at a temperature of 37° C. until the casein has become separated. It is then filtered and the filtrate neutralized with a ten per cent. solution of soda. It is then cooked for two hours in a vapor bath, neutralized again, and then filtered once more. It is then placed in bulbs or test tubes and sterilized for an hour at a temperature of 100° C.

### New Inventions.

#### A LARYNX KNIFE AND SILVER NITRATE CARRIER.

By MURDO J. BATES, M. D.

New York.

While working at Hajek's Clinic in Vienna about six years ago I frequently met with intralaryngeal

conditions which necessitated the use of the larynx knife. There were several knives in use at that time, but for one reason or another they seemed inadequate, and I therefore endeavored to devise an instrument which would overcome these slight deficiencies. The knife in the accompanying illustration has proved most satisfactory. In addition to the knife, there is a silver nitrate carrier which allows one to apply the solid silver to the larynx.



A larynx knife and silver nitrate carrier.

without coming in contact with any other part of the throat, owing to the fact that the sheath slides over the carrier containing the small silver pearl.

This knife is intended to give to the laryngologist a practical and light instrument, which can be used with perfect safety in all intralaryngeal work. The instrument itself consists of four metallic parts which can readily be taken apart, thus making it simple and in no way cumbersome.

It has the advantages: 1. That it is light in weight; 2, being all of metal, can be easily taken apart and sterilized if desired; 3, the screw arrangement at the upper part of the handle permits one easily to regulate the length at which one desires the knife to protrude from the sheath, that is, if one wishes to make a deep incision or merely a superficial scarification; 4, the sheath moves back while the knife remains stationary, which is contrary to other knives, thus allowing the knife to remain directly over the part to which it is intended to be applied; 5, the knife recovers itself owing to a small spring on the handle; this is of great importance, as the knife is always protected, except when one pulls the sheath back, thereby increasing the danger of cutting the patient while the instrument is being withdrawn; and 6, the knife blade itself, which is about an inch in length, can be made

to cut in any direction, owing to a small screw arrangement at the lower part of the sheath.

57 EAST FIFTY-EIGHTH STREET.

## Letters to the Editors.

### MALARIA IN GREECE.

126 EAST THIRTY-FOURTH STREET,  
NEW YORK, April 25, 1908.

#### To the Editors:

In the issue for April 11th of the *New York Medical Journal* appeared my article under this heading. It was my intention to give a series of papers on the work done by our Greek brethren under the protection of the King of the Hellenes, and in cooperation with the Greek people to exterminate malaria in their country.

As stated in this paper, I took my information from the reports of the *Sylogos*, founded by Dr. Cardamatis to combat malaria in Greece, for the years 1905 and 1906. On reconsideration of the matter, I find that nothing short of a complete translation would do justice to the noble work presented in this report. In fact, it is more than a report, for it presents the state of our knowledge of the present day about malaria and the scientific measures against it, as executed in all different countries. Everything of scientific value that has been done and written is collected in a masterly way.

Such a version in English would serve great purposes; it would draw attention to the state of medical science in Greece and would be a means of enlisting our own people in the cause of exterminating malaria; it would aid in stimulating our authorities to support our own boards of health in their attempt to secure hygienic conditions, for instance, on Staten Island, where an immense amount of work has already been done, in order to make this beautiful island an earthly paradise; but, further, to stimulate the government and the legislators to assist in one of the greatest and noblest tasks the medical profession can suggest.

A. ROSE.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Formulaire synthétique de médecine.* Par le Dr. L. PRON.  
Paris: Jules Roussel, 1908. Pp. 601.

The arrangement of this formulary differs from that of most compilations of its kind, where the formulas are grouped under the names of the drugs and one principal drug is combined in different forms for use in the treatment of a given disease. Dr. Pron's formulary prescriptions are grouped under the names of the diseases, or the applications for which they are intended, and different remedial agents are represented in the prescriptions. A good selection for formulas is given, and accompanying them are directions for administration, together with the doses suitable for adults and children. In addition to this there are chapters on diet, serotherapy, poisons and antidotes, uranalysis, mineral

waters, and incompatibilities, so that it is more than a mere compilation of formulas. The volume is of convenient pocket size, and should serve a useful purpose as an *aide-mémoire* for practitioners.

*Verhandlungen der deutschen laryngologischen Gesellschaft auf der ii. Versammlung zu Dresden, vom. 15.—18. September, 1907.* Herausgegeben im Auftrage des Vorstandes vom Schriftführer Dr. med. GEORG AVELLIS, Frankfurt a. M. Mit einem Titelbild und 2 Abbildungen im Text. Würzburg: Curt Kabitzsch (A. Stuber's Verlag), 1908. Pp. xiii-176.

These transactions of the second meeting of the German Laryngological Society, held in Dresden, contain, besides the official report of the meeting, many interesting essays. We find such names as Kuttner, Fränkel, Gerber, Heymann, Hoffmann, Krebs, Avellis, Sänger, Senator, Barth, Hajek, Panse, Kuhn, Rudloff, Rosenberg, Albrecht, Scherer, Blumenfeld, Imhofer, Mann, Keigler, Flatau, and Gutzmann among those of the authors. As an introduction there appears a memorial of Moritz Schmidt, the dean of German laryngology, who took a leading part in the tragic malady of the German Emperor Frederick III.

*Die tierischen Parasiten des Menschen.* Ein Handbuch für Studierende und Aerzte. Von Dr. MAX BRAUN, Professor der Zoologie und vergl. Anatomie, etc. Mit 325 Abbildungen im Text. Vierte, vermehrte und verbesserte Auflage. Mit einem klinisch-therapeutischen Anhang. Bearbeitet von Prof. Dr. OTTO SEIFERT in Würzburg. Würzburg: Curt Kabitzsch (A. Stuber), 1908. Pp. 623. (Price, \$4.)

The fourth edition of this standard work has been so changed that it appears as an entirely new book. The author gives first a short introductory chapter in which he speaks of the parasites generally, and to which he adds a chronological list of the more important books on helminthology (27 pages). This he follows up with the description of animal parasites of men (326 pages) and a bibliography (70 pages), which is arranged according to the chapters of the book. Finally we find an alphabetical index of the parasites described in the text, with their synonyms. Entirely new is the second part of this very interesting book, written by Professor Seifert, and containing a description of the diseases resulting from the parasites and their treatment (150 pages).

Although the book is rather larger, the arrangement in one volume seems to be very advantageous. The illustrations are very instructive. The German is written in short, precise sentences, which make the reading and understanding not at all difficult, while the price is not prohibitive. It is, in short, an up to date standard textbook which can be well recommended.

*Diseases of the Lungs.* Designed to be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By ROBERT H. BABCOCK, A. M., M. D., until recently Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons (Medical Department of the Illinois State University), Chicago, etc. With Twelve Colored Plates and One Hundred and Four Text Illustrations. First Edition. New York and London: D. Appleton & Co., 1907. Pp. xix-809.

The high respect in which Dr. Babcock is held throughout the country will lead hosts of his professional brethren to rejoice that he has now supplemented his work on diseases of the heart by this one on the lungs. It is well that the original scheme of

dealing with both subjects in one volume of about 1,000 pages was abandoned, for, as the author says, such an arrangement would have proved unsatisfactory, since it would have called for such condensation as to diminish the practical value of the work.

In the preface Dr. Babcock says that he "awaits with considerable apprehension the criticisms to be passed upon the chapters devoted to pneumonia and pulmonary tuberculosis." We have examined those chapters carefully, and, as we had expected, we have found them exceedingly satisfactory, teeming with originality and good sense. Much care has been bestowed on the treatment of the various forms of pneumonia, and we would urge a careful reading of what the author says concerning the use of caffeine, camphor, musk, alcohol, nitroglycerin, oxygen, asafoetida, adrenalin, and bloodletting. In the chapters on pulmonary tuberculous disease equally sound views are expressed about the sterilization of milk, diet, climatic treatment, the employment of creosote and its derivatives, and the therapeutic use of tuberculin. Very properly, as we think, influenza is not treated of systematically, for it is not essentially or even preponderantly a disease that finds expression in pulmonary affections.

The book is written in Dr. Babcock's usual clear style, a style to which we find few exceptions, though he does use here and there the word "be-fallen" in a sense that is at least unusual, saying that a patient was or was not "befallen" with a disease. We are glad to see that he has not suffered his book to be disfigured with the "bobtailed" spelling: "hemorrhage" is hæmorrhage, and "quinin" is quinine. There seems to have been an omission of some explanatory heading from the table beginning near the foot of page 594; we guess that the numerals mean calories, but we are not sure. In the same table it is rather queer to find caviare listed under shell fish. From the mechanical point of view the volume is very praiseworthy, and in all respects it is most commendable.

*Mosquito Life.* The Habits and Life Cycles of the Known Mosquitoes of the United States; Methods for Their Control; and Keys for Easy Identification of the Species in Their Various Stages. An Account Based on the Investigations of the Late JAMES WILLIAM DUPREE, M. D., Surgeon General of Louisiana, and upon Original Observations by the Writer. By EVELYN GROSSBECK MITCHELL, A. B., M. S. Illustrated. New York: G. F. Putnam's Sons, 1907. Pp. 281.

The author is to be congratulated upon having produced a volume which will interest the lover of nature, and which also makes a direct practical appeal in the important relations which the subject has to preventive medicine. Much of the material is based upon the unpublished labors of the late Dr. J. W. Dupree, who found time, in connection with a large general practice and the exercise of many important functions as a public spirited citizen, to carry out numerous minute researches of value in entomology and bacteriology. The life history of the mosquito is considered in all its phases, and there are chapters on the relations of the mosquito to malaria, yellow fever, filariasis, and other diseases. Appended are identification keys and a systematic list which, with the anatomical studies included, will enable the reader to readily recognize the different species.

*Treatise on Diseases of the Skin.* For the Use of Advanced Students and Practitioners. By HENRY W. STELWAGON, M. D., Ph. D., Professor of Dermatology in the Jefferson Medical College, Philadelphia, etc. Fifth Edition, Thoroughly Revised. With 267 Illustrations in the Text, and 34 Full Page Colored and Half Tone Plates. Philadelphia and London: W. B. Saunders Company, 1907. Pp. 1150. (Price, \$6.)

Much new matter has been added in this edition of Dr. Stelwagon's admirable treatise, but the size of the volume has not been made appreciably greater, for some material has been dropped from the original work. There are thirteen new cuts and two new plates. The changes in the text are for the most part to be found in the articles on frambesia, Oriental sore, verruga peruana, and tinea imbricata. Several tropical skin diseases are newly treated of, prominent among which are "ground itch" (the dermatitis of uncinariasis) and "dhobie itch." The book continues to merit high commendation.

*Darwinism To-day.* A Discussion of Present Day Scientific Criticism of the Darwinian Selection Theories. Together with a Brief Account of the Principal Other Proposed Auxiliary and Alternative Theories of Species Forming. By VERNON L. KELLOGG, Professor in Leland Stanford, Jr., University. New York: Henry Holt & Co., 1907. Pp. xii-403.

To those, and they are not few, who glibly tell us that Darwinism is dead, that "the monkey theory" has passed to its eternal rest, this work of Kellogg's will come as a surprise, i. e., if they read it. For in it will be found a simple and concise account for students of biology, and for general readers, as well, of the present day standing of Darwinism in biological science, and an outline of the various auxiliary and alternative theories of species formation which have been proposed to aid or to replace the selection theories.

While no one doubts that the present time is one of unprecedented activity and fertility, both in the discovery of facts and in attempts to perceive their significance in relation to the great problems of biodynamics, yet in the very wealth of acquirement it often becomes difficult to decipher the understructures which support the more elaborate building. The knowledge of the factors of organic evolution, the hypotheses to which they have given rise, and the gaps which have been filled in the past few years have each and all been added to or modified, and only the specialist is able to keep clearly before the mind's eye the essential as distinguished from the trivial and accidental.

It is such a quality that renders this volume so useful and advantageous, and the reader who has been confused by the pros and cons of a never ceasing discussion may find in it some rest and satisfaction.

The author first points out very clearly that Darwinism and evolution are not the same. He then explains what is meant by Darwinism, and subsequently discusses the attacks made upon the theories, notably upon that of sexual selection. Chapters vi and vii contain a defense of Darwinism, while Chapters viii, ix, x, and xi discuss other theories of species formation. In the final chapter of the book the present standing of Darwinism is given.

"The living stream of descent finds its never failing primal source in ever appearing variations: the



eternal flux of Nature, coupled with this inevitable primal variation, compels the stream to keep always in motion, and selection guides it along the ways of least resistance. The guardian of this course is natural selection. Selection will inexorably bar the forward movement, will certainly extinguish the direction of any orthogenetic process which is not fit, that is, nonadaptive. Darwinism, then, as the natural selection of the fit, the final arbiter in descent control, stands unscathed, clear, and high above the obscuring cloud of battle." This is the author's contention. To determine how well it is supported, and to get a full view of the battle as it is waging, one should read the book. It is well worth while.

*Heart Disease and Thoracic Aneurysm.* By F. J. POYN-TON, M. D., F. R. C. P., London, Assistant Physician to University College Hospital and Physician to Out Patients at the Hospital for Sick Children, London, Late Medical Tutor and Medical Registrar to St. Mary's Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. 310.

It would be difficult to comprise in such a small compass more valuable material than is contained in this admirable little volume. The author, who is equally well known as a research worker and careful clinician, has succeeded in impressing the stamp of originality and new interpretation upon many familiar facts. As might have been expected from his collaboration with Paine, the pathology of rheumatic endocarditis is presented with special fullness. Myocardial affections also receive the attention which their growing recognition demands, and the newer subjects of the auriculoventricular bundle of His, the Stokes-Adams syndrome, heart block, and the different varieties of arteriosclerosis are adequately treated. The book is a model of condensation, attractive arrangement, and sound teaching, and may be warmly recommended as probably the best recent work of its kind for both student and practitioner.

*The Theory and Practice of Hygiene* (NOTTER and FIRTH). Revised and Largely Rewritten by R. H. FIRTH, Lieutenant Colonel, Royal Army Medical Corps, etc. Third Edition. Philadelphia: P. Blakiston's Son & Co., 1908. Pp. 993. (Price, \$7.)

Colonel Firth, of England, has edited a third edition of Notter and Firth's *Hygiene*, which appeared for the first time in 1896, based upon the late Dr. Edmund A. Parkes's work.

The changes made in this new edition are such as to make it practically a new book. One of the principal changes is the omission of the list of books of reference which formerly followed each chapter; the bibliography is now to be found in footnotes, and that arrangement we regard as a decided improvement. While in the former editions sanitary law took up a separate chapter, it is now discussed as far as possible at the end of each chapter. But two new chapters have been added: Sanitary Administration and Law (Chapter i), and Recent Sanitary Legislation (Chapter xviii), taking up such subjects of the law as would not be referred to in the general chapters. The chapter on Vital Statistics has also been materially changed.

Besides these major alterations, the book has been fully brought up to date, and is a worthy successor to the well received former editions. As it is based

entirely upon sanitary laws and statistics in Great Britain, it will not so much appeal on this account to the American reader, but there are many other points in it which are of general interest.

*Medical Diagnosis.* A Manual for Students and Practitioners. By CHARLES LYMAN GREENE, M. D., Professor of the Theory and Practice of Medicine in the University of Minnesota, etc. Second Edition, Revised, with Seven Colored Plates and Two Hundred and Forty-one Illustration. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. 691.

Within the compass of some seven hundred pages of a book of convenient size, well bound in limp morocco, Dr. Greene has presented a manual of medical diagnosis which has many excellent features. The typographical arrangement of the work is admirable from the student's point of view, accentuating the important features in each of the statements made. The work is supplied with several colored plates, which add much to its value, showing the effects of stains and reagents in a manner more accurate and comprehensible than could possibly be shown by words alone. The marginal notes add much to the value of the work for ready reference. On the whole, the volume is one which has much to commend it, both as to the matter it contains and as to the manner in which it is presented, and we are by no means surprised to learn that a second edition was demanded within seven months of the issue of the first.

### Miscellany.

**Surgery Before the Days of Anæsthesia.**—Dr. W. C. Wood, of Gloversville, N. Y., sends us the following extract from *The Herald of the United States*, published by Nathaniel Phillips, at the Post Office in Warren, State of Rhode Island, Saturday, October 20th, 1792:

WARREN, R. I., October 20, 1792.

On Sunday, the 8th inst., Dr. Nathaniel Miller, of Franklin, in Massachusetts, performed a surgical operation in Barrington.

Mrs. Allen, the amiable Consort of Samuel Allen, Esq., having a Tumor on her left arm which had been collecting upwards of 20 years. The excrescence (by its bulk) had become troublesome; rational resolution stimulated her submission to the operation which was performed by Dr. Miller, in presence of Dr. Baylis of Dighton, and several other gentlemen of the faculty. The tumor was extracted by incision and weighed  $2\frac{1}{2}$  pounds. Before the operation began, a pertinent prayer was made by the Rev. Mr. Townsend, to the Author of Goodness for Divine countenance in the operation: After it was performed, a grateful acknowledgement was made to Heaven for its supporting hand.

Mrs. Allen sustained a fortitude highly becoming the principles of reason and decency.

Much credit is due to the skillful Gentleman in his surgical performance as well as his attention in the healing art—his patient is now out of danger from the extraction.

**Appointments of Reserve Surgeons.**—There exists some misapprehension among contract surgeons in the army in regard to appointments as reserve surgeons. It should be explained that there is no provision in the new medical law for allowances to contract surgeons who may become candidates in the Army Medical School. Therefore contract surgeons who wish to enter the school and are of the eligible age and have qualified by pass-

ing examination to enter it will be appointed to the reserve corps. Seventy-four candidates are enrolled for the examination to be begun May 4th for appointments as surgeons in the army. Last year at the similar examination there were but thirty-four candidates. All applications coming in now from intending candidates are placed on file for the examination arranged to take place beginning August 3d. The candidates who pass in either examination will be on the same footing, as all will be regarded as one class. Those who apply now or hereafter will need time to file their credentials and make ready for the examination, so that there is no material gain in being in the first examination. The relative standing of all examined at both examinations will determine seniority in appointment. There are now fifty-nine vacancies and to these will be added two more by retirements soon to occur. There are now ten members of the class at the medical school and these will receive the first ten appointments. After that the vacancies will be supplied from the successful candidates of the two coming examinations. Of the existing vacancies thirty-two were created by the new medical bill and twenty-seven are due to retirements and resignations.—*Army and Navy Journal*.

**A Great Society for Coping with the Emergencies of Peace and War.**—The National Volunteer Emergency Service, instituted in 1900, has recently been reorganized by the election of Dr. James Evelyn Pilcher, the distinguished editor of *The Military Surgeon*, as its director general, and Dr. F. Elbert Davis, of New York, as its adjutant general. Its work will be conducted along military lines, the details being worked out in three separate corps, a first aid corps, a public health corps, and a medical corps—the latter consisting of physicians, with rank from lieutenant to colonel, according to length of service, to whom are afforded special opportunities for emergency training. It includes among its personnel a large number of notable personages, and is rapidly extending its membership throughout the country. Full details regarding the service and its great work may be obtained by addressing Director General Pilcher at Carlisle, Pa.

**Medical Language.**—D. H. Zimmerer, of Regensburg, Germany, remarks in the *Journal of the American Medical Association* that the writings of Hippocrates, Aristotle, and Galen, as well as of Celsus, Pliny, and Vegetius, are, and will remain for all scientists, the basis and test for correctness of language, and purity of Greek and Latin terms in the domain of natural philosophy. Pollux, in his Greek *Onomasticon*, has stored up the existing supply of medical onomatology. It is by this means that these sciences still bear to-day the stamp of intercommunity, simplicity, and internationality, and this fact makes it an indispensable duty for every physician and natural philosopher to acquire a knowledge of these two languages. Without a knowledge of etymology, and the laws of word construction a linguistic expression will not be retained in the memory; it possesses neither sense, nor form, its relations and differentiations are unrecognizable and obscure, throwing the door wide open to arbitrary misconception and linguistic malformations.

## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general United States Public Health and Marine Hospital Service, during the week ending May 8, 1908.

Places.	Date.	Cases. Deaths.
California—San Francisco.....	April 12-18.....	15 2
District of Columbia—Washington.....	April 12-18.....	7 2
Illinois—Chicago.....	April 18-25.....	7 1
Illinois—Galesburg.....	April 18-25.....	3 0
Illinois—Island.....	April 18-25.....	1 0
Illinois—Springfield.....	April 18-25.....	3 1
Indiana—Ft. Wayne.....	April 18-25.....	3 1
Indiana—Indianapolis.....	April 18-25.....	24 1
Iowa—Ottumwa.....	April 18-25.....	8 0
Kansas—Topeka.....	April 18-25.....	31 5
Louisiana—New Orleans.....	April 18-25.....	31 5
Michigan—Detroit.....	April 18-25.....	3 0
Michigan—Grand Rapids.....	April 18-25.....	5 2
Michigan—Lansing.....	April 18-25.....	3 1
Michigan—Port Huron.....	April 18-25.....	1 0
Missouri—Kansas City.....	April 18-25.....	10 0
Missouri—St. Joseph.....	April 18-25.....	10 0
Missouri—St. Louis.....	April 18-25.....	7 1
Montana—Butte.....	April 18-25.....	5 0
Nebraska—Nebraska City.....	April 18-25.....	5 0
Ohio—Cincinnati.....	April 18-25.....	13 3
Ohio—Toledo.....	April 18-25.....	1 0
Tennessee—Nashville.....	April 18-25.....	1 0
Texas—Galveston.....	April 18-25.....	1 0
Texas—San Antonio.....	April 18-25.....	21 1
Virginia—Richmond.....	April 18-25.....	1 0
Washington—Spokane.....	April 18-25.....	1 0
Wisconsin—La Crosse.....	April 18-25.....	5 0
Wisconsin—Milwaukee.....	April 18-25.....	3 0
Wisconsin—Racine.....	April 18-25.....	4 0

Sundays: Foreign.			
Algeria—Algiers.....	March	1-31.....	2
Arabia—Aden.....	March	30-April 6.....	1
Brazil—Manaos.....	March	21-28.....	2
Brazil—Para.....	March	28-April 11.....	2
Canada—Halifax.....	April	18-25.....	4
Canada—Toronto.....	April	1-April 4.....	1
Canada—Winnipeg.....	April	1-18.....	1
Ecuador—Guayaquil.....	March	28-April 3.....	2
Egypt—Cairo.....	March	25-April 8.....	12
France—Paris.....	April	4-11.....	4
France—Toulon.....	March	25-31.....	5
Great Britain—Leith.....	April	4-11.....	1
India—Bombay.....	March	24-31.....	6
India—General.....	April	9-16.....	6
Italy—Catania.....	April	4-11.....	1
Italy—Naples.....	April	4-11.....	1
Japan—Kobe.....	March	24-28.....	3
Japan—Osaka.....	March	24-28.....	3
Malta.....	March	21-April 3.....	3
Mexico—Acapulco.....	April	1-8.....	1
Mexico—Monterrey.....	April	2-9.....	1
Mexico—Vera Cruz.....	April	13.....	1
Russia—Moscow.....	March	25-April 4.....	12
Russia—Odessa.....	March	25-April 4.....	12
Russia—St. Petersburg.....	March	21-April 1.....	12
Spain—Almeria.....	March	11.....	1
Spain—Cádiz.....	March	11.....	1
Spain—Huelva.....	April	1-8.....	3
Spain—Madrast.....	April	1-8.....	3
Spain—Vigo.....	April	1-11.....	1
Strait Settlements—Pangang.....	March	1-10.....	1
Strait Settlements—Singapore.....	March	1-10.....	1
Turkey—Constantinople.....	March	27-31.....	2
Zanzibar.....	March	27-31.....	2

[illegible]

Peru—Chosika.....	March 14-21.....	1
Peru—Eten.....	March 14-21.....	2
Peru—Lima.....	March 14-21.....	10
Peru—Mollendo.....	March 14-21.....	3
Peru—Monsefu.....	March 14-21.....	8
Peru—Pisco.....	March 14-21.....	1
Peru—Trujillo.....	March 14-21.....	81
		36

### Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending May 6, 1908:*

CARMICHAEL, D. A., Surgeon. Granted leave of absence for fourteen days, from May 27, 1908.

DREW, A. D., Acting Assistant Surgeon. Granted leave of absence for thirty days, from June 3, 1908.

GARDNER, C. H., Passed Assistant Surgeon. Detailed as a member of a Revenue Cutter Service Retiring Board, to meet at San Francisco, Cal., May 12, 1908.

FOSTER, A. D., Passed Assistant Surgeon. Granted leave of absence for one day, April 16, 1908, under paragraph 191, Service Regulations.

HOBBS, W. C., Passed Assistant Surgeon. Detailed as a member of a Revenue Cutter Service Retiring Board, to meet at San Francisco, Cal., May 12, 1908.

HOLLAND, D. J., Acting Assistant Surgeon. Granted leave of absence for five days, from May 4, 1908, under paragraph 210, Service Regulations.

KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for one day, April 30, 1908, under paragraph 210, Service Regulations.

KERR, J. W., Assistant Surgeon General. Detailed to represent the service at the meeting of the National Association for the Prevention of Tuberculosis, to be held in Chicago, Ill., June 4 to 6, 1908. Also directed to attend the meeting of the National Association of the Milk Commission at Chicago, Ill., June 1, 1908.

McINTOSH, W. P., Surgeon. Directed to proceed to Vanceboro and other points in Maine for special temporary duty, upon completion of which to rejoin his station.

RYDER, L. W., Pharmacist. Granted leave of absence for two days, from May 6, 1908, under paragraph 210, Service Regulations.

STANTON, J. G., Acting Assistant Surgeon. Granted leave of absence for twenty-seven days on account of sickness, from April 4, 1908.

STUART, A. F., Acting Assistant Surgeon. Granted leave of absence for twenty-one days, from May 15, 1908.

WALKER, T. D., Acting Assistant Surgeon. Granted leave of absence for four days, from May 1, 1908.

WETMORE, W. O., Acting Assistant Surgeon. Granted leave of absence for one day, April 24, 1908, under paragraph 210, Service Regulations.

WILSON, J. G., Acting Assistant Surgeon. Order granting leave of absence for two days in March, 1908, amended to read for one day only.

#### Board Convened.

A board of medical officers was convened May 2, 1908, to meet at Seattle, Wash., to make physical examination of an officer of the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chagnon, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the medical department of the United States Army for the week ending April 11, 1908:*

BROWNLEE, C. Y., Captain and Assistant Surgeon. Left Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., for duty as surgeon of the transport *Sheridan*.

GRISSINGER, J. W., Captain and Assistant Surgeon. Left Fort Ethan Allen Vt., on leave of absence for two months.

WILLIAMS, A. W., Captain and Assistant Surgeon. Relinquished leave of absence and will proceed to duty at Fort H. G. Wright, N. Y.

### Navy Intelligence:

*Official list of changes in the medical corps of the United States Navy for the week ending May 9, 1908:*

BECKNAP, J. L., Assistant Surgeon. Detached from the naval training station, Newport, R. I., and resignation accepted to take effect May 6, 1908.

COOK, F. C., Surgeon. Orders to the *North Carolina* revoked; ordered to continue duty at the Naval Academy, Annapolis.

JONES, A. McK., Acting Assistant Surgeon. Detached from the naval recruiting station, Des Moines, Ia., and resignation accepted to take effect May 1, 1908.

McGUIRE, L. W., Assistant Surgeon. Appointed an acting assistant surgeon from April 15, 1908.

McMURDO, H. B., Acting Assistant Surgeon. Appointed an acting assistant surgeon from April 15, 1908.

MILLER, J. T., Assistant Surgeon. Detached from the *Franklin* and ordered to the *North Carolina* when commissioned.

STRITE, C. E., Assistant Surgeon. Ordered to the *Franklin*.

WARNER, R. A., Assistant Surgeon. Detached from the *Naval Hospital*, Pensacola, Fla., and ordered to Washington, D. C., May 7, for examination for promotion and then to await orders.

## Births, Marriages, and Deaths.

#### Married.

HEILMAN—KIRK.—In Syracuse, New York, on Thursday, April 30th, Dr. Ralph Salem Heilman and Miss Laura Burns Kirk.

JUDY—RAIRDON.—In Piqua, Ohio, on Friday, May 1st, Dr. G. S. Judy, of Miamisburg, and Miss Ida E. Rairdon.

#### Died.

CALHOUN.—In Philadelphia, on Monday, May 4th, Dr. Edward Calhoun, aged thirty years.

CARMICHAEL.—In Trinidad, Colorado, on Friday, May 1st, Dr. Ahab K. Carmichael, aged fifty-four years.

CARTLEDGE.—In Louisville, Kentucky, on Monday, May 4th, Dr. A. Morgan Cartledge, aged forty-nine years.

CASWELL.—In New York, on Sunday, May 3d, Dr. William Halsted Caswell, aged sixty-six years.

CHRISTISON.—In Chicago, on Friday, May 8th, Dr. John Sanderson Christison.

CLARK.—In Lakewood, Ohio, on Monday, May 4th, Dr. William Clark, aged eighty-two years.

DRAPER.—In Kansas City, Missouri, on Tuesday, May 5th, Dr. James F. Draper, of Victor, New York, aged eighty-two years.

GAMBLE.—In St. Louis, Missouri, on Monday, May 4th, Dr. David Coalter Gamble, aged sixty-four years.

GUILD.—In Wheaton, Illinois, on Saturday, April 25th, Dr. Elias Cornelius Guild, aged seventy-six years.

HALL.—In Boston, on Wednesday, April 29th, Dr. Rufus H. Hall, of Everett, Massachusetts.

HOLMES.—In Adams, Massachusetts, on Sunday, May 3d, Dr. Horace M. Holmes, aged eighty-two years.

KIRCHNER.—In St. Louis, Missouri, on Sunday, May 3d, Dr. Henry Charles Albert Kirchner, aged eighty-seven years.

KUHN.—In Brooklyn, New York, on Thursday, May 7th, Dr. Louis Debarth Kuhn, aged seventy-nine years.

LEWIS.—In Farmer, North Carolina, on Thursday, April 23d, Dr. Claude H. Lewis.

LYONS.—In Fitchburg, Massachusetts, on Wednesday, May 6th, Dr. Herbert H. Lyons, aged fifty-three years.

McCoy.—In Independence, Missouri, on Wednesday, April 29th, Dr. Charles D. McCoy, aged fifty-six years.

McNULTY.—In New York, on Friday, May 1st, Dr. John Joseph McNulty, aged forty-five years.

MADDIN.—In Nashville, Tennessee, on Monday May 4th, Dr. John W. Maddin, aged forty-two years.

MADDIN.—In Nashville, Tennessee, on Monday, April 27th, Dr. Thomas L. Maddin.

PERRY.—In Worcester, Massachusetts, on Friday, May 1st, Dr. Charles Homer Perry, aged seventy-three years.

SCHLERETH.—In New Rochelle, New York, on Wednesday, May 6th, Dr. George Schlereth, aged sixty-four years.

SILBERT.—In Roxbury, Massachusetts, on Saturday, May 2d, Dr. Joseph J. Silbert, aged forty-three years.

STARRETT.—In Chicago, on Friday, April 1st, Dr. Carlton E. Starrett, of Elgin, Illinois, aged forty-four years.

TABOR.—In Cassopolis, Michigan, on Wednesday, April 30th, Dr. J. S. Tabor, aged thirty-three years.

WARRINGTON.—In Washington, New Jersey, on Thursday, May 7th, Dr. Charles B. Warrington, aged seventy-four years.



# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

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### Original Communications.

#### THE SIGMOIDAL FACTOR IN PELVIC DISEASES \*

By J. RAWSON PENNINGTON, M. D.,  
Chicago,

Professor Rectal Diseases, Chicago Polyclinic

*Relations and Influences.*—I was greatly impressed, when making some observations concerning the anatomy and physiology of the sigmoid and rectum in 1899 and 1900,<sup>1</sup> by the various lengths, positions, and adhesions of the sigmoid and of its relations to the pelvic viscera. In fact, I was so much impressed with these various conditions that I believed then, have taught since, and still contend, that an adherent, extra long, overfilled, or loaded sigmoid, particularly when it has an extra long mesentery, is more frequently than usually considered a potent factor in the production of many diseased conditions occurring in the pelvic viscera. Especially was I impressed with the possible pathological influences of such conditions on the uterus and its annexa; and, in this paper, shall confine my remarks to these relations and influences. Later I shall consider other phases of the subject. If the foregoing premises are true, then the treatment of cases of uteroovarian diseases caused by such conditions, should, it seems to me, be directed primarily to the sigmoid and rectum, and, secondarily, to the uterus and its annexa. But, you ask, what percentage of uteroovarian diseases are due primarily to sigmoid influences? Not being familiar with any statistics bearing on this subject I shall state that it is my opinion, based on the following clinical observations and autopsy findings, that quite a large percentage of such cases, a much larger percentage than you would imagine, are caused by conditions emanating from the sigmoid and its mesentery.

#### *Clinical Observations.*

1. It has been my observation that more than seventy-five per cent. of adult women whom I have examined for some rectal or sigmoidal disease have had, in addition to the bowel trouble, more or less uterine disorder.

2. In making proctosigmoidal examinations from one half to two hours after defecation, of young girls between the ages of sixteen and twenty-two years suffering from some form of uterine disorder, such as leucorrhœa, dysmenorrhœa, etc., I have found the rectum and sigmoid more or less filled with feces.

3. That *pari passu* with the relief and improvement of the rectal and sigmoidal conditions, in a large percentage of these cases, there will also be observed relief and improvement in the uterine troubles.

4. That when the sigmoid and uterus sustain normal physiological relations to each other and the former is loaded and unloaded periodically, then the effect of the sigmoid on the uterus is salutary. This is true, because the normal physiological position of the uterus is one of suspended mobility in an anteverted state, and such functions are physiological. But, on the contrary, if the functions of

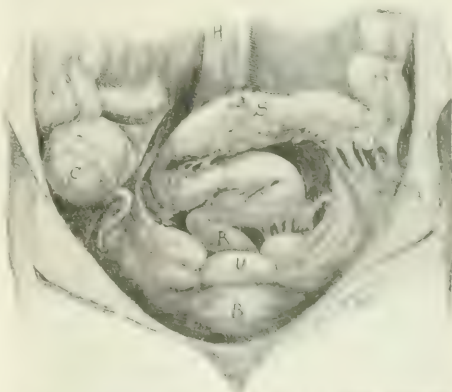


FIG. 1. Diagram illustrating the normal physiological position of the uterus and sigmoid colon. The uterus is anteverted, and the sigmoid colon is in a coiled position, with its mesentery and its proximity to the uterus.

the sigmoid are compromised by adhesions or some other pathological or anomalous condition, then we should expect it to have a detrimental rather than a salutary effect on these organs, and that is what we usually do find. Again you ask, and quite pertinently too, What percentage of these cases have adhesions or some other pathological or anomalous condition of the sigmoid, and in what percentage of the cases does the sigmoid get loaded and unloaded periodically?

Byron Robinson (*Menstrual Stricture*, 1902) says that in 800 adult autopsies (400 men and 400 women) of which he has a record, that adhesions of the sigmoid were found in eighty per cent. of the men and in eighty-five per cent. of the women. Furthermore, every detumescence and every pro-

\*Read at the meeting of the Medical Society of the City of Chicago, May 15, 1907.  
From the Chicago Polyclinic, Chicago, Ill.

tor knows of the frequency of such adhesions; and every physician and most laymen are familiar with the prevalence of constipation.

**Autopsy Findings.**—The following illustrations (Figs. 1 to 10), made from autopsies, show that the

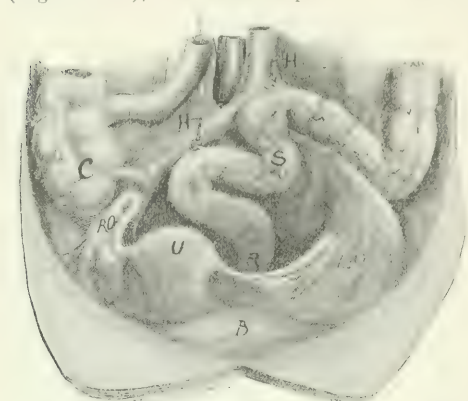


FIG. 2.—The sigmoid, *S*, is sustained by hooks, *H*. It was twenty inches long, partially filled with feces, crowded into the left side of the pelvis, forcing the uterus, *U*, to the right side and fixing it there. The left ovary, *LO*, was elongated, fixed by adhesions, doubled on itself, and bent downwards near *R*, mainly by the weight of the sigmoid. *M. C.*, age fifty-three. Autopsy, August, 1907. (Pennington.)

sigmoid may overlap, wind around, rest beneath or on these organs, and that it may be adherent at various points. Such conditions not only compromise its functions, but those of the uterus and its annexa.

The uterus, when sustaining such relations to a chronically loaded sigmoid, may be displaced up-

wards, downwards, laterally, backwards, or forwards, and held or fixed in that position. This interferes with its mobility and functions, hence produces a pathological state of that organ. If the uterus is continuously held or fixed in any relative position whatsoever, be that position anteversion or otherwise, and whether it be by tumors, an overloaded or adherent bowel, or what not, it must sooner or later become congested and the victim of infection.

The normal physiological position of one's hand, for example, is likewise that of suspended mobility, and when by his side is in a normal relative position. Yet it cannot be gainsaid that, if it be continuously maintained in that position, either by tying or any other means, it will, sooner or later, become congested and in a pathological state; so will the uterus if it be maintained permanently in any relative position.

This compromise of the mobility of the uterus places it under stress, and an organ under stress becomes turgescient, crippled, and is, therefore, not in a good condition or the best position to defend itself against the invasion of microbes. Along with

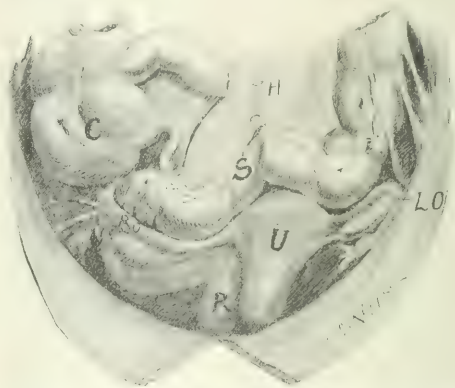


FIG. 3.—The sigmoid, *S*, is held up by a hook, *H*. This exposes the doubling up of the left oviduct, *LO*, and the downward bend and displacement of the right oviduct, *RO*. It also shows the position of the uterus, *U*, in the left side of the pelvis. (Pennington.)

this loaded and more or less fixed condition of the sigmoid there may exist sigmoiditis, mesosigmoiditis, or perisigmoiditis with adhesions. This further compromises the functions of the sigmoid, and it in turn thoses of the uterus. Such a compromised position of the uterus and its appendages is pathological and demands attention. But should that attention be directed primarily to the uterus and its annexa, or to the structures causing the trouble, i. e., to the sigmoid and rectum?

**Symptoms.**—Doubtless you will have anticipated that the symptoms arising from such complex conditions would be primarily from the sigmoid; and, secondarily, from the uterus, ovaries, and oviducts. But such is not the case. The man who steps on your toe, for example, is not the one that usually makes the first outcry. Yet he is the offender. Neither is it the sigmoid that necessarily presents the first symptoms, although it may be impinging on the uterus. As regards the relative time of the

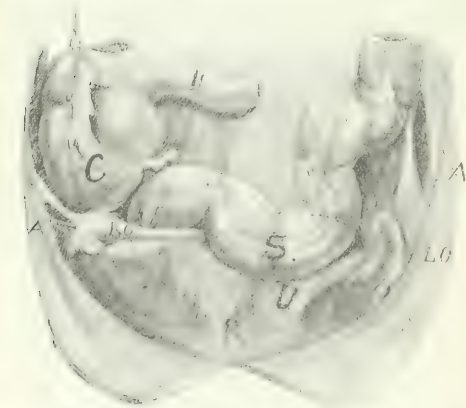


FIG. 4.—The sigmoid, *S*, is held up by a hook, *H*. It is then the sigmoid, *S*, is held up by a hook, *H*. It then extended upwards, backwards, and outwards crossing the right broad ligament and oviduct, *RO*, and passing downwards behind these structures and the cervix, terminated in the rectum, *R*. It was bound down by adhesions, *A*, to the left parietal peritoneum. It completely filled the right side of the pelvis, displacing and fixing the uterus in a position of left lateral retrodeviation. The right fibromatous extremity was adherent to the parietal peritoneum, *A*, on that side. The right oviduct, *RO*, was elongated and bent downwards by the weight of the loaded bowel. *L. C.*, age forty. Autopsy, August, 1907. (Pennington.)

manifestation of the symptoms, it is, in the majority of cases, the uterus and its annexa to which complaints are first referred and for which relief is sought; and, frequently, not for a considerable length of time, indeed sometimes not at all, is the complaint referred to the organ that is the real source of the mischief. Among those symptoms emanating especially from the uterus may be mentioned leucorrhœa, dysmenorrhœa, metorrhagia, and menorrhagia, while those pointing directly to the bowel factor are constipation, an overloaded bowel with daily evacuations, painful defæcation, mucus in the stools, etc. Among those common to all the organs considered are hæmorrhage, nausea, sensation of weight in pelvic region, especially at the menstrual period, pain or pain and weight in the left or right groin, dragging pains in the iliac and lumbar regions, headache, lassitude, nervousness, tired feeling, etc.

The foregoing are the same clinical symptoms mentioned in our textbooks on gynecology and surgery, differing only in an attempt at classifica-

tion. The patient was referred to me by a confrère in May, 1905, to be treated for pruritus ani. Examination showed that she had proctosigmoiditis, was constipated, had mucus in her stools, pain in her left side on palpation, leucorrhœa, dysmenorrhœa, a retroverted and very sensitive uterus, and great tenderness over both ovaries and oviducts. Many weeks of topical applications to the uterus had given her no relief.

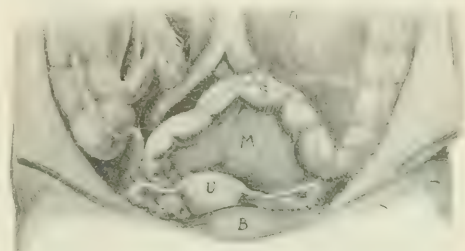


FIG. 6.—Same as Fig. 5. Here the sigmoid, *s*, is elevated by a hook, *h*. The mesentery, *m*, was six inches long. (Pennington.)

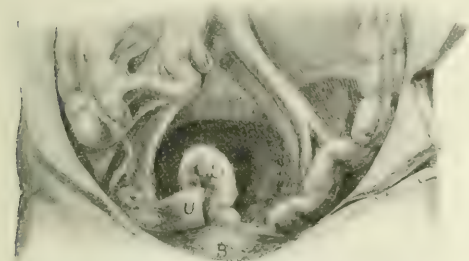


FIG. 5.—The sigmoid was eighteen inches long. It descended into the left side of the pelvis, and the air-tissue between the bladder, *b*, and uterus, *u*; then ascended upwards, crossed over the fundus of the uterus, *u*, and descended behind this organ to the rectum. The uterus was in a position of right lateral retrodeviation and greatly displaced downwards in the pelvis. *M. G.*, age fifty. Autopsy, May 5, 1907. (Pennington.)

tion. Patients with such symptoms usually seek relief for the uterine and ovarian trouble only. They regard the symptoms which are especially associated with the bowel factor as of little or no importance. Even the consulted physician frequently fails to realize the value of this factor. Why? Because, 1, he seems to forget the anatomical and physiological relations existing between the rectum and the sigmoid and the uterus and its annexa; 2, he rarely, if ever, examines the rectum and sigmoid in cases of uteroovarian diseases except in a perfunctory manner. It is obvious, therefore, that the conclusion reached by such an examination is faulty.

To properly interpret the array of symptoms arising from these closely related organs (the rectum and sigmoid, and the uterus and its annexa) necessitates a careful examination of each; and if the rectum and sigmoid are found in a condition that would modify or interfere with the functions of the uterus and its annexa that condition should be treated.

The following case emphasizes the importance of this assertion:

CASE I. Miss W., of Princeton, Ill. age twenty years,

Part of my treatments consisted in colonic lavage combined with manual massage. This produced quite a little pain, especially on the left side. I repeatedly requested her to consult a gynecologist, because of her uteroovarian trouble. Finally, of her own accord she consulted one of the leading internists and one of the most eminent gynecologists in the city. Each, according to her report, said her ovaries would have to be removed. I then had another gynecologist examine her. He confirmed their diagnosis and advised the same surgical procedure. She declined the operation. I continued my treatment. One day on leaving the office she said she had a sensation as though something broke loose within the abdominal cavity. From that day on colonic lavage was painless, her bowels improved, and her leucorrhœa soon became notably less. While there is still some thickening of the broad ligaments and some slight tenderness over the tubes and ovaries, yet she has had no dysmenorrhœa nor leucorrhœa, and her bowels move regularly daily. I have often thought since finding

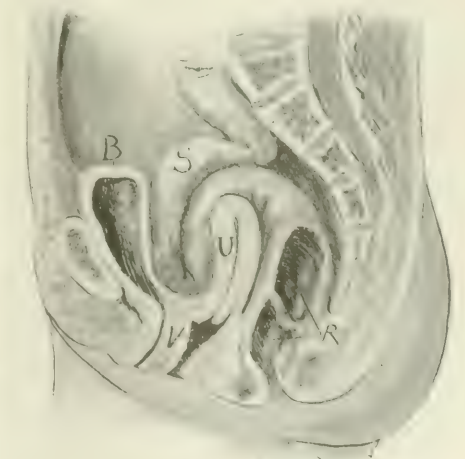


FIG. 7.—Sagittal view of the female pelvis showing the sigmoid colon (S) and uterus (U). The diagram is labeled with 'B' for bladder, 'S' for sigmoid, 'U' for uterus, and 'R' for rectum.



the specimen shown in Fig. 10 that she likewise had an adherent appendix epiploic and that it was the breaking of this band which she felt.

**Diagnosis.**—Here again we are confronted with the same complicated proposition as when we attempted to write the symptomatology. To make a diagnosis in a case of suspected uteroovarian disease, or in one presenting the foregoing symptoms, it is as necessary to make a complete and thorough rectal and sigmoidal examination as it is to make

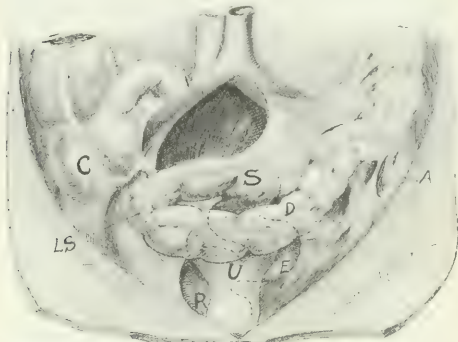


FIG. 8.—The sigmoid, *s*, was twenty-eight inches long. It passed down the left side of the pelvis to the bottom of the cul-de-sac in front of the uterus; then across the front of the uterus, *u*, to the right side of the pelvis, then upwards and backwards over the right oviduct, then slightly upwards and towards the left side, until it passed beyond the median line, then curved to the right and downwards behind the fundus, then curved to the left behind the uterus and passed beyond the left border of that organ, then crossed again to the right and passed across the bottom of Douglas's cul-de-sac to terminate in the rectum, *r*. The sigmoid thus practically surrounded the uterus; *ls*, is the right loop of the sigmoid; *e*, is the left loop; *a*, adhesions to the parietal peritoneum; *r*, rectum. The ovaries and oviducts were purposely omitted from this sketch. R. B., age fifty years. (Autopsy, October, 1905. (Pennington.)

a complete and thorough uterine examination. The former, as a rule, should be made first. Especially is this true in the case of young girls and unmarried women, as this examination may give sufficient information without making the latter. If not, then the uterine examination should be made by the usual "touch" bimanual and instrumental means.

One of the objects in making a rectal and sigmoidal examination is to ascertain whether or not the sigmoid and rectum are emptied and refilled periodically. An individual may defecate regularly every day and yet have a continuously loaded bowel. Such a condition may interfere with rhythmic uterine action, and if not corrected cause a pathological state of that organ. Hence the necessity and importance of proctoscopy, sigmoidoscopy, palpation, etc., when making such examinations. It is not necessary for the uterus to be pushed to one side or down in the pelvis and held there, as shown in some of the foregoing illustrations, to become pathological. It is a movable organ, and its position is one of suspended mobility. Anything, therefore, that immobilizes it continuously, it matters not what the relative position of the uterus may be, compromises its functions with a pathological sequence. A persistently loaded sigmoid and rectum may produce this pathological sequence. If the patient has fibrosis of the rectal valves, chronic hypertrophic or atrophic proctosigmoiditis, contractions, strictures, kinking, adhe-

sions, or an extra long sigmoid or mesentery or other conditions interfering with the regular rhythmic loading and unloading of the sigmoid and rectum, she, in the course of time, is most likely to have leucorrhœa, dysmenorrhœa, and other symptoms pointing to the beginning of a pathological state in her genitalia.

The mere statement of a patient that she is not constipated because her bowels move once or twice daily is not to be accepted as conclusive evidence that she has not an overloaded bowel. In fact, when a patient states that her bowels move twice daily and that both movements are close together, I usually expect and do find a continuously filled or diseased bowel. To illustrate:

**CASE II.**—A lady was brought to my office in April, 1905, by a former patient seeking, through me, the services of a gynecologist. Believing from her statement that her bowels were more in need of treatment than her uterus, I made a rectal examination after she had assured me that she was not constipated, that her bowels had moved twice that morning, and that she had never had any trouble of any kind whatsoever with them. On removing the obturator from the proctoscope I found her rectum loaded with feces. I requested her to return home, cleanse her bowels with injections, and return the following morning for examination; this she did. She expressed great surprise on entering my office the following day at the amount of material she had passed as the result of the injection; but for the same reason as on the previous day it was impossible to examine her. This was repeated for three successive mornings. On the fourth morning her husband accompanied her and assured me that her bowels were clean this time because he had attended to the matter himself. On removing the obturator from the speculum her uterus was very much chagrined to find that they were not as yet clean.

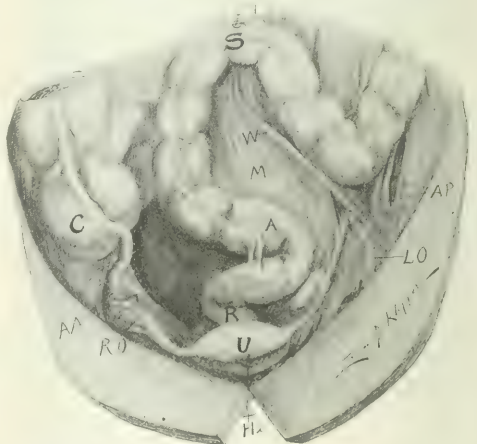


FIG. 9.—The same case as Fig. 8. The sigmoid, *s*, is lifted up by the hook, *h*. The uterus, *u*, is pulled downwards by the hook, *h*. *w* is a white fibrous line in the mesentery over the psoas muscle; *a*, *p*, adhesions binding the sigmoid to the psoas; *a*, adhesions causing an angulation of the sigmoid; *a*, *a*, adhesions between the appendix and fimbriated extremity of the right oviduct, *r* o, left oviduct; *r*, rectum. (Pennington.)

Vaginal examination in her case showed the uterus to be slightly anteverted and very sensitive, and the ovaries and tubes very tender.

I treated her with lavage of the colon combined with manual massage, and through these measures either stretched or broke up some adhesions which I believed I had detected. At least the pain in her left side, her leucorrhœa, dysmenorrhœa, nausea, and "tired feeling," etc., all

disappeared, and her bowels became quite regular, moving once daily.

**Treatment.**—Here again we are confronted with very much the same difficulty that we were in attempting to write the symptomatology and diagnosis, i. e., a dual proposition.

From the foregoing it would seem that the treatment of many pelvic diseases should be directed primarily and early to the sigmoid and rectum, and secondarily to the uterus and its appendages.

To treat, for example, a uterine disorder due to sigmoiditis, mesosigmoiditis, or perisigmoiditis, or to hypertrophic or atrophic proctosigmoiditis, fibrosis of the rectal valves, or to a continuously overloaded bowel, etc., by topical applications and vaginal tampons is not only useless, but *positively harmful*. Such treatment of this class of cases allows the condition to advance and leads to the later stages of pelvic disorders which necessitates more severe and radical measures. Doubtless it was the result of such treatment that caused Dudley to say in his most excellent textbook on *Gynecology* that "topical applications should be consigned to the archives of gynecology." In such cases topical treatment seems to benefit the patient temporarily; but, as a matter of fact, the condition continues to grow worse and worse until finally hysterectomy, oophorectomy, salpingectomy, or hysterosalpingo-oophorectomy, with their deplorable sequences, have to be performed.

If the conditions causing these troubles have advanced to that stage where they can not be corrected by simple methods and general tonic treatment, then laparotomy should be performed; not, however, for the purpose of removing the tubes and ovaries, but to apply such surgical measures to the offending sigmoid, as may seem indicated. Incidentally, of course, any requisite operative work on the uterus, tubes, and ovaries should be done at the same time.

The following case (Fig. 11) serves to illustrate the point in question.

Miss L., aged twenty-five, was referred to me by Dr. Gratiot, of Mineral Point, Wis., May 2, 1905.

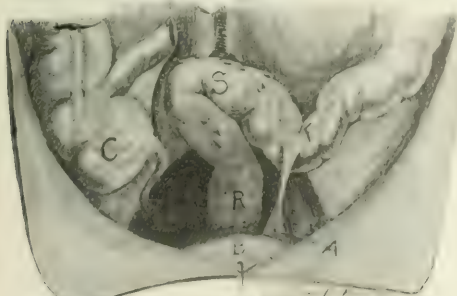


FIG. 11.—The sigmoid is the colon, S, sigmoid is a hook, A, pulled down by a hook; A, adhesions between the sigmoid and parietal peritonium; B, adhesions between the broad ligament and the sigmoid; C, cervix; LO, left ovary slightly pulled down by a hook; U, uterus. (Pennington.)

She gave a history of inflammation of the bowels the previous February. She was a typical neuroasthenic, had lost twenty pounds in weight, had fibrosis of the rectal valves, proctosigmoiditis, and was constipated. Her left ovary and oviduct was tender, and she suffered from leucorrhœa and dysmenorrhœa. Proctocolostomy, lavage with manual

massage, and general tonic treatment gave her some relief only.

She returned December 14, 1905; conditions about the same as when she first consulted me. Laparotomy exposed adhesions of the sigmoid to the broad ligament and parietal peritonium on the left side, which confirmed my diagnosis. These were severed and the raw surfaces covered. Her improvement was very marked. Bowels became quite regu-

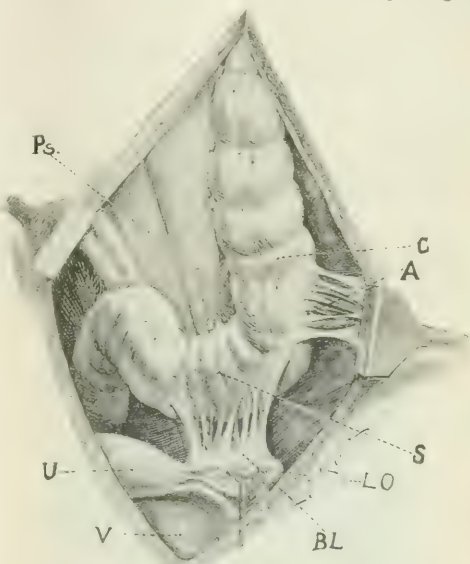


FIG. 12.—The sigmoid is the colon, S, sigmoid is a hook, A, pulled down by a hook; A, adhesions between the sigmoid and parietal peritonium; B, adhesions between the broad ligament and the sigmoid; C, cervix; LO, left ovary slightly pulled down by a hook; U, uterus. (Pennington.)

lar, leucorrhœa, dysmenorrhœa, and tenderness over ovary and oviduct disappeared. She has returned three different times since the operation because of the beginning pain in the left side. After a few treatments with lavage and manual massage the pains disappeared and she returned home feeling quite well again. She has had no leucorrhœa or painful menstrual periods since the adhesions were broken up. Her bowels have not improved so as to move regularly every day without some little assistance; yet, there is a marked improvement over her former condition and the uterine and ovarian trouble have entirely disappeared.

It seems to me that we are approaching a position from which we can view the treatment of pelvic diseases in a different and broader light. In the treatment of pelvic diseases early diagnosis and treatment is quite as essential to permanent success as is early diagnosis and treatment of cancer of the stomach, as advocated by W. J. Mayo.

There is probably a period in many cases of this class of pelvic disorder at which if taken they could be easily managed and successfully treated without surgical procedures. If not properly handled at that time then early surgical interference to break up adhesions, straighten out kinks in the sigmoid, especially the one that so frequently occurs at the rectosigmoidal junction, shortening or kinking in the mesentery, sigmoidopexy, "short circuiting" the bowel current, by lateral anastomosis, and, if need-

be, resection of the sigmoid should be done with the hope of preserving the genitalia and womanhood.

Should all of these measures fail, then, as a *dernier ressort*, hysterectomy, salpingectomy, oophorectomy, or hysterosalpingo-oophorectomy may have to be performed.

103 STATE STREET.

## THE RESTORATION OF THE NORMAL BALANCE OF THE FOOT.

### II.

#### *Second Paper. The Treatment of Weak or Flat Foot by the Use of a Mechanical Support.*

By E. G. ABBOTT, M. D., AND H. A. PINGREE, M. D.,  
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The term weak or flat foot is here employed to designate that condition of the foot in which the arch is depressed, but in which the joints are freely movable in all directions. The complications of

The use of a support or plate in a shoe for the purpose of lifting the arch of a weak foot into a normal position and holding it there is not unlike in its effect that produced by the application of a brace to any part of the anatomy, and atrophy of the soft tissues with a corresponding weakness is the result. As the muscles which should maintain the arch in

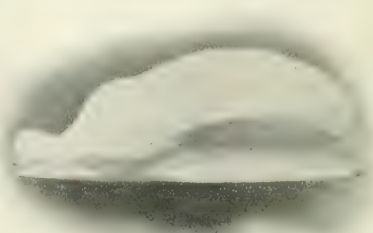


FIG. 23.—Plaster cast of arch of skeletal foot, showing dome shape.

flat foot are already weak, it is very evident that such treatment alone, if the result sought is complete restoration of the normal, is not only inadequate, but unscientific.

The plate is useful during a certain stage in the treatment of weak foot, but should only be used as an agent in bringing the foot to a normal condition; and in order to do this it must be of such a shape that it makes little or no pressure when the foot is in activity, acts as a reminder to the patient to hold the arch in a proper position when the foot is passive, but supports it when he is unable to do so longer.

The best idea of what should be the correct form of support can be obtained by an examination of the contour of the arch in a dissected normal foot (Fig. 22), by an analysis of the motion of the foot when used in walking, and also from the attitude in weight bearing. A look at the plaster model of the skeletal foot will suffice to show that the arch is not an inclined plane, but that it resembles a section of a dome (Fig. 23), and therefore that, in order to maintain it in a normal position, the support must be dome shaped. The model also shows that the highest part of the support should not be at its inner margin, but at a point on it which corresponds with that part of the foot beneath the scaphoid bone and situated at some distance from its internal border. A support of this form, then, with slight allowance for the soft tissues, would just fit the arch of the normal foot, when the patient is standing, without making any considerable pressure. The parts of the foot which would support the body weight on the surface beneath it, rather than on the



FIG. 22.—Portion of dissected foot hardened in formaldehyde, showing shape of arch.

rigidity and inflammation which frequently accompany this deformity are not considered in this paper, since, as already stated in the introductory article on this subject (see *Journal*, p. 875), the treatment of them is necessarily preliminary to that of restoring the arch to its normal position, and a support, if of any value, does not fully serve the purpose for which it is intended until all restriction to motion is removed.

Also all such treatment as strapping or braces is not included, as that likewise is a preparatory measure. The use of proper shoes is here indicated, just the same as it is in the normal condition of the foot, and has only a relative bearing upon this part of the subject.



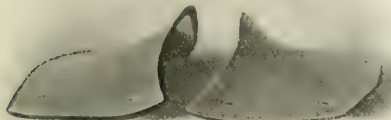
FIG. 24.—Footprint of a normal foot, showing weight-bearing surfaces.



plate, would be the heel, the outer margin of the sole, and the ball (Fig. 24). These would also be the parts which would successively support the body in walking, and such a plate would have no action



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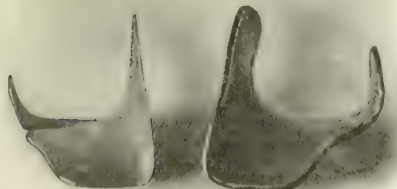
FIG. 25.—Plates ready-made, such as are sold in shoe stores.  
FIG. 26.—Usual type of plate made from a cast of the foot.

whatever on the normal foot either during motion or at rest.

Now, if a support of this shape is placed beneath a weak foot, it will be found that the arch is raised to a normal position, and that it remains there with very little pressure upon the plate even in those cases where the relaxation is extreme, notwithstanding that very little or no effort is made by the



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FIG. 27.—Plate with heel and ball raised, designed to support the arch.  
FIG. 28.—Whitman plate, as made by Dr. J. B. Whitman, New York.

patient, as soon as he tries, to hold the arch by muscular power, for, as shown in the preceding paper, it requires only one-eighth as much force to maintain the arch, when it is raised to a normal position, as that necessary to lift the weight of the body, and this in the endstage, the most lax condition obtainable.

In walking, this support has no more action in the flat than in the normal foot, with the exception that it does remind the patient to place the foot in a correct position, so that the step may be properly taken. It makes no difference in the action of a plate of this shape whether it is placed in a shoe or upon the floor, where all restrictions are removed, the arch is maintained in its normal place and the foot must assume the correct position.

The arch is such, then, in its contour that, if a plate is so constructed that it conforms to it, it needs nothing whatever to prevent the foot from slipping off from it in any direction, it has very little action as a direct support until the patient tires, it acts as a reminder to the patient to hold the arch in a normal position, and it prevents the foot from assuming anything but a normal attitude during the successive movements of the step.

The different supports now in use all resemble in a general way the inclined plane, but, as they



FIG. 29.—Position of a weak foot on the Whitman plate as soon as muscular relaxation takes place.

differ somewhat in particulars, a brief description of them will be necessary in order to understand their action.

The one in most common use is that found in shoe stores (Fig. 25), and it is a type familiar to all. The highest part is the border which extends along the inner margin of the foot, and the plate's upper surface slopes concavely downward from this line to its opposite edge. It is made from a stock pattern, and is practically worthless. It is needless to mention the reasons why it does not accomplish its purpose.

The next most frequent shape met with resembles the ready-made plate with the exception that it is fitted over a cast of the foot (Fig. 26), and therefore conforms much better to the surface beneath which it is intended to be placed. The effect, however, is wholly to raise the inner border of the foot near the centre by resting it upon an inclined plane. The support cannot do this unaided, therefore the

boot must prevent the foot from sliding if the plate is to be held in place. It is at its best only a prop to the internal border of the arch, held in place by the boot; its action as a curative agent is practically nil, and it is probably more detrimental than useful to a proper gait.

In some instances the outer border of the plate



FIG. 30. Lateral view of a plate.

is turned up so that the foot is prevented from sliding from it (Fig. 27), and in this case the foot rests in a curved trough with the inner border higher than the outer.

The Whitman plate (Fig. 28), which is much superior to the supports described in the preceding,



FIG. 28. Whitman plate, showing the foot in shape.

and which marks a period of pronounced advancement in the mechanical treatment of weak foot, differs somewhat from the others both in its action and shape. It covers less of the foot on its under surface, but more on its inner, and has one outer flange just below the external malleolus. It is,

however, an inclined plane, and apparently the greater part of its action is due to this.

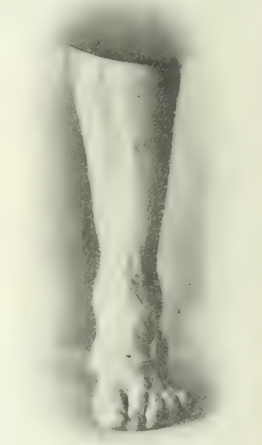
The so called positive action of this support is described as follows: The patient is instructed to throw the body weight on the outer side of the foot, as by so doing the foot presses against the flange on the outer side of the plate, tilting it. This causes the internal border of the support to be raised and pressed against the inner surface of the foot, which is instinctively drawn away from it.

It would seem from the description and from an examination of the plate in use that this positive action consists chiefly in causing the patient to walk on the outer side of the foot, provided he follows instructions. The lateral pressure voluntarily made on the outer flange of the support certainly raises its internal border, but by this action the border is raised throughout its entire length and carries as a whole the inner part of the foot with it. If the foot is placed upon this support it will be found that the posterior part, or heel, is held on an inclined plane by the outer flange, but that the whole anterior portion is free and cannot be held in the correct position unless the weight is thrown on the outer side of the foot, and then only through considerable effort upon the part of the patient. That this position cannot be maintained for any considerable length of time is evident, for, as soon as the patient tires and the muscles relax, the anterior part of the foot slides from the plate (Fig. 29).

The statement made by the supporters of this plate is that its action differs in principle from that of other forms, first, in that it supports the arch by lateral pressure over the inner surface of the foot, thereby preventing bulging of the internal border, which is the most important element of the deformity; second, in that the foot is under much less restriction and consequently its action is more like that of the normal foot.

It would seem from observations and experiments that the inner bulging of the foot, as already stated, is due wholly to a depression of the arch, and instead of being the most important element of the deformity, that it is only a result of this depression, and disappears at once as soon as the arch is restored by a proper support (see Figs. 7 and 8). It is possible for this plate through pressure along the inner surface of the foot to cause the patient to hold the foot for a time in a correct position by muscular effort, but, as soon as relaxation takes place—and,

FIG. 29. Showing position of a weak foot with plate placed beneath it.



if it did not, there would be no need of a support—the problem is one of simple mechanics, and just the same as that presented when an arch of similar shape of any material needs support. In such a case it would be necessary to do something besides securing one end of the arch and then making pressure against one side of it, with the other end entirely free.

The frequent assertion that the foot has more freedom in this support appears to be open to discussion. In the normal foot the arch movement is slight, and in all other motions which the foot has it moves as a whole, and any plate should not restrict these. It is a fact that this support covers less of the under surface of the foot than any other, but how much motion takes place in that part of the normal foot which would be left by such a plate? With this support the heel is firmly fixed and the rest is free, but the freedom is all in the direction of deformity, and it would seem that movements normal to the foot are less restricted by the ordinary plate.

In order to construct a support which shall meet the requirements in weak foot it is a well recognized fact that a model which conforms to the shape of the skeletal foot, at least approximately, is necessary. To obtain this by merely making a cast of the foot is impossible, as the soft parts cover it unevenly, and such a cast must necessarily be inaccurate. It might seem that the support would hold the bony framework in normal position if it conformed to the normal surface of the foot in the living subject, but experiments show this conception to be false, as some parts are covered with tissues which are resistant, while others are yielding and easily become absorbed under pressure. The best that we can expect to obtain is a model which conforms to that part of the bony framework which holds the body weight when the normal foot is used as a support. The modelling of the arch must be done with a knife, and the amount to be removed, as well as the shape, must be determined by judgment based upon experience.

There are several kinds of materials for making models, wax, paraffin, dental gum, lead, and plaster of Paris. The last named is most frequently used and upon the whole is considered the most satisfactory. The position in which the foot should be placed when the model is made is a question somewhat in dispute, and the best way to arrive at any conclusion as to the superiority of one over others is to analyze, step by step, the methods employed in taking the cast, of which there are two in common use, and compare the advantages offered by the supporters of each.

In the first method the model is made with the foot at rest, i. e., without being subjected to muscular action or weight bearing; by the other it is made with the foot approaching, if not quite in, the state of active support.

If the first method is used, i. e., a model taken with the foot at rest, the patient is seated with the leg flexed and the thigh rotated outward, so that if the foot is put upon a chair in front of him, it will rest upon its outer border and external malleolus. Plaster is then mixed to the proper consistency and poured upon a pane which is placed upon the thigh, and the foot is allowed to sink into it until about

one half of its surface is covered. As soon as the plaster sets, its upper margin is smeared with a lubricant and more plaster is spread over the remaining exposed part of the foot. This portion is then allowed to harden, after which it is removed, the foot taken out, the two parts placed in apposition again and bound together with a bandage. This mould, well oiled inside, is now filled with plaster porridge, and, as soon as it sets, the outside is removed and the model of the foot is the result.

A cast of the foot by the other method is made as follows: The patient is seated in a chair which is of just the right height, so that, when the legs are flexed to a right angle with the thighs, the foot will rest easily upon the floor. Some plaster having been mixed in a shallow pan and placed in front of the patient, the foot is grasped firmly around the ankle by one hand and around the toes by the other and held in a correct position, while it is pressed strongly against the bottom of the pan.

The foot is removed as soon as the plaster sets, and, after lubricating the impression, it is filled with plaster broth. The following day, or as soon as the broth has hardened thoroughly, the outside is broken away with a hammer, leaving the model.

As already stated, either method gives a model which is inaccurate, and which, in order that a plate may be constructed from it which will be efficient, must be carved with a knife, as the judgment indicates; but, as these two processes are the best that have so far been devised, it is necessary to choose between the two.

It is asserted by those who use the model made with the foot at rest that the arch is held by gravity in the best position obtainable, and that therefore it is the better method. If it is the purpose to get a cast of the foot with the arch placed apparently in the highest position possible, regardless of the normal when in use, this would undoubtedly be the method of choice. The arch in the normal foot, however, assumes a shape, when at rest, very different from that when it is used as a support, therefore the normal position of the arch with the foot at rest is not the normal position of it as a support, consequently a plate made from such a model will not even allow the arch of the foot to assume a normal position when in use.

Another disadvantage of this method is this, that the ball of the foot is quite likely to be on a different plane from that of the heel, and the arch is thereby twisted.

When the model is taken with the arch held in the normal position of support, and is subjected to pressure similar to that when the foot is in use, these difficulties are overcome and the cast represents more closely the shape of a normal foot in weight bearing.

It would seem, consequently, to support the first method, as the patient is free for the purpose of instructing the doctor as to what is wrong, whether by compression through the weight, or by the action of the foot in the correct position, or by direct pressure, that it should be done, and a model of that foot taken in a normal position, and subjected to a pressure like that of a normal foot when in use, rather than from a model of the same foot at rest, with the arch surface distorted, and in a position where it cannot be corrected.



The usual objection raised to taking a cast by holding the foot is this, that it cannot be held in a normal position, and, therefore, that it is most inaccurate. It is certainly not so difficult a procedure to hold a foot in a normal position in a pan of plaster as it is to hold a foot in a normal or over-corrected position while it is being fixed by plaster of Paris bandages, after breaking up adhesions of the joints.

If the model of the foot is correctly taken and afterward properly carved, a plate made over it should hold the foot in a natural position, or in the same position as the normal foot is held, when it is used as a support, and the best test of the value of a plate in the condition of weak foot is this, that, when it is placed under the arch, it makes very little if any pressure when the patient is standing, as long as he is able to hold the foot in a normal position, and none whatever when he is walking, but does support the arch in normal position unaided by a boot when the patient fails to do so by muscular action.

The changes which are made by the knife should commence with the impression before it is filled. The skeleton shows that the first metatarsal bone is freely movable and placed on a lower plane than the second, therefore the impression should be cut out along that part of it which corresponds to that bone, for, by so doing, it will be possible to trim the inner border of the cast more easily, so that it will be on a lower plane than the middle. The model should also be carved to correspond to the shape of the skeletal foot, and the lines for the support marked on its surface as follows: Beginning on the inner side of the heel just in front of the tuberosities of the calcaneum, a line is drawn curving backward to a point near the outer margin of the cast, thence along the outer border of the sole to a point just behind the head of the fifth metatarsal bone, thence over the ball of the foot to a point beneath the head of the first metatarsal bone, thence backward beneath this bone to the scaphoid where it curves inward and upward for a short distance, then backward and downward to the first mentioned point under the heel (Fig. 30).

The plate, when made, should resemble in shape the section of a dome, with the exception of the slight extension which controls the scaphoid bone (Fig. 31).

If a plate is made over such a model as described and along the lines indicated, it will be found upon trial that the foot rests easily upon it without the slightest tendency to slip from it, and this without the aid of a shoe; that anything but a normal step cannot be taken; that the foot is held in the corrected position, when used as a support, either through muscular action, which is the most agreeable method for the patient, and is maintained as long as he is able, or, as soon as relaxation takes place, by direct pressure (Fig. 32).

The whole action of such a support may be summed up as follows: Whether the foot is used in walking, or as a support in standing, it is not only prevented from assuming anything but a normal position, but there is a decided tendency for the foot to assume this normal position through muscular effort.

## MUCOMEMBRANOUS ENTEROCOLITIS. ITS CAUSES AND MECHANISM.

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The proper definition of mucomembranous enterocolitis is: A symptomatic complex of very slow and chronic evolution characterized by constipation, mucomembranous secretions, and pains. These pains are of variable intensity and localization, and are of no great import in the aetiology of the disease; they only indicate that the intestines are in a state of irritation; they are common to numerous affections. Therefore only two signs remain of the three symptoms: Faecal stasis and the presence of coagulated mucus in the stools.

It is not my intention to speak of the symptomatology of this disease; I only wish to throw more light upon its pathology by reporting the results of some new experiments.

*Ætiology*.—I shall simply enumerate the predisposing causes, as they are usually stated: Arthritis, both hereditary nervous and neuro-arthritis; social position; adult age; female sex, etc. As occasional causes are cited: Defective alimentation; sedentary life and its usual consequence, constipation, etc. Other causes given are: Hæmorrhoids; intestinal polyps; abdominal tumors; utero-ovarian lesions; floating kidney; and enteroptosis. Finally, not to mention such causes as a chronic cold, we must include cases where chronic colitis was the sequela to acute colitis, dysentery, peritonitis, and typhoid fever.

*Pathology*.—Persistence of the symptoms, pains, faecal stasis, and mucomembranous stools does not imply, or rather did not imply, a specific process to be attributed to a casual agent which was always the same. Different theories, therefore, have been put forward which I shall shortly state: 1. The theory of infection; superficial infection of the mucous membrane attributed to the *Bacillus coli*, *Bacillus fluorescens*, *Proteus vulgaris*, and the *Diplococcus of Thiercelin*, the virulence of which is very much increased by faecal stasis and mucous oversecretion. 2. The theory based on nervousness. The phenomenon of colitis is said to be due to purely nervous troubles. 3. Mathieu believes it to be a reflex action of a short or a long circle, and at the same time a superficial inflammation with mucous oversecretion and cellular desquamation. 4. Finally we must remember the theory of enteroptosis proposed by Glénard, and the theory of Robin, who declared it to be a syndrome subordinate to a gastrophæræsthetic condition.

I cite these theories without discussing them, and wish to merely state that "although each of these pathogenic theories enables us to explain a certain number of cases, we cannot any longer say that a single one among them explains all these cases, nor can we say that all neurasthenics, that everybody whose intestinal mucous membrane is the seat of scarifying noxious substances, or that all women affected with one of the many symptoms of ptoses or with any other uterus or annexa lesions, are suffering from mucomembranous enterocolitis." I, furthermore, wish to call attention to the follow-

ing particularly: All the causes which were given have one common point of action, all theories proposed have the same basis, that is an action upon the liver. Every noxious influence, indeed, on the gastrointestinal apparatus reacts upon the liver. Let us remember the vasoconstriction reflexes exerted upon the liver by excitation of the general sensory nerves, the visceral, the distribution of these reflexes, their mechanical effects, their intervention, when poisons of whatever origin pass through the liver, and finally the analogous mechanism of psychic influences. All these causes have a tendency to diminish the functions of the hepatic gland.

After this remark let me close the discussion of the various theories and again consider the two principal symptoms: The fecal stasis, and evacuation of mucus; and let us find out their causes.

*First Part.*—Evacuation of mucus. This excretion must be preceded by two phenomena: 1, secretion and, 2, coagulation.

a. Secretion of mucus.—This secretion, or rather oversecretion (because it is evident even when only superficially examined), is dependent on the sympathetic excitement which may result from many causes; irritation through the presence of a fecal mass; elimination of toxic substances; nephroptosis; hepatoptosis; enteroptosis, which is very often overlooked; salpingitis; psychical or any other cause. It is, therefore, only a phenomenon of a small reflex.

But the fact of a mucous secretion does not necessarily imply excretion, and, what is still more, coagulation.

b. Excretion of Mucus.—Normally the mucus necessary to digestion is secreted in great abundance throughout the intestinal canal, and is then absorbed in the large intestine, with the exception of some small amount, which is found mixed in the matter which escapes absorption. Pathologically the excretion of the mucus is easily explained when the digestive passage is much abbreviated, as is the case in dysentery in the tropical countries, in which disease the mucus has not the time to be absorbed. On the contrary, in all cases of mucomembranous enterocolitis, where the fecal stasis is the main characteristic sign, the digestion is always slackened and slower than in the average normal cases, according to the case itself. The offhand explanation of excretion in a case of dysentery is therefore of not much account, and to be logical we must conclude that the mucus is the better and the more completely absorbed the longer the fecal stasis lasts.

In order to prove the truth of this reasoning I have made a number of experiments, of which the following is typical. Take a healthy dog and make sure that the animal has a normal digestion. To do this let him swallow a colored powder (carbon or carmine) and ascertain that his feces do not contain any mucus, coagulated or not. Some particles of hyaline mucus are always found in the normal stool. Make, then, a permanent fistula on a line with the ileum as near as possible to the caecum laterally, which opening will not interrupt the descent of the feces and will allow at any time the taking out of the intestinal contents. After the recovery

of the dog his digestion is again examined, and his feces are analyzed in order to ascertain whether the intestines functionate normally. Through the fistula a portion of the intestinal contents is taken out at different times, when numerous particles of hyaline mucus, more or less colored by the bile, will be found. These particles are later absorbed in the large intestines, as they are no longer found in the stool. We then cause in this normal animal an abundant oversecretion of mucus, to see what will be the result. To accomplish this the dog was made to swallow through a catheter a solution of silver nitrate. As soon as this solution comes in contact with the mucous membrane it produces a great overproduction of the mucus. After five or ten minutes

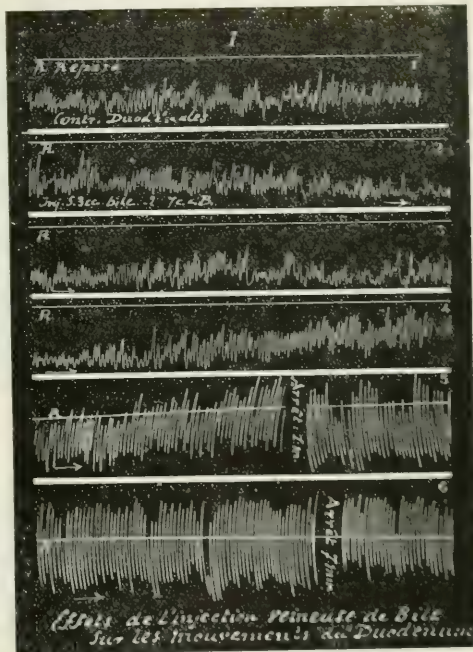


FIG. 1.

this secretion is to be neutralized by a physiological salt solution. The mass taken from the fistula will now show large mucous masses, the quantity of which is much greater than that found in the normal mucus. If the treatment has been too violent the animal will be attacked by a profuse diarrhea and discharge the mucus. When these phenomena of reaction are missing, that is to say, when the passage is not considerably accelerated, the examination of the feces will not reveal more mucus than under normal conditions.

As a result of this experiment we can suppose that it is possible that there will be an oversecretion of mucus when the passage is not accelerated, such as is the case in mucomembranous colitis.

It may, therefore, be concluded that all pathogenic theories, based solely on oversecretion of the mucus, are at least incomplete. They do not give a satis-

<sup>1</sup>The fistula is to be made with the help of the small incision at Umbone, fastened to show outside of the wound, and held with a special buttonhole according to the method described by Treves.



factory explanation of the excretion, and do not explain coagulation.

c. Coagulation.—Why does mucus coagulate? Mathieu has advanced a very ingenious theory. He says that after exudation from the mucus layer in the intestine a portion of the liquid may be reabsorbed and the consistency of the mucus increase in proportion to the reabsorption. This is the theory of desiccation. But what is the reason for the elective reabsorption of the watery portion of the mucus? Why does dehydration take place instead of total reabsorption, as is the case in normal condition and was noted in our experiments? It must be surmised that the mucus undergoes a change of physical condition or of chemical constitution, which makes it unfit for absorption, however large the quantity of

has observed it and we also have proved its action by numerous experiments. "The presence of bile always delays coagulation and prevents it absolutely when present in large enough proportion. This action takes place *in vitro* and can be proved in all evacuations."

We have thus ascertained two new facts of great importance: 1, The coagulative power of a testinal extracts; and, 2, the anticoagulative action of the bile. Summarizing shortly the results of our labor, we can deduce the following conclusions from our experiments: 1, The mucus in grains of hyalin changes into yellow from the bile, collected from an ileac fistula, is entirely absorbable, and is proof against coagulative action. This fact can now be easily understood when we take into consideration the anticoagulative action of the bile. 2. Oversecretion does not necessitate excretion if the digestive passage is not very much shortened. It is necessary and sufficient that the mucus should become coagulated in order to be also excreted. Oversecretion and desiccation are therefore secondary phenomena. It is unnecessary to insist upon the importance of the anticoagulative action of the bile.

Thus the symptoms indicating mucomembranous evacuation may now be well understood. It is the consequence of a coagulation of mucus which can no longer be reabsorbed. Whatever be the duration of the digestive passage it will be necessarily rejected.

Let us now look at the second symptom: Delayed digestive passage of constipation, which, as well as mucomembranous evacuation, is the primary symptom, so much so indeed that it was rightly said that to make it

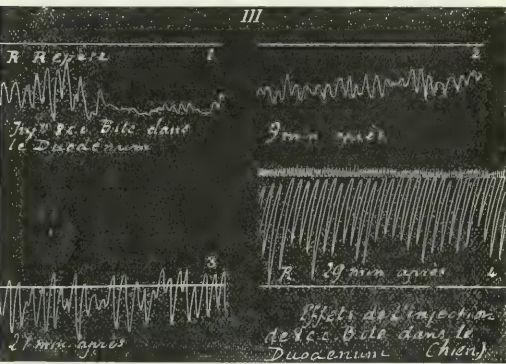


FIG. 2.

excretive mucus may be, and in whatever intestinal segment the absorption takes place. Under this condition the mechanism of desiccation would appear.

Experiments have corroborated this hypothesis. Professor Roger<sup>2</sup> has shown the coagulability of certain intestinal extracts when in contact with mucus. This phenomenon can be reproduced *in vitro*. Roger attributes this action to a special ferment which he calls *muclnase*. I have myself produced this action of coagulation *in vitro*, without differing in opinion as to the specific nature of this action.<sup>3</sup> I too have found this specific action in the feces of patients evidently affected with enterocolitis, and in such patients only. Consequently it is both necessary and sufficient for the mucus to have been submitted to this action, so that it may be excreted; desiccation takes place only to increase its consistency, and oversecretion to increase the quantity. These latter two are only secondary phenomena, coagulation is the primary.

But there exists in the intestine a liquid which prevents coagulation. This is the bile. Dr. Roger

disappear would mean to cure the mucomembranous enterocolitis.

I certainly do not take into consideration in this definition any delay of evacuation due to some obstacle situated more or less higher up, such as a tumor in the intestine or a pressure by some other organ. I consider exclusively what may be called essential constipation.

*Second Part.*—Constipation. Whether we accept the opinion of some authors that constipation is due to atony; or the opinion of others that it is due to a more or less local spasm; or the opinion of a great number of authors that it is caused by the combined action of spasm and atony in different segments, the question remains the same, because atony and spasm are only signs of troubled intestinal activity, and do not at all explain the cause of trouble in the action of peristalsis. Why is this peristalsis deranged? What are the causes of spasm and atony? This is the question in its true light.

I have often asked myself whether there does not exist a correlation between the causes of coagulation and those of constipation, or, to be more definite, whether the anticoagulative function of the bile is not accompanied by some motor excitation upon the intestinal fibre. If this hypothesis should prove correct constipation and coagulation of the mucus would be phenomena of the same origin, that is, of a diminished biliary secretion, coagulation needing a second factor always, the presence of a coagulatory stimulant.

<sup>2</sup> Comptes rendus de l'Académie de Médecine, Paris, 1899, No. 433.

<sup>3</sup> H. Netter, "Sur la coagulation du mucus intestinal," *Gazette des hôpitaux* No. 70, June 20, 1907.



Let us now examine upon what basis this hypothesis might be founded. "Thus, for instance, constipation would usually occur when the bile did not flow into the intestine. On the other hand (Leyden and Schülein), digestion of biliary salts would produce diarrhoea and vomiting."

These arguments, says Dastre, cannot be admitted as having been proved. Eckard tries to solve the question by experiments following the lead of Fubini and Luzzati.<sup>6</sup> The results were rather divergent and did not prove much. The technique, according to Eckard, left much to be desired. As I also desired to solve this question I made some researches with Mr. Hallion; first, whether the bile exerts some motor exciting action upon the intestinal fibres in general; and, second, what variation our experiments would show when made in different segments when bile would be introduced into a vein or would be brought into direct contact with the intestinal mucus membrane.

I shall not report the technique of our experiments; it may be sufficient to say that an ampulla was introduced into the intestine, which transmitted the different pressure to a registering drum of Marey by the help of a water manometer. The details are described somewhere else.<sup>8</sup> I shall only say here that our researches were made in different segments of the intestinal canal, the conclusions of which we shall publish later. I shall reproduce here only a part of the tracing, which has already been published. Fig. 1 represents the evolution of intestinal peristalsis in the duodenum during forty-seven minutes with two interruptions, the first of one minute, the second of seven minutes. It can be seen that before the injection the intestinal contractions took place moderately often around a middle tonus which was rather constant; this was especially the case during a long period before the tracing was done, about three hours. An injection was slowly made into the saphena, first three c.c. and later seven c.c. of bile. At first a marked degree of the peristalsis and a slacking of the middle tonus was observed. Soon after this the contractions were seen to become much longer. At the same time the tonus was much increased. A horizontal line shows the result.

Fig. 2 shows the same motor effect produced by direct injection of bile into the duodenum. Fig. 3 shows the local effects of the bile injection into the rectum. The number of respirations is noted, and also the time in seconds. During the first three hours of this experiment no rectal contraction nor defecation is noted. Then 10 c.c. of bile are injected into the rectum. After four minutes repeated defecation was noted during the following eight minutes. The experiment was stopped for ten minutes, but during this period, which is partly represented in the left side in Fig. 3, a single contraction (b, c) of the anal region was sufficient to produce immediately a contraction of the perineum altogether similar to the one that accompanied the move-

ments of defecation represented in the tracing on the right side of the figure.

These facts may well be compared with the results of numerous experiments which I have made on man. When 50 c.c. of bile was introduced through a catheter into the rectum about 15 centimetres above the anus one will always obtain defecation in cases of the most stubborn constipation. After five minutes the patient usually feels the imperious necessity to go to stool, sometimes resulting in a colicky passage, which stops directly after the expulsion of the faeces. It is therefore evident that bile has a motory effect upon the rectum, which can be and is utilized in therapeutics.

Following are the conclusions which we have drawn from the experiment:

1. The bile when in contact with the mucus of the intestine exercises locally a motory influence upon the small intestine as well as in the rectum.
2. Introduced into the blood circulation, it gives the same result.

3. The later action seems at least partly the result of an exaggeration of bile secretion, due to the chologological influence of the injected bile.

The experiments, therefore, prove absolutely an indefinite action of the bile in the intestine, of its exciting motor influence. Any decrease, therefore, of biliary secretion will effectually diminish the value of intestinal peristalsis—that is, it will lengthen the duration of the digestive passage, or, in other words, bring about constipation, which will last until this secretion is reestablished. One will understand now why from the beginning we observe that all of the causes taken into consideration to explain the aetiology of enterocolitis point to one common origin, action upon the liver. Intoxication, troubled digestion, etc., lead to overworking of the liver, resulting into a tiring out of the organ, which means

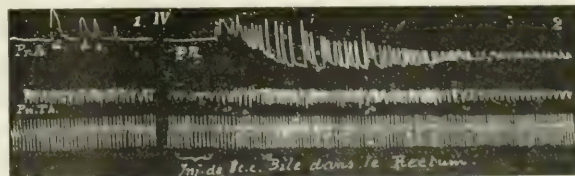


Fig. 3

a decrease of biliary secretion, thus producing enterocolitis.

Therefore, if I summarize the experiments reported in this article I find that: To be constipated means to have an insufficient biliary secretion, the result of innumerable causes. Suffering from enterocolitis means constipation and evacuation of coagulated masses—that is, to have an increased secretion of bile. Consequently constipation and enterocolitis have the same origin. They are both varieties of the same affection, two states of the same affection, enterocolitis differing from constipation only by the action of a second factor, coagulation power. The mechanism of intestinal and constipation, therefore, seems to be well established.

As soon as the liver is overworked, an amount of whatever cause (and this will happen, especially in patients who suffer from overstimulation of

<sup>6</sup> Archives de l'École de Médecine de Paris, 1894, 1895.

<sup>8</sup> Centralblatt für Physiologie, No. 40, 1904.

<sup>8</sup> Comptes rendus de la Société de Biologie, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 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arthritis, in patients who have a sedentary occupation), biliary secretion will decrease, and, according to the cases, result either in enterocolitis or in constipation. When this becomes later chronic mucomembranous evacuation will take place, possibly complicated by all kinds of infections, either in the liver (angeiocholitis, cholecystitis, gallstones, or in the intestines, appendicitis, etc.).

In certain cases mucomembranous evacuation produces the emission of intestinal sand. In the *Biochemical Journal*, II, 9, August 20, 1907, Owen T. Williams shows that this sand contains eighty per cent. of acids saturated with fat (stearitin and palmitin), which form, so to say, the nucleus of these sand grains. This phenomenon only becomes possible by diminished absorption of the fatty substance—that is, by decreased biliary function. This is an addition to the proof which we have furnished in the course of this paper.

Finally the treatment which I have instituted and described in detail elsewhere is based on these experiments, and has given me very good results. A very strict diet is to be prescribed after a trial meal, which makes it possible to recognize the food which is most easily digested, and to discover pancreatic oversecretion, which is often associated with enteritis. The treatment consists in prescribing a biliary extract, to be administered as described, partly through the mouth and partly through the rectum. My technique has enabled me to obtain the best results where other treatments have failed.

With these facts before us I think I have a right to formulate the following theory:

1. The false membrane is the agent which increases coagulative power and diminishes biliary secretion, which permits its beneficial function.

2. Mucomembranous enterocolitis is the result of biliary oversecretion.

## A PLEA FOR SYSTEMATIC USE OF BRONCHOSCOPY IN OUR ROUTINE WORK.

### *With Description of a Modified Bronchoscope.*

BY WOLFF FREUDENTHAL, M. D.,  
New York.

At the time when Killian published his method for the direct examination of the trachea and bronchi, it was mainly with the idea of utilizing it for the removal of foreign bodies from these parts. This method has since been extensively employed and with excellent results, but as we are aware, it still is in its infancy. The introduction of the bronchoscope is not only difficult to learn and difficult to execute, but it is troublesome to the patient. Often a good deal of pain is caused and general anæsthesia has to be resorted to in quite a number of instances. No one doubts the justifiability for our taking all this trouble, since in cases of foreign bodies there is a question of life and death, and any procedure is permissible that will save the patient.

But it appears to me that a method that enables us to inspect these parts should be utilized for other purposes as well and in a more systematic manner.

Parenthetically it may be added that bronchoscopy, as might be expected, has been employed for the diagnosis of tumors and aneurysms in or near the trachea and bronchi, but of course these cases are of rare occurrence. The field for investigations is much larger. Some work has been done already in other directions, as for example by A. Loewy and the late H. von Schroetter in their studies of the circulation of the blood through the bronchoscope. But that is a mere beginning, and it would seem that a great deal more can and will be accomplished. First of all idiopathic diseases of the lower air passages should be studied *in vivo*, their direct treatment attempted, etc. At first sight it would appear that these affections are rare. But if we look for them systematically, most likely the same will happen as with the laryngoscope; many a hitherto obscure affection will be elucidated. Hence systematic examinations of the trachea and bronchi should be made just as is customary in the larynx. But how?

With the instrumentarium at our disposal this is well nigh impossible. Take for example the "separable or slide speculum" of Chevalier Jackson. It is a strong instrument which enables the operator to get a firm grasp and control over his patient, and Jackson is justified in feeling proud of it. But for routine work any such contrivance is out of the question. Besides there are other drawbacks which render bronchoscopy difficult and sometimes impossible, as a too fleshy tongue, large teeth, narrowness of the fauces, inability to sufficiently separate the jaws, a very low position of the larynx, etc. Last but not least, I agree with von Schroetter, that the dexterity and technical ability of the operator himself play the most important rôle.

It is with the aim of overcoming at least some of these difficulties that the "jointed bronchoscope" has been devised by the writer.

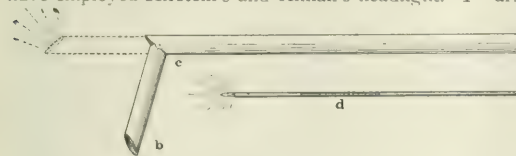
From a historical point of view it must be mentioned that flexible instruments for examination of the œsophagus were devised by Kelling, of Dresden. Kelling's ingenious œsophagoscope was introduced, bent, and afterward straightened by a scissor like mechanism. Kolliker modified this by using an elastic tube provided with a stylet (mandrin). After the tube was in position he removed the stylet and introduced in place of it a metallic tube. These instruments for the œsophagus have nothing in common with my bronchoscope, but are mentioned here for the sake of completeness.

When beginning my experiments in bronchoscopy, it occurred to me that the bronchoscope might be introduced in the same way as any laryngeal instrument, viz., with the aid of the laryngeal mirror. As that could not be done with a straight instrument, one capable of being bent had to be devised. The flexible œsophagoscopes did not seem suitable for this purpose, and a *jointed* instrument was contrived. This bronchoscope consists of two parts of about equal length, the distal portion (b, c) being narrower in order to fit in the other. The joint (c) is exactly as shown in the cut, leaving an opening in the upper portion when the tube is bent. The patient is thereby enabled to breathe through it even when it is at a right angle. There is no opening at c when the tube is straightened.

It soon was noticed that the distal end (b, c) was too long to be of much service, and consequently it was gradually shortened so that its length in the latest instrument is two and one half inches.

Afterward another question came up, viz., that of proper illumination. Different sources of light have been utilized. The first instruments for auto-scopy were provided with Casper's electroscope, as used by him for cystoscopy. Rosenheim, of Berlin, utilized it for œsophagoscopy, and Kirstein for bronchoscopy. Better, however, was the headlight of Kirstein or Killian. H. von Schroetter used a miniature osmium lamp and endeavored to place the light where it is wanted, viz., at the distal end. He availed himself of the well known phenomenon of the conduction of light in a glass rod. If a light is placed at one end of a glass rod it will shine with the same intensity at the other end, this being due to its conduction through the rod. Instead of the latter von Schroetter used a glass tube which was introduced into the bronchus. The inner surface of this tube is blackened so that one looking into it sees only the illuminated distant end.

I have not tried von Schroetter's method, but have employed Kirstein's and Killian's headlight. I



Freudenthal's modified bronchoscope.

must confess, however, that there are difficulties attending the use of these headlights which I could not overcome. First it is not always easy to focus the lamp correctly. Secondly and of more importance is the fact that even when the light is adjusted properly the distal end is not satisfactorily illuminated. For that reason the light carrier first used by Max Einhorn for the œsophagoscope and then adopted by Chevalier Jackson for the bronchoscope was added. After the bronchoscope was *in situ*, the light carrier was inserted. But this prolonged the whole procedure and was therefore discarded as unsatisfactory for most cases. The next step was the construction of a flexible light carrier instead of the rigid one. This was accomplished in such manner that the flexible part of the light carrier, viz., the cable (d) fitted into the section (c) so that it was easily bent during manipulations of the instrument, while at the same time it was sufficiently rigid to be readily inserted.

The mode of procedure is as follows: The tube is grasped, not by the handle, but by the longer end (a, c) just like a penholder. The patient pulls down his tongue. With the aid of a laryngeal mirror, the light of the bronchoscope at b furnishing the illumination, the instrument is introduced like in any other intralaryngeal procedure. As soon as it is in the larynx, the tube is straightened (see dotted lines in figure), and we then proceed as usual.

One of the important points in bronchoscopy is the local anesthesia. With a spray of cocaine

(four per cent.) the epiglottis, base of the tongue, and the whole introtitus of the larynx are anesthetized. After this a swab moistened in a ten to twenty per cent. solution of cocaine is applied to the lower parts. In order to do away with that disagreeable feeling of thickness that is so objectionable to many patients after the use of cocaine I have lately employed alipin (twenty to thirty per cent.) in a number of cases. The result was that the patients did not experience the same degree of unpleasant sensation in the throat.

While some colleagues, who have watched the introduction of the tube, were surprised at the ease with which it was done, two objections were raised. Firstly it was suggested that while straightening the tube the mucous membrane might be caught at the upper end of the joint (c). Thus far this has never happened, and I believe we may eliminate its probability. The second objection was that the distal end (b, c) might become bent during its introduction. If that should happen it would be noticed immediately, because the light would go out. By drawing the tube up a short distance, or turning the handle to one side or the other, this has been always corrected in a few seconds. But should it

happen in an exceptional case that one is unsuccessful in straightening the tube and thus restoring the light, the flexible light carrier should be withdrawn and the rigid one inserted.

The writer has done considerable work with this improved bronchoscope, especially in cases of tuberculosis pulmonum, but is not yet prepared to publish the details of his experience.

It is my belief that this modification of Killian's instrument will render bronchoscopy much easier than before. As proof of how much its application is facilitated it may be noted that we were able to introduce the jointed bronchoscope in a case of bilateral recurrent paralysis with the vocal cords in the so called cadaveric position.

Whatever may be the experience of others, let us at least try to extend the scope of the bronchoscope to other lines of investigation.

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## MALNUTRITION.

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The Burlingham report, compiled by a board of educators who investigated the health of the school children in many of our large cities, states that out of six hundred thousand school children in the city of New York, four hundred and sixty-five thousand eight hundred were physically defective. Of the number two hundred and thirty thousand eight hundred suffered from defective breathing, one hundred and eighty-seven thousand from enlarged glands, and forty-eight thousand from malnutrition. The proportion is as follows: Enlarged glands, 48.8 per



cent.; bad teeth, 72.4 per cent.; malnutrition, 12 per cent.; eye defects, 14.4 per cent.; nose troubles, 27.7 per cent.; and throat troubles, 29.9 per cent. Were this percentage maintained throughout the United States, since rural districts exhibit physical defects similar to those of the urban, it would mean that there are one million four hundred and forty thousand ill nourished children, five million six hundred and fifteen thousand with enlarged glands, and six million nine hundred and twenty-five thousand with defective breathing—a total of thirteen million nine hundred and eighty thousand children whose physical defects not only retard their mental development but handicap them in the struggle for existence with those whom the chance of birth favored with vigorous constitutions.

As they stand, these figures are sufficiently alarming; but reduced to a scientific analysis they expose a state of physical deterioration that is simply appalling. Unfortunately the report, like all reports emanating from charitable bureaus, terrifies but does not teach. In such reports the symptoms of the social disease are so skillfully classified that the disease is not only obscured, but the symptoms themselves become of interest only to physicians or criminologists. To the masses, a statistical display of this kind merely awakens the suspicion that the children's eyes are weak as a result of excessive study, or their teeth bad because of overindulgence in sweets. And the children are taken to an oculist to have their eyes tested, or to a dentist to have their teeth repaired, while the underlying causative condition is entirely overlooked.

The laity and many members of the medical profession fail to grasp the simple fact that the eyes, ears, nose, lungs—in short, all organs of the body—act primarily for the benefit of the entire body and only secondarily do they function for their individual development. Hence, an injury or disease of any organ must disturb the entire system, and, conversely, an injury or disease of the system affects the individual organs, particularly the delicate organs of special sense which require a large and varied amount of nutriment for their maintenance and growth.

The basis of life is nutrition. All living things, from the simple unicellular amoeba to the complex specialized organism—man—require nutriment in some form or other. Food the tissue builder, air the energy supplier, and sunshine that warms and freshens germinating life into full bloom, are the nutritive trio without which all life on this planet would cease. A disturbance in the quantity or quality of any of these elements means a disturbance of life. So long as the human being receives the proper proportion of these substances he remains healthy despite the millions of disease producing bacteria which continually surround him. But let this nutritive equilibrium be deranged and immediately some part of the body weakens; the part, its resistance lessened, becomes fertile soil for the implantation of germ colonies, and thus nutrition is further impaired by the diseases generated.

The Burlington report arranges the physical defects into diseases of the nose, throat, eyes, teeth, and glands, but attributes to malnutrition only twelve per cent. of the cases. The actual fact is that malnutri-

tion is the direct cause and the various diseases specified are only symptoms of the poorly nourished condition, just as fever, coated tongue, nose bleed, vomiting, and purging are symptoms of typhoid fever. Malnutrition, the gaunt handmaid of poverty, insidiously invades the body of its victim and, breaking down all protective barriers, leaves the body defenseless to the ravages of disease.

Malnutrition does not begin the moment the child starts, without any breakfast, to "creep like a snail unwillingly to school." Its beginnings are at conception, when the cells of an overworked and underfed male and female unite; in utero, when the mother, beside the drain of gestation, must perform the arduous labor of a housewife or factory hand; and finally, after birth, when it must feed upon breast milk lacking nutritive qualities or cows' milk obtained from tuberculous cattle or adulterated and laden with poisonous preservatives.

The symptoms of malnutrition are loss of flesh, delayed dentition, backward muscular development, nervous excitability, poor circulation, and anemia. Enlargement of the lymphatic glands is common, especially of the neck; the inflammation of the glands may start from a slight cold, but the glands remain enlarged for months after the cold has subsided. The children are seriously affected, often fatally, by all acute diseases, and especially susceptible to acute diseases of the stomach and intestines, the so called summer complaint. A striking characteristic is their vulnerability; they "take" everything. The nose, pharynx, and bronchi are easily attacked by acute catarrhal inflammations which invariably become chronic. Thus malnutrition manifests itself locally and generally, and by a process of tissue starvation leaves the system an easy prey to most pathological changes known to medicine.

An extreme and frequently fatal degree of malnutrition, seen in the dispensaries of large cities and especially common in institutions for infants, is termed marasmus. Literally, it means infantile atrophy. The child simply wastes away, death resulting from some acute disease.

Marasmus is essentially a disease of the poor. While seen in premature children and in the illegitimate offspring of young girls, the great majority of cases are due to two things—the food and the surroundings. The disease is rarely, if ever, found in the country. Here the infant, though poorly fed and neglected, receives an abundant supply of fresh air and sunshine, and, as a rule, does well. In the congested districts of the city, if the infant has an adequate amount of good breast milk, it continues to thrive in spite of its pernicious surroundings. But woe to the infant brought up in a tenement and artificially fed! It is doomed to an infancy of an intolerable suffering, a childhood of chronic torment, and a vitiated maturity that will reproduce a race of physical, mental, and moral defectives.

Overcrowding of infants in institutions is another important cause of marasmus. In his experience in four institutions, Dr. L. Emmett Holt, professor of children's diseases in the College of Physicians and Surgeons (Columbia University, New York), finds that more than half the deaths under one year were directly or indirectly from this cause. The determining factor in the fatal result is marasmus, but

the cause of death is usually reported under some other name. Though fed by thoroughly scientific methods, infants, who on admission were chubby faced and lusty, lose bit by bit, until at the end of three or four months become mere skeletons, incurable cases of marasmus, perishing of some mildly acute disease such as indigestion or bronchitis, the intrinsic cause nevertheless being marasmus. With the very best ventilation, one thousand cubic feet of air to each human being is absolutely essential to health. In most institutions for infants only five hundred cubic feet are allowed, and, in many instances, where too many children are placed in one ward, they receive considerably less.

The diseases of children that medicine distinguishes as due to faulty nutrition are scorbutis and rachitis. An understanding of the symptomatology of these diseases, particularly rachitis, will throw some light on the origin of many derangements afflicting the school child and youth, and demonstrate the absolute necessity of proper food and surroundings as the foundation stone for healthy growth and physical and mental training.

Scorbutis or scurvy is an acute disease due to some continued dietary error. It is characterized by spongy, bleeding gums, swellings and blood eruptions about the joints, hæmorrhages from the nose and other mucous membranes, extreme sensitiveness to pain, protrusion of the eyeball, pseudoparalysis of the lower limbs, and marked general deterioration, with intense anæmia.

The age is an important index in this disease. More than four fifths of the cases occur between the sixth and fifteenth months and one half between the seventh and tenth months, showing clearly that it is a disease of infancy. The disease occasionally manifests itself in children in evident good health and excellent surroundings.

The diet is the direct cause of this disease. Many theories have been advanced for the causation of scurvy by the diet, but so far nothing definite is known, except that there is something lacking in the food which is required for the nutrition of the body. One fact that stands out clearly is that breast milk and cows' milk give the smallest percentage of cases. The following report of the American Pædiatric Society's collective investigation of infantile scurvy in 1898, embracing 379 cases, reported by 138 observers, proves conclusively the kind of food that is at fault:

Previous Food: Breast milk in twelve cases; raw cows' milk in five cases; pasteurized milk in twenty cases; condensed milk in sixty cases; sterilized milk in 107 cases; and proprietary infant foods in 214 cases. This establishes condensed milk, sterilized milk, and the proprietary infant foods as the chief causative factors of scurvy. The disproportion between pasteurized milk heated at 157° F. (for thirty minutes) and sterilized milk (usually heated to 212° F. for one hour) is interesting. The large number of cases due to sterilized milk confirms the conclusion that the heating alone was the cause, since prompt recovery followed the discontinuance of heating. It also demonstrates the necessity of properly testing and preparing cows' milk. Scorbutic symptoms disappear rapidly when condensed milk and the proprietary infant foods are discon-

tinued and good breast milk or properly modified cows' milk resumed. The addition of fresh fruit juices aids recovery very materially.

Rachitis or rickets is a chronic disease of malnutrition. The quaint description of this disease by the celebrated English chaplain, Thomas Fuller (1608-1661), holds to this day: "There is a disease of infants called the rickets, wherein the head waxeth too great and the legs and lower parts wane too little." The most prominent manifestation of rickets is extensive, and usually permanent, changes in the bony structure of the body. The head is abnormally large as compared with the face, the skin is pale and thin, and the child has an old and wise look far beyond its years. The bones are soft in spots and the sutures remain open. The ribs at about an inch from the breastbone present beaded elevations known as the "rachitic rosary." At this point, also, owing to a falling in of the ribs, vertical and transverse grooves of the chest are formed. The breastbone is frequently depressed, producing the "funnel chest" deformity, or it may be elevated, giving the "pigeon breast" effect. It is easy to understand how such deformities, impairing the vigor and vitality of the respiratory organs by compressing them and restricting their movements, pave the way for all acute pulmonary diseases, and that most dreaded of all chronic diseases—tuberculosis. The ankle and knee joints, by a process of softening in one spot and overgrowth in another, present the "bow legs" and "knock knees" so familiar to all. The spine is sometimes curved inward or to the side, and the pelvic diameter shortened, rendering labor, in later life, extremely difficult and dangerous. Dentition is delayed and difficult, and accompanied by frequent attacks of indigestion. These attacks, attended by imperfect absorption, produce a condition known as autointoxication (literally, selfpoisoning), wherein the system is exposed to all manner of infections from within and without. The abdomen, protuberant from the persistent gas accumulation, is stretched tight as a drumhead, making the child "pot bellied." An early symptom is profuse sweating at night, especially of the head. As a result, colds are easily contracted, and these infants almost always suffer from some form of nasal or bronchial catarrh. Rachitic infants are highly susceptible to enlargement of the lymphatic glands of the neck, enlarged tonsils, and adenoid growths of the pharynx.

The coexistence of scurvy and rickets in the same patient, as established by the society's investigation, adds further proof to their dependence on deficient nutrition. Of the 340 cases of scurvy, in which this condition was noted, symptoms of rickets were present in 152 cases, or 45 per cent. In seventy-two children the symptoms were reported as slight; in sixty-four marked; and in sixteen not specified. In fifty of the rachitic patients it was recorded that the rickets preceded the appearance of scurvy.

Rickets can be traced to two great causes, diet and surroundings. Children reared on the proprietary infant foods and sweetened condensed milk generally suffer from rickets. These preparations contain an excess of sugars and starches, but are low in fats. This deficiency in fats causes the rickety condition. Rickets have been produced ex-

perimentally in animals by withholding mother's milk and feeding them on meats, vegetables, or starches.

The influence of surroundings is proved by the fact that rickets occurs principally in children who live in crowded tenements. A few weeks' change to the open country, where they can get plenty of good food, fresh air, and sunshine works marvels in these children.

The prolonged use of the proprietary infant foods has so often resulted in scurvy and rickets that there can be no doubt that they were the active cause. Dr. Holt's experience, as indeed that of most intelligent physicians, forces the conclusion that the infant foods, as frequently used by the laity and even the medical profession, are capable of doing and have done much positive harm. They should only be used like drugs in diseased conditions when temporary stimulation of the body is required.

When we consider that the practice of maternal nursing is rapidly diminishing—among the wealthy because of anxiety to preserve their forms and the fear of losing a moment in the quest for pleasure, and among the poor because the mill and factory call the mother to assist in maintaining a semblance of the cherished tradition "home," and that these mothers, rich and poor, find in the proprietary infant foods cheap and convenient substitutes for nursing or cows' milk—we can readily realize the vast amount of physical deterioration that follows in the wake of such helpless, misguided, and vicious mal-feeding.

The extreme cases of malnutrition are rarely met in private practice because of inability to pay for treatment which must necessarily extend over many months and even years. It is in the dispensaries and hospitals of the slum districts of large cities that the most pitiable cases are seen. Some of them, in all their squalor and rags, present such pathetic pictures of abject poverty as to arrest the attention of physicians and nurses accustomed to such sights and bored by the helpless sameness of them.

In the Gouverneur Hospital Dispensary for Children's Diseases of New York, the records show an average of fifteen hundred cases a month. Through the kindness of Dr. Tunick, in charge of this department, I was permitted during the summer of 1907 to examine three hundred children and to closely question two hundred mothers. The examination into the social conditions and maternal habits of the mothers developed the following facts: Ninety-six lived in three room flats, sixty-two in four room flats, and the remaining forty-two in five room flats. These flats were in tenements in the vicinity of the hospital, and fearfully lacking in light, ventilation, and bath tubs. With few exceptions, the women admitted a lodger or two, some keeping as high as three and four. One woman with a severely rachitic child stated that she lived in five rooms, had seven children, and kept six lodgers. "What can one do," she naively asked, "when the wages of one's husband are only six dollars a week, hardly enough to pay for the food of the family?"

About one half of the women nursed their children, while the other half were fed on "baby food" and "zwieback." Many of the children over one

year old, and some that had been weaned, were permitted to eat at the table with the adults, and one pale, anæmic little infant of six months was brought in vigorously sucking a fig!

Fully ninety per cent. of these children displayed unmistakable evidences of malnutrition, and, as Dr. Tunick informed me, this percentage was maintained throughout the year. A diagnosis in these cases is hardly necessary. For purposes of convenience, the cases are arranged according to the seasons. In the winter their sufferings are recorded as "colds" and in the summer as "indigestion." These exhibit all degrees of acuteness and intensity, but the possibility of a permanent cure, without a radical change in the food and surroundings, is so remote that they lose even scientific interest.

Besides derangements of the respiratory and digestive tract, the majority of the children were afflicted with sore eyes, nasal and pharyngeal growths, large tonsils, and swollen glands. It was a common occurrence to meet the same children in the departments for diseases of the eye, ear, nose, and throat. For instance, Dr. Grushlaw, in charge of the nose, throat, and ear department, stated that more than seventy per cent. of his cases are sent to him through Dr. Tunick's department, and most of the new cases must be sent there for general treatment.

And so the vicious circle is maintained. A faulty supply of the life giving elements, food, air, and sunshine, produces general diseases, with localized symptoms in the eye, ear, nose, throat, teeth, and glands, and a proper investigation into these special manifestations leads one back to the primal cause—malnutrition.

As an illustration of the lack of maternal care among the children of the poor and of the "home preserving" tendencies of the present social system, Dr. Tunick instanced the case of an old woman who visits the dispensary regularly every two weeks with eight to twelve children, claiming them as grandchildren, great-grandchildren, or some other relatives. The doctor is certain she is paid five or ten cents a day to see that the children are taken care of and receive medical treatment while the mothers are out at work. He recalls seeing her at other dispensaries in the interim of her visit to the Gouverneur Hospital.

A physically defective child means a mentally defective child. A child with a half starved weak body is in no condition to perform the arduous tasks of the modern classroom. Physically and mentally defective children mean physically and mentally defective men and women, which in turn means that in one or two generations we will have a nation of physical, mental, and moral degenerates. It is high time that we bestir ourselves in behalf of the children if we wish to save our race from the fate of the Græco-Roman civilizations.

What is the remedy? Unfortunately, medicine has no answer, for it is as blind to the correction of social conditions as are the other professions. Medicine, like law, which punishes the criminal while crime hatching conditions remain untouched, bends all its knowledge and skill to the suppression of diseases and their symptoms, while social conditions breeding disease are completely overlooked.

It is curious to note that the National Association



for the Improvement of the Condition of the Poor, under whose auspices the Burlingham Commission carried on its investigations, has nothing better to offer the physically defective children than a "tooth-brush and a cake of soap for every child." Which means that if the negligent poor will only keep their children's teeth clean and their hands and faces spotless to delight the æsthetic tastes of certain charitably disposed ladies and gentlemen, their empty stomachs could be entirely forgiven them. In short, charitable bureaus and associations for "improving" the poor do everything to soften the shocking features of poverty, but absolutely nothing to remove it entirely.

Modern hypnotism asserts that the hunger and thirst of subjects can be satisfied, during deep hypnosis, by the suggestion of food and drink. If charitable bureaus and associations were aware of this fact, the perplexing problem of "improving the poor" would be speedily solved. The establishment of a class of hypnotism for the suggestion of food and drink to the underfed school children would make the children happy and contented, and relieve kind hearted philanthropists and their agencies of heavy responsibilities.

Conditions make the man, and only secondarily does man react on his conditions. Social conditions to-day deny to the laboring classes an opportunity to procure for themselves and their children proper food and surroundings, with the result that malnutrition swiftly enters to disable and kill. Personal hygiene and compulsory medical treatment may correct certain physical defects, but not until faulty social conditions are removed will the basic cause of these defects be eliminated. A change in social conditions will not only assure to the working classes an abundance of good food, fresh air, and sunshine, thus weeding out the ills of malnutrition, but make of the physician a public officer working for the prevention of disease for the general good in place of an individual business man treating disease as a means of private gain. Then, and only then, will the school child, properly fed, clothed, and housed, be in a fit physical and mental condition to absorb what it is taught.

In the meantime, the vast number of poorly nourished and physically defective children call for immediate ameliorative measures. The city should provide a wholesome free lunch for all school children, and, in cases that require it, shoes and clothing. It should establish numerous public playgrounds and baths with trained gymnastic and hygienic teachers in charge. A system of compulsory calisthenics in the schools, together with periodical medical examinations for the reparation of physical defects, should be instituted. Large tracts of open country outside of the city limits should be set aside as camping grounds for the children during the summer. The city should organize milk depots where properly modified cows' milk could be procured at small cost. It should also establish airy and commodious nurseries, with skilled attendants in charge, where women compelled to work can leave their children. The health board physicians should visit the tenements regularly and instruct mothers in the nursing and feeding of infants and have full powers to remedy unsanitary conditions.

In short, everything should be done, so far as possible, to obviate the evil effects of malnutrition, but with the understanding that malnutrition itself is but an effect, and can only be completely and permanently eradicated when its fundamental cause—our present social and economic system—is completely transformed.

819 PARK AVENUE.

## THE ROLE OF THE SPHENOPALATINE (OR MECKEL'S) GANGLION IN NASAL HEADACHES.\*

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Occasionally it has been my lot to be consulted by patients who were in every way healthy and normal, but who suffered much of the time from headache which did not follow any of the known rules. It was irregular as to the time of its appearance, and irregular as to the part of the head involved. Sometimes it was referred to behind the eyes, sometimes to the upper jaw in front, and sometimes to the hard or soft palate. Occasionally the nose was said to ache in the back, or the teeth were described as sore, or the pain was referred to the temple and to the occiput or neck. This headache appeared most irregularly, but was seldom absent for more than a short time. It sometimes would become severe and behave as a migraine. Sometimes an indefinite sense of stiffness was described. These symptoms appeared from day to day, alternating one with the other, or associated two or three together. On one occasion I had them all described at once.

Within the past six months I have seen some high grade inflammatory troubles in the posterior ethmoidal and sphenoidal sinuses, which have subsided and healed, usually within a week or two, but have left the train of symptoms, as described, in their wake, and these have continued on more or less indefinitely. This exceedingly irregular train of symptoms cannot be explained on a basis of inflammatory troubles in the accessory sinuses.

They seemed to me neuralgic and to have been excited by the forerunning inflammatory process in the nose. The coal tar products give transitory relief.

The position of the sphenopalatine (Meckel's) ganglion in such close relation to the accessory sinuses and the external wall of the nose suggested the possibility of its involvement secondary to inflammations in these parts. Furthermore, the distribution of the nerve processes of this ganglion corresponds closely with many of the regions in which pain is referred by these patients. Sobotta<sup>1</sup> describes the sphenopalatine ganglion as follows (Vol. III, p. 1000):

The sphenopalatine ganglion is a rounded, triangular body lying in the prepared forerunning inflammatory process in the nose. It is connected with the trunk of the maxillary nerve by the long and short branches.

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sphenopalatine nerves, which form its sensory root. In addition to this main root it receives a second, the nerve of the pterygoid canal (Vidian nerve), which passes through the corresponding canal of the pterygoid process of the sphenoid and really consists of two nerves usually very closely united in their course through the canal, one of which is the motor, the other the sympathetic root of the ganglion. The motor part of the nerve is the greater superficial petrosal nerve, a branch of the geniculate ganglion (of the facial nerve). It courses through the groove named after it in the anterior surface of the pyramid of the temporal bone, then through the sphenopetrosal fissure (or foramen lacerum), and then it crosses the internal carotid artery and enters the posterior aperture of the pterygoid canal. The second component of the nerve is the sympathetic root of the ganglion and is known as the deep petrosal nerve. It arises from the internal carotid plexus and passes from the foramen lacerum to the pterygoid canal, in which it unites with the preceding to form the nerve of the pterygoid canal.

The branches of the sphenopalatine ganglion are:

1. Small orbital rami to the orbit, which enter through the inferior orbital fissure and supply the smooth musculature of the orbit and the periorbita. A longer branch unites with the posterior ethmoidal nerve and helps in the supply of the mucous membrane and of the sphenoidal sinus.

2. To the nasal cavity: (a) The posterior superior lateral nasal rami enter through the sphenopalatine foramen and pass to the mucous membrane of the superior nasal meatus and of the superior and middle nasal conchæ and also to that of the sphenoidal sinus and the posterior ethmoidal cells. A few delicate fibres also pass posteriorly to the uppermost portion of the pharyngonasal cavity. (b) The posterior superior medial nasal rami also enter through the sphenopalatine foramen and ramify in the mucous membrane of the posterior part of the nasal septum. A longer branch known as the nasopalatine nerve passes obliquely across the nasal septum from above and behind, downward and anteriorly, to the incisive canal, into which it sends some slender filaments which anastomose with the

corresponding nerve of the other side and also with the terminals of the anterior palatine and superior alveolar nerves, forming with them a small plexus through which it takes part in the innervation of the pulp of the upper incisors. (c) The posterior nasal rami, which supply the posterior part of the lateral wall of the nose, do not enter through the sphenopalatine foramen but course with the palatine nerves for a short distance in the pterygopalatine canal. They leave this canal a short distance from its length through a lateral opening, and ramify in the middle and especially in the inferior nasal conchæ and in the middle and inferior meatus, and also in the mucous membrane of the maxillary sinus. Its branches also anastomose with the superior dental plexus.

3. To the palate. The branches from the sphenopalatine ganglion going to the palate pass along with the descending palatine artery through the pterygopalatine canal. In this they divide into several branches, invested by a common sheath, these making their exit from the canal through the palatine foramina. These branches are: (a) The anterior palatine nerve, the strongest of the set, which passes through the anterior palatine foramen and ramifies with the greater palatine artery in the mucous membrane of the hard palate, reaching the incisive canal, where it anastomoses with the nasopalatine nerve. (b) The middle palatine nerve is much weaker than the preceding and passes through one of the minor palatine foramina; it ramifies in the mucous membrane above the palatine tonsil and in the velum of the palate. (c) The posterior palatine nerve also passes through one of the small palatine foramina, and in the palatine velum ramifies not only in the mucous membrane but also in the levator veli palatini and in the uvula. It, therefore, contains motor fibres and nerves, which are supposed to enter the nerves by the great superficial petrosal, originating, that is to say, from the facial.

The connection of the sphenopalatine ganglion with the seventh nerve, Sobotta described as follows:

At the first bend of the facial canal below the hiatus a small triangular ganglion, the geniculate ganglion, occurs in the course of the nerve, formed by the intermediate or 1<sup>st</sup> nerve of Wislizenus, which from this point onward courses

with the facial nerve. Since the facial nerve, as well as the canal, makes a rectangular bend at the ganglion, this point is termed the (external) geniculum of the facial nerve. From the ganglion arises the greater superficial petrosal nerve which passes to the sphenopalatine ganglion as described above. Probably this nerve contains fibres passing not only from the facial to the maxillary nerve, but also reversely, and thus carries sensory fibres from the trigeminal to (the peripheral part of) the facial; it forms, therefore, a mutual anastomosis. Also arising from the geniculate ganglion there is an anastomotic ramus to the tympanic plexus.

I have found the position of the sphenopalatine ganglion to vary, sometimes being deeper and sometimes superficial in relation to the external wall of the nose; sometimes in close relation to the apex of the maxillary sinus; sometimes close to the sphenoidal sinus; sometimes close to the post ethmoidal labyrinth; sometimes higher, sometimes lower.

I then began the experiment of anesthetizing the ganglion, or at least attempting it, by an applicator tipped with a very small amount of cotton, such as would be moistened by one drop of a twenty per cent. cocaine solution, and placing it just over the ganglion, that is, as a rule, just posterior to the posterior tip of the middle turbinate. I found that for some patients it relieved all the symptoms completely and invariably. For some others it relieved all the symptoms except pain in the neck; for some it failed completely or helped very little. Where it succeeded I have thought the ganglion was close to the external wall of the nose, and where it failed it probably laid deeper. The relief would last for from fifteen minutes to an hour; occasionally it would abort the attack.

Of the ten cases I have observed none were of sufficient severity to warrant operative interference. Application of silver two per cent. or formaldehyde one half per cent. to that area of the nose either cured or helped the pain.

From the relation of the apex of the maxillary sinus to the sphenopalatine ganglion the inflammatory process might spread from this sinus to the ganglion; but I have not so far observed this.

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#### MIDDLE EAR DEAFNESS.

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Our grandfathers classified ear diseases in two categories—those that got well without treatment and those that resisted all treatment. In our day there are very few cases of chronic middle ear deafness that cannot be improved, and acute middle ear deafness is very amenable to treatment. The exceptions are the cases of malformation of the middle ear, the cases of advanced stapes fixation, and those of extremely advanced otosclerosis.

The amount of the possible improvement in hearing is in inverse ratio to the pathological changes. Chronic deafness from past or present suppuration of the middle ear can, without exception, be helped by treatment. The amount of help depends upon the power of the patient to make repair and to substitute parts which have been lost. Deafness following middle ear catarrh is more resistant.

When we realize that about ninety-eight per cent. of the cases of chronic deafness are due in whole or



part to middle ear disease, then we appreciate the great frequency of chronic middle ear deafness. About eighty-four per cent. of the cases of chronic middle ear deafness are due to middle ear diseases alone, while fourteen per cent. are due to middle ear diseases combined with diseases of the inner ear. Of the cases of chronic middle ear deafness, about eighty-three per cent. are due to chronic middle ear catarrh alone; fifteen per cent. are due to present or past suppurative of the middle ear; one per cent. is due to stapes fixation, and less than one per cent. to congenital malformation of the middle ear. The fifteen cases which are the result of suppurative are often complicated by chronic middle ear catarrh. We see, therefore, that ninety-eight per cent. of chronic cases of middle ear deafness are due in whole or in part to "chronic middle ear catarrh."

Chronic middle ear catarrh makes about sixty-nine per cent. of all chronic deafness, while middle ear suppurative causes about thirteen per cent. of chronic deafness. The causes of chronic middle ear catarrh arise in the nasopharynx and affect the middle ear by interfering with the Eustachian tube. The aim of treatment is first to restore the functions of the Eustachian tube; and, second, to correct the defects of the middle ear. By treatment of nasopharynx, prophylaxis of these defects is easily assured.

The causes of stapes fixation are trophic disturbances. Not only must these disturbances be checked, but their recurrence must be prevented.

The chief difference between the etiology of middle ear suppurative and chronic middle ear catarrh is pyogenic bacterial infection. Suppurative occurs almost never independent of nasopharyngeal disease. Prophylaxis of chronic middle ear deafness due to suppurative is secured by preventing purulent inflammation through care of the nasopharynx. But if suppurative has already begun the hearing is preserved by immediately stopping the suppurative and by treating the nasopharynx appropriately. If any suppurative should exist in chronic middle ear deafness it must be immediately arrested. If perforations of the membrane exist they must be closed by the growth of cicatrices. In order to compensate for the important parts of the sound conducting mechanism which may have been lost, it is necessary to adjust mechanical appliances. Adhesions of important parts must be loosened.

Besides showing the second stage of stapes fixation (Case X), the following cases also show the three conditions caused by chronic middle ear suppurative, together with their nine methods of treatment (Cases I to IX). The thirteen conditions of chronic middle ear catarrh and their treatment are also shown (Cases XI to XXIV).

CASE I.—No. 12076. A man, aged thirty-four. Chronic middle ear suppurative with impaired hearing for six years. Perforation of Siegmund's membrane. Politzer's accumulator heard less than three feet. Nine weeks later, after cleansing treatment and cessation of suppurative, accumulator heard at thirty-five feet. Improvement has persisted to the present time, covering a period of three years.

CASE II.—No. 12076. A man, aged twenty-seven. Chronic middle ear suppurative for four years; small perforation of membrana tympani and considerable loss of hearing. Politzer's accumulator heard at three feet. Three months later, after cleansing treatment and ces-

sation of suppurative, accumulator heard at thirty feet. Improvement has continued over three years.

CASE III.—No. 12124. A woman, aged fifty-three. Suffered from effects of chronic middle ear suppurative; large, dry posterior perforation of drum membrane. Politzer's accumulator heard at twelve inches. The other ear worthless. The perforation was caused to cicatrize over by aid of paper dressings. Six weeks later, Politzer's accumulator heard at eight feet. Improvement has continued.

CASE IV.—No. 13000. A woman, aged twenty, who had been rejected in a civil service examination. Effects of chronic middle ear suppurative. Adhesion of malleus handle to promontory. Perforation of drum head had already closed. Watch heard at five inches. The other ear worthless. Two and a half months later, after forcible catheterization and relaxation of the bands of adhesion, watch could be heard at seventeen inches, and applicant passed a successful civil service examination. Improvement retained.

CASE V.—No. 13070. A doctor, aged forty-five. Long standing suppurative and large perforation in membrana tympani. Politzer's accumulator heard at ten inches. One week later, after cleansing treatment and cessation of suppurative, the perforation was closed with paper dressings; accumulator heard at twelve feet.

CASE VI.—No. 14207. A woman, aged twenty-four. Suppurative since childhood; total loss of drum membrane and the three ossicles. Watch heard at one inch. Other ear of little use. One week later, after cleansing treatment and cessation of suppurative, tympanic ballast was adjusted, watch heard at thirty-six inches. Improvement continues over three years.

CASE VII.—No. 12077. A woman, aged twenty-seven. Suppurative since childhood; loss of drum head and cicatricial attachment of malleus to promontory; early impairment of hearing. Politzer's accumulator heard at twelve inches in right ear. Left ear absolutely deaf. Cleansing treatment and cessation of suppurative. Politzer's accumulator heard at four inches. Tympanic ballast then adjusted, accumulator heard at eight feet. Ballast caused return of suppurative. A mustard anastomosis was performed in order to allow the use of the tympanic ballast. After convalescence Politzer's accumulator heard at thirteen inches. Ballast adjusted, accumulator then heard at nine feet. Watch heard at two inches. Condition remained the same. Functional tests without tympanic ballast: Tone perception, high limit, 76,800 single vibrations (Edelmann-Galton); low limit fork 1,024 single vibrations. Bone conduction 0. With tympanic ballast in place: Tone perception, high limit, 30,400 single vibrations; low limit fork, 128 single vibrations. Bone conduction, fork 512 single vibrations heard on mastoid. A time also existed for a time, fork 2,048 double vibrations not heard by air conduction while other forks were heard.

CASE VIII.—No. 14278. A man, aged sixty-five. Chronic middle ear suppurative of many years' duration with poor hearing. Watch heard at four inches. My modified radical mastoid operation was performed. Cessation of suppurative and watch heard at ten inches.

CASE IX.—No. 13048. A woman, aged twenty-four. Suppurative since infancy; loss of all tympanic contents; tympanic caries. Watch heard at contact. Radical (Schwartz-Stacke) mastoid operation performed. Convalescence complete in three weeks without skin grafts. Cessation of suppurative, and watch heard at ten inches. The patient has retained the improvement now for four years.

CASE X.—No. 14226. A man, aged sixty-seven. Stapes fixation in the second stage. Deafness commenced eight years ago; hearing had been very bad for three years; this condition was possibly aggravated by a common cold. Hearing variable. Drum membrane whitish and opaque. Position normal, and light reflex normal; malleus movable. Politzer's accumulator heard in right ear at nine inches, left ear at three inches. Loud conversation heard on right ear at six inches, left ear at thirty-two inches. Watch heard in either ear. Bone conduction, much diminished. Fork, 128 single vibrations not heard by air conduction by bone. Fork, 512 single vibrations not heard by air. High notes well heard. Tympanic membrane greatly thickened and irregularity of basal middle of the middle ear. Six months later Politzer's accumulator heard in right ear at twenty feet.



watch at twenty inches; in left ear, acoumeter at four and one half feet, watch not heard at all. Improvement has continued now for a period of four years.

CASE XI.—No. 13083. A man, aged forty-seven; had noted deficiency in hearing for eighteen years. Drum heads good color, fair contour and position, light reflex very small. Nares partially occluded by hypertrophies and irregularities. Fosse of Rosenmüller partially closed by adhesions. Tubal mouths slightly obstructed by thickened mucosa. Watch heard in right ear at fifteen inches; in left ear, at four inches. Astringents and irritants to nasopharynx. Three years later, watch heard at forty-eight inches in left ear and eighty-four inches in right ear. Improvement maintained.

CASE XII.—No. 14528. A man prematurely old at forty-seven. First noted impaired hearing thirty-four years ago; losing ground ever since in spite of much treatment. Has not heard watch in right ear for twenty-one years, and in left, twenty-five years. Flat, opaque, retracted drum membranes; no light reflex, rigid. Nares hypertrophic; inflation by Politzer's method or catheterization impossible. By air conduction, right ear, low tone limit fork 1,024 single vibrations; high tone limit fork 2,048 single vibrations. Left ear, low limit, 512 single vibrations; high limit 4,096 single vibrations. Bone conduction decreased. Right ear, low tone limit by bone conduction, 1,024 single vibrations; high limit fork, 8,102 single vibrations. Left ear, low limit by bone, fork, 1,024 single vibrations; high limit, 8,192 single vibrations. Very loud voice heard at one foot in right ear; left ear, at eight inches. Bougies, local astringents, and stimulation. Portions of lower turbinates removed. Eight months later, low tone limit in left ear, fork, 256 single vibrations; right ear, fork, 268 single vibrations; high tone limit 40,000 single vibrations in both ears. Politzer's acoumeter heard in right ear at fifteen inches; in left ear at twenty-seven inches. Watch heard light contact on both ears. Loud conversation heard in right ear at five and a half feet; left ear at four feet. Eustachian tubes patulous; appearance of drum membrane much improved in every respect; good light reflex, color, position, and surface, still somewhat opaque.

CASE XIII.—No. 14177. A woman, thirty-eight years old. Had undergone much injudicious treatment. Eustachian tubes used to be closed, now cannot close. Diminished hearing began fifteen years ago. Membrana tympani thin, flaccid, readily movable. Politzer's acoumeter heard at twenty inches in right ear. Treated by rest, stimulation, and collodion splints. After six months, Politzer's acoumeter heard at four and a half feet; watch, at two and one fourth inches. Improved function of Eustachian tube.

CASE XIV.—A man, aged forty-three. For several years the patient's hearing had been impaired; drum head retracted; good color, contour, and reflex. Did not move on inflation. Watch heard at one and a half inches; after inflation heard at twenty-four inches. Treatment, inflation and pharyngeal astringents; one month later, watch heard at eighteen feet.

CASE XV.—No. 14096. A man, aged twenty-seven. Impaired hearing for a number of years; much deafness in family. Drum membranes slightly congested along malleus handle and periphery, and depressed, small light reflexes, inflation difficult. Nasal engorgement. Left ear, watch heard at five inches; right ear, watch heard at nine inches. Bone conduction slightly prolonged. Low notes well heard. High limit, left ear, 39,000 single vibrations (Edelmann-Galton). Right ear, 44,000 single vibrations. Treated by inflation, removal of part of lower turbinates, and astringents. Three days later, watch heard at twelve feet; left ear, at ten inches. Improvement maintained.

CASE XVI.—No. 13012. A man, aged sixty-seven. Some difficulty in hearing for a number of years. Membrane very thick and white, with thinner areas. Large light reflexes. Inflation slow. Politzer's acoumeter heard in right ear at twenty-five inches; in left ear, at seven inches. High tone limit, left ear, 29,000 single vibrations (Edelmann-Galton). Right ear, 20,000 single vibrations. Right ear, low tone limit, 102 single vibrations. Treatment, astringent to nasopharynx and aural stimulation; two weeks later, Politzer's acoumeter heard in right ear at five feet; left ear, at fourteen feet.

CASE XVII.—No. 14649. A man, aged fifty-eight. Extremely deaf for two years; hearing difficult many years. Thick, flat, contracted drum heads; no light reflexes; Eustachian tubes fairly patulous. Could hear nothing by

on the cheek. Heard very loud noise close to his ear. Treated by nasal counter irritation and tympanic stimulation. After several treatments, acoumeter heard in right ear at two inches; left ear, at five inches. High tone limit, right ear, 24,000 single vibrations (Edelmann-Galton); left ear, 22,000 single vibrations. Low limit, left ear, fork, 250 single vibrations; right ear, fork, 1,090 single vibrations. Eight months later, ordinary voice heard by air at four feet. Low tone limit fork, 128 single vibrations, by air in both ears.

CASE XVIII.—No. 14160. A woman, aged fifty. Hearing had been defective twenty-five years. Partial nasal obstruction. Drum head depressed, very thin, transparent, and lax. Inflation not perfect; watch not heard. Right ear, the better ear. Politzer's acoumeter heard at five feet. Low tone limit, 256 single vibrations. Treated by nasal astringents, removal of part of lower turbinates, and aural stimulation. Fifteen months later, watch heard at thirty-six inches. Low tone limit, fork, 113 single vibrations. High limit, 43,000 single vibrations (Edelmann-Galton).

CASE XIX.—No. 14128. A man, aged forty-five. Impaired hearing many years. Right ear absolutely deaf; left ear, relaxed drum membrane. Patulous Eustachian tubes. Politzer's acoumeter heard at seven inches. Treatment, paper splints and collodion. Six months later, left ear heard watch at one and a half inches; acoumeter at twelve feet. Resiliency of drum membrane restored. Improvement maintained.

CASE XX.—No. 12099. A woman, aged thirty-nine. Had long noted trouble in hearing. Right ear, the best ear. A large part of the drum membrane calcified. The tube not perfectly patulous. Politzer's acoumeter heard at two inches. Treated by inflation, astringent to nasopharynx, and tympanic stimulation. One month later, right ear, watch heard at eighteen inches. Mobility and elasticity of the sound conducting mechanism improved.

CASE XXI.—No. 14179. A man, aged forty-one. Had been a little deaf for a number of years. Left ear showed a somewhat depressed gray membrane with irregularly depressed surface after inflation, indicating bands of adhesions running to the inner tympanic wall. No history or evidence of suppuration. Tympanic inflation difficult. Acoumeter heard at three inches. Treatment, inflation and tubal astringents. Four months later, Politzer's acoumeter heard at four feet in left ear. Adhesions appear to be entirely relaxed.

CASE XXII.—No. 14177. A woman, aged thirty-eight. Noted impairment in hearing fifteen years ago. Previously tubal stricture, much injudicious treatment, now permanently open tubes and abnormally movable left drum membrane and malleus, less of elasticity of membrane and extreme laxity of malleal ligaments. Bone conduction much increased, low notes deficient, high notes well heard. Left ear, acoumeter heard at twenty-five inches. Treatment by collodion splints, rest, and irritation of pharyngeal mouth of tube. Five months later, watch heard in left ear at four and three fourths inches. Politzer's acoumeter heard at ten feet.

CASE XXIII.—No. 14861. A woman, aged thirty-five. Some difficulty in hearing for at least two years. Tympanic membrane fairly normal in appearance. Malleus immovable. Right ear, watch heard at seventeen inches; left ear, at three inches. High tone limit, left ear, 40,000 single vibrations (Edelmann-Galton); right ear, 48,000 single vibrations. Gellé positive, low limit left ear fork, 134 single vibrations; right ear, 174 single vibrations. Bone conduction, normal duration. Treated by tympanic and tubal stimulation. Six weeks later, left ear, watch heard at nine inches; right ear, at twenty-one inches. High tone limit, right ear, 85,000 single vibrations; left ear, 92,000 single vibrations. Low limit, 128 single vibrations both ears.

CASE XXIV.—A boy, aged thirteen. Patient had always had slightly defective hearing. Watch heard at twenty inches in both ears. Mastoiditis and operation treated with my modified blood clot dressing. After convalescence from the operation, the ear operated on for mastoiditis heard the watch at twelve feet.

*Summary.* We have seen that all forms of middle ear deafness except the congenital cases are amenable to treatment, and that the amount of improvement justifies the effort expended.

## A NEW METHOD OF ANATOMY STUDY.

BY FREDERIC GRIFFITH, M. D.,  
Rome, Italy.

*Introduction.*

Of all the manifest difficulties encountered by students of medicine at the very outset of professional school life the topic of anatomy looms most stupendously before the mind's eye contemplating the stage of its coming mental activities. Continued thought of the beginner upon the matter serves but to strengthen preconceived notion—accentuated by wellnigh universally expressed opinion of all other past and present medical tyros—namely, that the subject of human anatomy is at once the most intricate, hardest to fix in mind, and easiest forgotten of any branch of medical knowledge.

One desirous to discover the reasons for the perplexities overshadowing the way of him who would become a skilled anatomist will not seek far before becoming impressed by the very same thought which, however undiscerned, acted so overpoweringly upon the student himself. In a word, the real cause for the hardness of anatomy lies in the very essence of anatomy itself as commonly presented. Ambiguity in this statement will be cleared if the reader will momentarily allow his mind to dwell upon the abstract aspect of the subject under discussion. Consider the term anatomy and what is presented to consciousness. Is it not the body in its entirety? This presentation of the whole crowding the brain becomes the primal source of confusion when localized disassociation of the subject is attempted. Entering from the surface, the deeper one delves the more complicated the structures, until the inquirer becomes lost in a maze of contra relationships of muscles, bones, vessels, nerves, and visceral organs.

That which serves to so confound the casual glance acts similarly in the student's mind, and by reason of the incompleteness of his study causes anatomical facts to remain but lightly fixed in memory.

The monuments of Cheops have remained the marvel and bewilderment of the centuries since the secret of their construction slept after two or three generations from the builders. Lately has come one who suggests that the pyramids are cement. Proved to be so, the mystery of those imperishable piles is solved and the tradition of the "hundred thousand straining backs" tugging quarried blocks of a size not worked in our time becomes mere figure of language. To reduce the anatomical stumbling block and to render its grasp facile for the learner by means eminently practical is the purpose of the present writing.

To study a house without the aid of the architect's plans, even though one may have the privilege of tearing the building down, serves but to mystify and is likely to leave the intrepid investigator exercising the extreme prerogative standing finally amid a wreck of thought and disjointed bricks. Markedly similar is the result after the average dissector has approached a human body in search of its secret conformation.

Based upon the thought that a reconstructive process logically should follow close after the analyzing dissecting knife if the student is to gain proper

grasp of subject anatomy, the system to be presently described is projected. Every sincere anatomy teacher, mindful of dissecting room shortcomings, has thought, if indeed he has not voiced, keen sorrow at the constant waste of material caused by thoughtless, untrained students. Too often parts are merely flensed hastily, as footpads scour their victim's pockets.

Admittedly but little is ever gained from the dissection of a first part. To present anatomy from the very beginning, recognized as being made up of local and distinctive elements, the several factors entering into the construction being as easy of retention when once properly presented before the mind as is the reassembling of a bony skeleton once set up, is what is strived for by the method of synthetic development described in this article. To be able to replace the component materials entering into a construction carries the individual possessed of such power a long ways towards an understanding of it, but to be enabled to create the parts in some similitude, however crudely, first, if built upon a sound foundation, is to accomplish far more.

By the aid of some plastic material and an assembled bony skeleton the anatomy student will have at hand the means of fixing facts upon his memory after every part dissected in a manner inconceivably valuable. By ordinary dissecting methods one gains sight of existent relationships. If the common practice, however, is followed by a synthetic process the student gains thereby a strengthened brain impression. Whereas, in the former he saw merely the picture, by the latter means he duplicates the imprint, for now he not only sees the bare fact, but is forced to consider every concept by reason of the manual effort in the reproduction.

*Equipment.*

The materials necessary for the development of the synthetic method of anatomy study are:

(1) Provision for a skeleton of average size, preferably that secured from the body of a muscular male adult. Thus is provided a sure control and foundation for all the subsequent production, the well marked bony prominences serving as positive guides for the building up of the soft parts. Such a skeleton may be readily secured, selected, cleansed, properly assembled, and wired, from the dissecting room supply of material in the early fall at the beginning of college work; or it may be obtained from dealers in anatomical and surgical supplies at a cost of thirty to sixty dollars. One such skeleton may be adequate to serve the practical needs of a group of four or even six students. Where there are larger classes a number of the skeletons should be provided.

While assured that if synthetic demonstrations were instituted as regular supplemental procedures at the close of anatomical courses much would be gained, greatest good is obtainable when the student himself prepares his own specimens. The actual work at modeling of the anatomical duplicate directly after completion of the dissection serves to fasten the facts as nothing else can do.

(2) The modeling material may consist of any one of the following. A recognized plastic substance well fitted for the intended work having a foundation of wax, being in general use by sculptors, is

known under the trade name of plastilina. It is placed first upon the list of desirable shaping matter for the reason that it is most practical and least troublesome of all to use. The substance comes in three consistencies, of which that termed medium or hard will be found most satisfactory for present purposes. Manufactured in several colors, and as it is muscle relationships which will be particularly studied and which are of greatest importance in fixing nerve and bloodvessel locations, red should be chosen as being nearest the natural tint. Put up in one pound packages and selling for twenty-five cents apiece; ten cakes will be found amply sufficient for carrying out complete detail work. Ordinary modelling clay costing at the rate of about three cents a pound may be used. This clay has the disadvantage of it being necessary to keep it constantly wetted to prevent crumbling. Fifteen or twenty pounds weight of clay may be provided, as it is somewhat heavier in a given quantity than in the case of the first mentioned material. The clay is best kept in a stone crock or closed enamel vessel. When obtained the mass should be broken up by the fingers into small pieces of about the size of walnuts and spread in layers in the receptacle. Each layer to be well sprinkled with water. Finally the whole should be covered in with a dampened cloth to prevent evaporation of the water. Very lately has appeared a modified clayey substance termed by the inventor, a Norwegian sculptor, "classical clay," from its partaking of the nature of modelling material used by ancient Greek and Roman artists. This clay may be readily employed as a medium for carrying out synthetic anatomy study, its cost being but about twice that of ordinary modelling material. Classical clay has distinct advantages in that the finished work does not require to be kept wet during the intervals of study; also from the fact that additions may be added without in any way disturbing the original construction.

The implements required for the working of the plastic materials are few. Two or three of the broad and narrow ended wooden modelling tools, selling for small cost at art material shops, or the student may provide a spatula like tool whittled from a piece of broom handle, finding it satisfactory for every purpose. Chief reliance is to be placed upon the student's own fingers for the carrying out of the work, as it is the act of modelling the parts which serves unconsciously to fix the anatomical fact being studied at the time firmly in mind.

### *The Body Surfaces.*

The value of synthetic study of surface markings becomes apparent when it is recalled that physical anatomy depends upon the landmarks of the subcutaneous bony prominences, muscular and facial elevation and depression, for its basis. Not alone is the surgeon dependent, but also the physician, upon the fixed body points, in the determination of the extent and character of surgical injury or internal disease. The ease with which accurate knowledge of what goes to make up surface prominences and contiguous structures is evident by a mere cursory examination of any of the standard anatomy textbooks. A wealth of pictorial description shows the bones of the skeleton carefully marked with origin and insertion of all the muscles thus acting as ready

guides, but which hitherto without the connecting link of plastic material and transfer to the bony skeleton has been neglected.

### *The Head.*

After completing the dissection of the head or during the course of the work, with the skeleton head set up beside that of the subject, duplication may be commenced.

Muscles of the Face and Cranium.—Beginning with the temporal muscle, for convenience, its origin and insertion are to be examined in the subject. Reproduction upon the skeleton head may then be carried out, making frequent comparisons. Cutting off a piece of the modelling material in bulk similar to the temporal muscle to be copied, the lump is to be kneaded and moulded into a somewhat elongated fan shape. By compressing the expanded edge to the temporal fossa and ridges, external angular process of the frontal bone to the mastoid portion of the temporal behind, curved lines of the frontal and parietal bones above to the pterygoid ridge upon the greater wing of the sphenoid below, the origin of the muscle will be traced. The insertion is set upon the inner surface, apex, and anterior border of the coronoid process of the lower jaw, extending almost to the last molar tooth.

The masseter, the remaining muscle entering the temporomaxillary region, is to be copied in a similar manner. This muscle is found to arise from the malar process of the superior maxillary bone and from the anterior two thirds of the lower border of the zygomatic arch; a second, deeper portion of the muscle arising from the posterior third of the lower border and from the whole inner surface of the zygomatic arch. The common insertion being set into the upper half of the ramus and outer surface of the coronoid process of the inferior maxilla. The relations of the parotid gland, fascial, masseteric, temporal, and buccal vessels and nerves may be subsequently indicated.

Pterygomaxillary Region.—The pterygoid muscles, by comparison with the worked out originals in the subject, are duplicated similarly upon the skeleton. Modelling the external pterygoid muscle in the shape of a short and somewhat conical form. The origin is to be indicated by attachment of the mass to the pterygoid ridge upon the greater wing of the phenoid and from the osseous surface lying between it and the base of the pterygoid process; also from the outer surface of the external pterygoid plate. The insertion is set into the anterior depression lying just below the condyle of the lower jaw. The internal pterygoid is formed to arise from the inner surface of the external pterygoid plate and the grooved surface of the tuberosity of the palate bone; also by an extension from the outer surface of the tuberosity of the palate bone and the tuberosity of the superior maxillary bone. The insertion is set into the ramus and angle of the lower jaw, extending as high up as the dental foramen. The vessel and nerve associations are to be carefully considered and indicated.

In like manner the intermaxillary, superior, and inferior maxillary regions are to be plotted. The nasal region being limited upon the skeleton to bone formation, must be prolonged by use of plastic substance to indicate the cartilaginous structure. In



all the work of reproduction the different muscular structures must be actually built up, not merely drawn by indentation upon an adherent mass of plastiline or clay. It is only by the student himself locating and indicating positively the points of origin and insertion of muscular structures that the greatest good is obtainable.

In making a synthetic study of the orbital region special provision by sawing through the frontal bone in such a manner as to open this space sectionally must be made.

The muscular structures entering into the neck are to be duplicated upon the skeleton as found. Beginning with the muscles of the soft palate, the pharynx, anterior vertebral, lateral vertebral, lingual, suprahyoid and infrahyoid, and superficial cervical regions.

#### *The Thorax.*

The thorax, being for the most part made up of more readily worked out structures, owing to their greater size than in the case of the head and neck regions, synthetic study of this portion of the body is most satisfactory. The muscles of the back beginning with the structures forming the fifth muscle layer may perhaps be best built up after a careful reading of the anatomy textbook. So close together are the back muscles that a first dissection is very apt to add confusion rather than clearness to the understanding. This is due to the complicated intermuscular septal supports, whose removal disorganizes the contained muscles.

In the building up process the student may possibly distort somewhat the various layers upon the skeleton model by lack of sufficient care in the proportionment, but he will have at the end clear mental pictures of the lay and action of the structures of the region under consideration.

Upon the thorax the chest wall is to be built up between the model ribs and sternum, beginning with the levatores costarum, intercostales, infracostales, and trianglariis sterni muscles.

#### *The Abdomen.*

The wide expanded structural formation of the abdominal walls likewise causes this portion of the body to be peculiarly adapted for a synthetic study. To prevent collapsing of the set up model muscles employ a bundle of excelsior or crumpled newspapers to take the place of the viscera. Begin the process of reconstruction by first laying down the transversalis and quadratus lumborum muscles; follow with the deep muscles of the abdomen, namely, the psoas parvus and magnus, iliacus. Anteriorly fill in the internal and external oblique, the rectus abdominis, and pyramidalis muscles.

The visceral organs may be added and the perineum built up in conjunction with the development of the thorax and abdomen or separately.

#### *The Upper Extremities.*

Reconstruction of the arm may commence with a reproduction of the pectoralis minor muscle, costocoracoid membrane, pectoralis major and subclavian muscles. Continue by laying down the serratus magnus, subscapularis, supraspinatus, infraspinatus, teres minor, teres major, biceps coracohumeralis, brachialis anticus, deltoid, triceps and subscapularis muscles in the order named. Upon the forearm the deep flexors and extensors, pronator quadratus

supinator longus, pronators, superficial flexors and extensors, abductors, interossei, palmares and dorsales, and the lumbricales muscles.

#### *The Lower Extremities.*

In the synthetic study of the thigh commence with the deep lying muscles of the anterior femoral region, laying down the curreus, subcurreus, vastus externus, vastus internus, rectus femoris, and sartorius muscles, with the tensor vaginæ femoris.

Upon the inner side of the thigh lay the abductor longus, brevis, and magnus muscles, the gracilis and pectineus muscles. About the hip and back of the thigh first set the biceps semitendinosus and semimembranosus muscles; continue with the quadratus femoris, pyramiformis, obturator externus, obturator internus, gemellus inferior, gemellus superior, gluteus minimus, gluteus medius, and finally covering in with the gluteus maximus muscle.

Descending to the region of the lower leg, fill in the anterior tibiofibular region by laying down the extensor longus digitorum, extensor proprius hallucis, peroneus tertius, and tibialis anticus muscle. Posteriorly set the flexor longus hallucis, flexor longus digitorum, popliteus, tibialis posticus muscles; afterwards add the superficial structures of the region, namely, plantaris, soleus, and gastrochemius muscles. Upon the outer side of the leg place the peroneus longus and peroneus brevis muscles.

Continue to the foot, laying down the anterior, internal, and external angular ligaments, indicating the proper relationships of structures passing through or beneath them.

Upon the dorsum of the foot set the extensor, brevis digitorum. In the plantar region set the interossei muscles; flexor brevis hallucis, adductor obliquus hallucis, flexor brevis minimi digiti, adductor transversus hallucis; abductor hallucis, flexor brevis digitorum, abductor minimi digiti.

It must be conceded that a thorough groundwork of the muscles by use of the system indicated in the previous pages founds the whole study of anatomy upon secure basis in the student's mind. Furthermore, elaboration of the synthetic method by laying down nerves, bloodvessels, and organs may be carried out to remotest detail. The synthetic method as well lends itself readily as a means for determining a student's knowledge of anatomy by the examiner.

### Correspondence.

#### LETTER FROM LONDON.

*The Research Defence Society, formed at the Royal College of Surgeons—Anatomists and the Hospitals—Changes to Hospital and Out-patients—The Committee of the Hospitals.*

LONDON, APR. 8, 1908.

A society has been formed called the Research Defence Society, whose objects are to point out to the public, by means of pamphlets, lectures, and debates, the value of experiments on animals to science and medicine. The president is Lord Cromer, and there are nearly a hundred vice-presidents, including some of the most distinguished men in the kingdom. There are, among others, six bishops and four deans. A society formed under

such distinguished patronage can scarcely fail to have great influence, and the public will now have the opportunity of hearing both sides of the question regarding vivisection. Hitherto the antivivisectors have been permitted to work their own will without let or hindrance. The only exception to this general statement was the recent libel action against the Hon. Stephen Coleridge, the leading spirit of the antivivisectors, with the result that he was mulcted in heavy damages. With this exception, the misleading and calumnious statements of the antivivisectors have been ignored by the medical world. It is thought that this passive attitude is a mistake, and that the time has arrived when more active measures are necessary to combat these attacks. With this object the society has been formed, and it will give information to all inquirers who desire to examine the arguments in favor of experiments on animals. It will also publish précis, articles, and leaflets, send speakers to debates if required, and generally spread the knowledge of the truth as regards vivisection.

The honorary secretary is Mr. Stephen Paget, F.R.C.S., to whom the medical world owes a debt of gratitude for his organizing such a powerful and influential society.

Several important letters have appeared in the *Times* and other daily journals on the subject, including some from laymen, testifying to the interest the society has aroused among the educated classes. The society will no doubt be largely joined by members of the medical profession.

The council of the Royal College of Surgeons of England has lately been considering the advisability of admitting women to the examinations for the membership and fellowship of the college. With regard to the membership, there seems little doubt that this privilege will be granted to women. This examination, conjointly with that for the Licentiatehip of the Royal College of Physicians (M.R.C.S., L.R.C.P.), is the standard qualifying examination for English students, and the great majority of medical practitioners in England possess this diploma. As women are now admitted to the examinations of most universities and licensing bodies, there seems no reason why they should not be admitted to the "conjoint" examination. As regards the fellowship, however, opinions are not so unanimous. Though most medical men are prepared to discard their prejudices against the admission of women as physicians, they do not all look with favor on the idea of women practising as surgeons only.

The fellowship being a purely surgical diploma possessed by most of the hospital surgeons, it is thought by some inadvisable to admit women. The opinion of all the members and fellows of the college on these questions has been sought, and they are being asked to vote for or against the admission of women (a) to the membership, (b) to the fellowship. The opinion having been expressed that, if women are admitted to the membership, they could not be legally debarred from entering for the fellowship and having a share in the management, government, and proceedings of the college, the council have taken legal advice on the subject, and find that under their bylaws of incorporation they can

admit women to the membership without admitting them to the fellowship or giving them any right in the management or government of the college.

The result of the ballot will be awaited with interest as affording an idea of the present day opinions of medical practitioners as regards the admission of women to the profession.

The question of the administration of anæsthetics in hospitals is likely to attract considerable attention in the near future. A number of cases of death under anæsthetics have been reported recently, Guy's Hospital having been particularly unfortunate in this respect. At a recent meeting of the Society of Anæsthetists, Dr. F. Hewitt, the leading authority on anæsthetics in the country, expressed the view that most of the fatal cases were preventable and could be avoided by more skill and care on the part of the anæsthetist. Of course, this statement was vigorously contested by most of the other speakers. Dr. Waldo, coroner for the city of London, suggested the appointment of a Royal Commission to inquire into the whole question. So far, the result of the recent discussions has been that extra anæsthetists have been appointed at some of the larger hospitals, two additional ones having been appointed at Guy's Hospital. The great number of anæsthetizations daily in some of the larger hospitals make it absolutely impossible for each one to be conducted by a skilled anæsthetist or even by a qualified man, but as far as possible, when a student gives an anæsthetic, he has previously had some preliminary training and is under skilled supervision. It is worthy of note that most of the recent fatalities have occurred with chloroform or the A. C. E. mixture. It is true that ether is much less used in London than chloroform, but in some of the large provincial hospitals, where ether is principally used, such, for instance, as the General Infirmary at Leeds, fatalities are of very rare occurrence.

The recent proceedings at the Hospitals' Conference have been sharply criticised by general practitioners. One of the motions, submitted by the Hon. Sydney Holland, chairman of the London Hospital, was to the effect that out patients should be asked to pay for food, medicine, and dressings if they could afford it. At the London Hospital the scheme has been in operation for some time. In one year the hospital got £2,000 from a charge of threepence a patient for medicines or dressings. Those patients who did not receive any medicine or dressing did not have to pay, and those who were too poor were also exempt. Mr. Holland considered that the charitable work of a hospital should be restricted to providing for the sick poor that help which they could not possibly afford to provide for themselves, but that a good many could afford a small sum for medicine and dressings. Medical men in general practice object to this scheme on the ground of unfair competition. They say they would lose many patients who could afford to pay a small fee. The resolution is also antagonistic to one of the model principles of the British Medical Association, that "inability to pay for adequate treatment shall be the consideration for the admission of all patients for hospital treatment." There is no doubt that the large hospitals in London, which together treat several hundred thousand patients per annum, already compete

severely with the general practitioner, and the suggested payment by patients will make this competition worse. Doubtless the system of small payments by out patients would increase the funds of the hospitals, but it would be at the expense of the medical practitioner.

The financial state of most of the large hospitals is not at all good; several of them have a whole ward empty owing to lack of funds. But the plight of one of the smaller hospitals at present is still worse. This is the Kensington General Hospital, in Earl's Court. All the inpatients departments have had to be closed, and the out patient work has had to be carried on under great difficulty. The secretary has received several writs from tradespeople for goods supplied to the hospital, and now the climax has been reached, the bailiff's man being in possession, and unless substantial relief is forthcoming, the hospital furniture and effects will be sold. The publicity which has been given to this distressing condition will doubtless call forth a generous response from the wealthy, so that the hospital will be able to continue its charitable work.

### Therapeutical Notes.

**The Treatment of Acute Bronchitis.**—The value of large doses of ammonium carbonate in the treatment of acute bronchitis was, the *St. Louis Medical Review* for April says, believed in by the late Dr. Gustave Schorstein, who recommended as much as fifteen to twenty grains to be prescribed four times daily. If the pulse becomes weak and respiration labored, solution of strychnine hydrochloride should be given hypodermatically. If the symptoms are not very severe, one of the following mixtures may be prescribed:

R Ipecacuanha wine, ..... ℥ vi;  
Solution of ammonium acetate, ..... ʒiiss;  
Syrup of nitrous ether, ..... ℥ xii;  
Syrup of tolu, ..... ʒss;  
Camphor water, ..... ad ʒi.

M. et Sig.: Two tablespoonfuls every four hours.

If the patient is a young adult, and the pulse full and strong, antimonial wine may be substituted for the wine of ipecacuanha in this prescription.

R Ipecacuanha wine, ..... ℥ vi;  
Ammonium carbonate, ..... ʒiiss;  
Syrup of nitrous ether, ..... ℥ xii;  
Syrup of tolu, ..... ʒss;  
Camphor water, ..... ad ʒi.

M. et Sig.: Two tablespoonfuls every four hours.

In some cases Dr. Schorstein recommended the administration of belladonna in combination with potassium iodide as follows:

R Tincture of belladonna, ..... ʒi;  
Potassium iodide, ..... ʒi;  
Ammonium carbonate, ..... gr. xii;  
Potassium carbonate, ..... gr. xv;  
Camphor water, ..... ad ʒi.

M. et Sig.: Two tablespoonfuls three or four times daily.

### Treatment of Sciatica by Perineural Injections.

According to the *Journal of the American Medical Association* for February 20, 1908, A. H. H. of Vienna, is the author of a communication to the

*Wiener medizinische Presse* for November 17, 1907, in which he states that he has found local injection of a fluid extremely effective in the cure of chronic peripheral sciatica. He has occasion to treat from fifty to sixty patients with sciatica every year, and since 1904 has been systematically applying these perineural injections. He ascribes the benefit to the mechanical distention of the parts, and thinks it is important to inject the fluid in a constant stream and under considerable pressure. Physiological salt solution is injected through a needle cannula from 7 to 8 cm. long, inserted at the point of the inner aspect of the thigh where the long head of the biceps femoris is crossed by the gluteus maximus. The patient must be in the knee elbow position; the cannula is introduced for half its length, and is then lowered a little and pushed in for 3 or 3.5 cm. farther. This brings the tip to the sciatic nerve at the point where it is most easily and safely reached without fear of injury of the soft parts, as he learned from experiments with colored fluids on the cadaver. The injected fluid enters the perineurilemma. When the needle reaches the sciatic nerve the leg twitches or there is sharp pain or paræsthesia in leg and foot. The tube connected with the syringe holding just 100 c.c. is attached to the cannula and the fluid is injected. The patient lies down for a half hour or so, and then goes home and rests for the next day or two. In a few cases the neuralgia recurs, requiring from two to four injections before the patient is entirely cured. In 62.6 per cent. of 67 cases the cure was complete; in 20.8 per cent. there was marked improvement, and in 8.9 per cent. no effect was apparent.

**The Administration of Magnesia in Gastric Affections** is discussed in the *Journal of the American Medical Association* for April 25. For gastritis with constipation the following is prescribed:

R Bismuth subnitrate, ..... ʒv;  
Magnesium oxide, ..... ʒi.

M. et fac chartulas xx.

Sig.: One powder three times a day before meals.

If there is hyperacidity of the stomach sodium bicarbonate is added as follows:

R Bismuth subnitrate, ..... ʒv;  
Magnesium oxide, ..... ʒi;  
Sodium bicarbonate, ..... ʒiiss.

M. et fac chartulas xx.

Sig.: One powder three times a day before meals.

If there is much gastric flatulence wood charcoal is substituted for the bicarbonate:

R Bismuth subnitrate, ..... ʒv;  
Magnesium oxide, ..... ʒi;  
Wood charcoal, ..... āā gr. lxxxv.

M. et fac chartulas xx.

Sig.: One powder three times a day after meals.

**Lactic Lemonade for Arteriosclerosis.**—In the *Journal of the American Medical Association* for May 2 the following formula is given for a drink to be taken by patients from arteriosclerosis several times a day, for a month or two.

R Sodium carbonate, ..... ʒiiss;  
Lactic acid, ..... ʒi;  
Addition, ..... ʒiiss;  
Simple syrup, ..... ʒi;  
Water, ..... ad ʒi.

M



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NEW YORK, SATURDAY, MAY 23, 1908.

MERCURY IN THE TREATMENT OF  
CONSUMPTION.

While there should be no abatement of our present ardor in the employment of hygienic agencies in the treatment of tuberculous disease—preventive measures, pure air, sanitary homes, rest, nutritious food, and the like—the cry of “throw physic to the dogs” should not lead us to neglect all other resources, including the use of drugs, that may be of assistance in combating the disease. There are thousands of instances, indeed, in which it is difficult if not almost impossible to carry out the hygienic treatment in such a way as to give the patient even an approach to the benefit which ought to result from a full and fair employment of it. If in such cases there is a prospect of some benefit from the administration of drugs, by all means let us make use of them. More than ordinary interest, therefore, attaches to an article by Surgeon Barton Lisle Wright, of the navy, published in the April number of the *United States Naval Medical Bulletin*, in which weighty evidence is to be found of the efficacy of mercury in tuberculous disease.

It was by accident that Dr. Wright's attention was first drawn to the possibility of benefiting tuberculous individuals by the use of mercury. He tells us that three years ago, while he was on duty in a temporary camp for the tuberculous established in connection with the United States Naval Hospital in Pensacola, he had under his care several patients who were both tuberculous and syphilitic, and that under mercurial treatment their pulmonary lesions

improved much more rapidly than he had ever observed in pure tuberculous infections treated under similar or more advantageous climatic conditions, so that he was led to believe that the improvement was due to the antisyphilitic medication. With this idea in view he placed about ten men on the “mixed treatment.” They all improved until the treatment had to be discontinued by reason of the occurrence of gastrointestinal derangement, but before he could continue the experiment further he was ordered to sea. Early in the autumn of 1907, when he had gone on duty at the United States Naval Hospital, New Fort Lyon, Las Animas, Colorado, his colleague there, Passed Assistant Surgeon E. M. Brown, in the light of Dr. Wright's experience, tried the mercurial treatment on several pulmonary patients, but with only indifferent results. This, Dr. Wright now believes, was due to the fact that the doses of mercury given were not sufficiently large, for the same patients showed immediate and decided improvement under the use of larger doses.

Then, in about three months, Surgeon W. H. Bucher reported for duty, and took up with Surgeon Wright's idea enthusiastically, and the plan was promptly and heartily approved by Medical Inspector C. T. Hibbett, the commanding officer. At Dr. Bucher's suggestion it was determined to use injections of mercury succinimide, that compound having been found by him superior to other mercurials in the treatment of syphilis. About a month later an abstract of an article by Dr. Wolters, in the *Dermatologische Zeitschrift* for the preceding September, confirmed the confidence of our officers in the efficiency of antisyphilitic medication in the treatment of tuberculous disease. Intramuscular injections of the succinimide were settled upon, and the experiments proceeded. A few encouraging case reports are given.

Dr. Wright invites special attention to the following points brought out in his experiments and those of his associates: 1. The immediate improvement of the patients' general condition, as shown by slowing of the pulse, reduction of temperature, and gain in weight. 2. A conclusive demonstration that the treatment will cure extremely advanced tuberculous ulceration of the larynx and pharynx in a remarkably short period of time. 3. The fact that the treatment produces a decided improvement of advanced pulmonary lesions and also has an evident beneficial action on tuberculous glands. He notes that great care was taken to ascertain that the subjects were not syphilitic. Stress is laid upon the fact that large and increasing doses of mercury are required, and the statement is made that tuberculous persons are extremely tolerant of the drug, more so than syphilitics. When, however, the in-

fection is slight the large doses are not so well borne; in several cases an injection of 0.4 of a grain of the succinimide caused soreness of the gums and the dose had to be reduced. The idea is rather prevalent in the profession that the waters of Hot Springs, Arkansas, enable syphilitics to bear larger amounts of mercury than it would ordinarily be prudent to administer. Our Hot Springs friends may therefore find it advantageous to treat tuberculous patients with mercury and the waters.

### THE BACTERIOLOGY OF GENERAL PARESIS.

Of all the mental diseases, general paresis stands out as the most distinct and the most hopeless. From the days of Bayle to the present time steady advance has marked the progress in our understanding of this disease process, and in the comparatively recent monumental work of Alzheimer and Nissl it would appear that, from the pathological standpoint at least, this disease has found a firm underlying foundation and an anatomical interpretation for all time. *Ætiologically*, however, the view is still troubled. Notwithstanding the general conviction—founded on the insecurities of statistical analysis and the more thorough and apparently definitive findings of Wassermann and Plaut relative to the presence of a syphilitic antibody in the cerebrospinal fluid of most paretics—that syphilis is the fundamental *ætiological* factor, there still remain difficulties in the way of interpreting this disease solely in the light of its being a syphilitic final product acting on nervous tissues.

It is for this reason that the studies of Ford Robertson and the discovery of his so called *Bacillus paralyticus* have aroused considerable interest and given rise to protracted discussions, the latest of which took place at a recent meeting of the American Medicopsychological Association.

The scientific world has not accepted the Ford Robertson findings, nor yet is it prepared to accept the therapeutical results alleged by him and his followers in this and other countries; yet the contentions are entitled to be heard and the evidence reviewed. At the meeting in question, Dr. John D. O'Brien, of Massillon, Ohio, reported some further observations on the *ætiology* and treatment of general paresis, in which he reasserted his belief in the causal relation of the pseudodiphtheroid *Bacillus paralyticus* to paresis, and also reported some measure of success in the treatment of this disease by "vaccines" prepared from this organism. Work done in the Cincinnati Sanatorium under the direction of Dr. F. W. Langdon, confirmatory of Dr. O'Brien's position, was also brought forward. On

the other hand, in an exhaustive analysis of some of the bacteriological findings, post mortem and ante mortem, in one hundred cases of mental disease of various types. Dr. E. P. Gay, Dr. E. T. Richards, and Dr. E. E. Southard, of Hathorne, Mass., established the facts that terminal infections were very frequent in mental disorders, and that a vast variety of organisms might be found. More particularly it was shown by their studies that members of the pseudodiphtheria group, to which *Bacillus paralyticus* belongs, are very frequent saprophytes, being found in the skin, bronchial mucous membrane, and genitourinary tract, and even occurring in epidemic frequency in certain laboratories under diverse conditions. They were unable to find this organism in the cerebrospinal fluid in paretics, living or dead, and when found it could be established that such findings resulted only as a result of faulty technique.

In the discussion it developed that other workers had come to the same conclusions—that, from personal observation, the work of the Scotch bacteriologist did not come up to the technical requirements of exact bacteriology, and the general conclusions drawn were that it was not proved that the *Bacillus paralyticus* had any relation to general paresis; that, if it had, it was a saprophyte that perhaps played a part in causing a secondary septicæmia in paretics; and that the therapeutical deductions might have some value relative to the treatment of such secondary infections, but had no real relation to the underlying process. From this latter standpoint further studies were thought to be desirable.

### THE EXPERIMENTAL TREATMENT OF TRYPANOSOMIASIS IN RATS.

In the treatment of trypanosome infection in rats it has been found that a number of substances will cause the parasites to disappear from the peripheral blood for a time, but that after a varying period of freedom the blood will again be found to contain numerous parasites. Certain arsenical preparations gave the best results in quickly ridding the peripheral blood of the parasites and in keeping it free from them for the greatest period of time. It was subsequently found that the administration of a mercury salt after the trypanosomes had disappeared from the peripheral blood would in many cases permanently cure the infection. In many of the animals, however, death took place from the organic degenerations produced by the remedies. A committee of the Royal Society has been engaged in studying the subject, and in the *Proceedings of the Royal Society*, vol. LXXX, No. B 530, Plummer and

Thomson report for this committee. They have found that the salts of mercury have not given altogether satisfactory results, on account of the chronic kidney and liver lesions produced. Although they say that in the more chronic form of trypanosomiasis, such as *Trypanosoma gambiense* infection, this treatment might be more successful than in the more acute infections with *Trypanosoma Evansi* and *Trypanosoma Brucei*.

Since treatment with arsenic compounds was only partially successful, they turned their attention to antimony compounds. They first used antimony glycine without encouraging results; then they employed potassium antimonyl tartrate, but it killed the animals in a short time. They then used sodium antimonyl tartrate in one per cent. solution. They found that this substance had the most marked influence upon the trypanosomes in the living body of any of the various substances so far used, including the arsenical preparations which had given such good results in the past experiments. The injections caused no pain and produced no inflammatory reaction, and the trypanosomes disappeared from the peripheral blood with great rapidity. Thirty-nine rats infected with *Trypanosoma Evansi* and *Trypanosoma Brucei* were treated with this compound. Some of them died from other diseases than trypanosome infection, and a satisfactory percentage were living at periods varying from twenty-one to fifty-two days after the beginning of the diseases.

#### THE FORTHCOMING MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

Hardly will this issue of the *Journal* have reached our remote subscribers when it will be time for them to start for Chicago to attend the approaching meeting of the American Medical Association. We take it for granted that a goodly proportion of them will go, even irrespective of membership in the association, for the profession at large is always interested in the meetings and in the concomitant events. Moreover, Chicago, "the Empress of the West," as the late Dr. Gaillard Thomas called the city, could not be seen to better advantage by medical men and their families than on the occasion of such a great gathering of their own solidarity.

The comparatively central situation of Chicago and its ready accessibility invite a large attendance, and the city is so large and so well provided with hotels that nobody who goes to the meeting need be at a loss to find suitable quarters. It is usually an attractive place in the month of June, and we may be sure that its hospitable inhabitants will exert themselves to the utmost to provide entertainment for their visitors. From the scientific point of view,

apart from the proceedings of the various sections of the association, the clinical work announced is on an unusually large scale, and the pathological exhibit will probably be more extensive than it has been heretofore. Chicago is one of the great centres of activity in science as well as in trade, and it is to be expected that much that is not formally announced in connection with the meeting will be found inviting to visiting physicians. All things considered, it will be seen that the Chicago meeting promises to be exceptionally large and profitable.

#### PROSPERITY BY SUGGESTION.

The psychology of suggestion is undoubtedly an important factor in all the relations of life, and we are interested to note that it is proposed to use it systematically with a view to improving the present commercial and financial conditions. So far as purely physical factors are concerned, the United States is in a prosperous condition. As a result of wildcat speculation, carried out in many instances with other people's money, a financial crisis was brought about in New York, requiring a readjustment based on real and not inflated values of incorporated securities. Out of this readjustment, however, there was developed a certain pessimistic tendency which had a very real effect on commercial conditions, as can be testified to by many physicians, who have felt it either directly, in their own investments, or indirectly, through the influence on the incomes of their patients. To counteract this pessimistic attitude an organized movement has been set on foot by various associations of commercial travelers, who will hold an Interstate Prosperity Congress in New York during next August. In St. Louis an organization has also been formed under the title of the National Prosperity Association, the object of which is to restore confidence among business men.

The movement has been treated lightly by some of the newspapers, and in one particular paper has been characterized as an effort of the commercial world to lift itself by its own bootstraps. We do not think that this characterization is justified. If the substantial basis of prosperity exists, as is asserted by the officials of the prosperity crusade, and if the only obstacle to a return of commercial and financial prosperity is lack of confidence, such organized efforts as are being put forth to restore confidence hold out much promise of good. Psychologists have come to recognize clearly the importance of suggestion in the creation of mental conditions, and the psychology of mass action as seen in crowds is well known. It has been clearly shown in these studies of the psychology of the



crowd that there are action and interaction by suggestion which make it possible for the individuals in a crowd to reach a state of exaltation or fervor which they would be incapable of reaching were the same influences brought to bear on them as isolated individuals. This idea is worked out with considerable elaboration in an interesting drama now on the New York stage, *The Witching Hour*. In this play a wave of horror and repulsion which sweeps over the entire community at the disclosure of certain facts affects the decision of a jury, the members of which have no knowledge of the facts bringing about this feeling of repulsion, though they are unconsciously affected by it.

By all means, therefore, let the commercial world make this essay in suggestion, for if confidence is the only element of prosperity lacking, it would seem well within the bounds of possibility that through some concerted movement of this kind confidence might be restored. While it will not be possible for the psychologist to exercise that control over the various factors in the experiment required to place the results on a really scientific basis, the results will still have a certain scientific as well as a commercial interest.

### A WELL DESERVED PENSION.

It is announced from Washington that the House of Representatives has unanimously voted a life annuity of \$125 a month each to the widow of the late Major James Carroll, of the Medical Department of the United States Army, and to the widow of the late Acting Assistant Surgeon Jesse W. Lasear. Both those gentlemen, as our readers are well aware; lost their lives in consequence of experimental work that has proved of incalculable value in the prevention of disease and added lustre to the medical corps of the army.

### Obituary.

JOHN DUTTON STEELE, M. D.,  
of Philadelphia.

Dr. Steele, who was born in Pottstown, Pa., on February 21, 1868, died in Wayne, Delaware County, Pa., on Sunday, May 17th, aged forty years. In 1888 he received the degree of A. B. from Williams College, and in 1893 he was graduated from the Medical Department of the University of Pennsylvania. Dr. Steele, on the occasion of his graduation from the latter institution, received the alumni medal for the highest general average in the examinations of the course. He went to the Philadelphia General Hospital as interne soon after his graduation, and, after completing a full term in that institution, spent some time in Germany and Austria studying internal medicine and pathology.

Upon his return to this country, after his period of European study, Dr. Steele engaged in the practice of his profession. He became connected with the Department of Medicine of the University of Pennsylvania, where he was assistant demonstrator of gross morbid anatomy, instructor in medicine, and associate in medicine successively. He also became associated with the Presbyterian Hospital, in which institution he was clinical pathologist and visiting physician successively. Dr. Steele was a member of the Association of American Physicians, a fellow of the College of Physicians of Philadelphia, a member of the Philadelphia Pathological Society, a member of the Philadelphia County Medical Society, of the Medical Society of the State of Pennsylvania, and of the American Medical Association.

Dr. Steele's writings were principally on subjects pertaining to the diseases of the gastrointestinal tract. He had contributed to many discussions at the various medical societies to which he belonged and to many medical journals. In association with Dr. S. J. Repplier he presented a paper at the meeting of the Association of American Physicians in Washington on May 12th on the Value of Intestinal Antiseptics, which was read by title owing to his illness. Dr. Steele had many friends, whom he made and held by his pleasant personality and engaging manners, who will sincerely regret his untimely death.

### News Items.

**Changes of Address.**—Dr. C. T. Graham Rogers, from 104 East Ninety-sixth street to 1333 Lexington avenue, New York; Dr. H. Greenstein, from 341 East Fifty-second street to 147 West One Hundred and Forty-third street, New York.

**Buffalo Academy of Medicine.**—The Section in Pathology met on the evening of Tuesday, May 19th. The chief feature of the programme was a paper on the care of the municipal milk supply, with a lantern slide demonstration, by Dr. George W. Goler, Commissioner of Health of Rochester, N. Y.

**Scientific Society Meetings in Philadelphia for the Week Ending May 30, 1908.**—Monday, May 25th, Mineralogical and Geological Section, Academy of Natural Sciences. Tuesday, May 26th, Philadelphia County Medical Society. Thursday, May 28th, Pathological Society; Section Meeting, Franklin Institute.

**Contagious Diseases in Chicago.**—During the week ending May 9, 1908, there were 270 cases of contagious diseases reported to the Department of Health, of which 33 were of measles, 30 of scarlet fever, 46 of diphtheria, 28 of tuberculosis, 35 of typhoid fever, 21 of whooping cough, 20 of mumps and 4 of erysipelas.

**The Tricounty Medical Society of South Jersey** will hold its next regular meeting at the Schaefer House, Salem, N. J., on Tuesday, May 26th, at 10 a. m. The society include the counties of Gloucester, Salem and Cumberland. The officers are: President, Dr. W. H. James, of Pennsville; first vice president, Dr. J. H. Moore, of Bridgeton; second vice president, Dr. H. B. Diverty, of Westbury; secretary and treasurer, Dr. George Edgar Rindley, of Westbury.

**Officers of Association of American Physicians.**—At the annual meeting of this association, which was held in Washington last week, the following officers were elected for the coming year: President, Dr. Victor C. Vaughan, of New York; vice president, Dr. Harvey Amos, of Albany, N. Y.; secretary, Dr. George M. Kohn, of Washington, D. C.; treasurer, Dr. S. Schaffer, of Philadelphia; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia; councilor, Dr. S. J. Meltzer, of New York.

**Charitable Bequests.**—The St. Louis Children's Hospital receives \$500 by the will of Mrs. Clara E. Curtis, and \$300 by the will of Mrs. Georgiana C. Louderman. The latter bequest will be devoted to the equipment of a new dispensary at the hospital, and the bequest of Mrs. Curtis will be used to endow a bed for five years.

By the will of Mrs. Lavinia Hunting, of Malden, the Manhattan Eye and Ear Infirmary, New York, and the Cullis Consumptives' Home, Boston, receive \$3,000 each.

**The Silver Anniversary of the German Poliklinik.**—The twenty-fifth anniversary of the founding of the German Poliklinik, 137 Second avenue, New York, was celebrated on the evening of May 16th with a dinner at the Waldorf-Astoria. Dr. Samuel Kohn, Dr. H. J. Boldt, Dr. A. H. von Ramsdohr, and Dr. Ludwig Weiss, the four surviving doctors of the original fifteen who established the institution, were the guests of honor. In its twenty-five years of existence the Poliklinik has treated nearly a million persons free of charge.

**Plague in Venezuela.**—According to press dispatches, the plague situation in Venezuela has assumed an alarming aspect. The city of La Guayra is under strict quarantine, and quarantine regulations against Venezuelan ports have been ordered by Colombia and Trinidad. Daily bulletins are issued in Caracas purporting to give the number of deaths, and it is reported that in La Guayra there are from fifty to seventy deaths a day. The authorities are doing everything in their power to stamp out the plague, but their efforts so far seem to have had little effect.

**The Harlem Eye, Ear, and Throat Infirmary.**—Plans have been filed for a new two story and basement building for this institution, which is to be erected at the corner of Lexington avenue and One Hundred and Twenty-seventh street, at a cost of \$25,000. Ground was broken on May 14th, and the work on the new building will be pushed forward as rapidly as possible. The Harlem Eye, Ear, and Throat Infirmary was founded in 1881 by Dr. R. E. Swinburne. It treats about six thousand patients annually. Dr. C. D. Meding is executive surgeon of the institution.

**The Mortality of Chicago.**—During the week ending May 9, 1908, there were 531 deaths from all causes reported to the Department of Health, as compared with 717 for the corresponding period in 1907. Of the total number of deaths, 312 were of males, and 219 of females. The annual death rate in 1,000 of population was 12.78. The principal causes of death were: Apoplexy, 10; Bright's disease, 23; bronchitis, 14; consumption, 77; cancer, 26; convulsions, 7; diphtheria, 7; heart diseases, 48; influenza, 5; intestinal diseases, acute, 25; measles, 10; nervous diseases, 20; pneumonia, 77; scarlet fever, 2; suicide, 13; typhoid fever, 4; violence (other than suicide), 13; whooping cough, 2; all other causes, 148.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 16, 1908:*

	May 9.	May 16.	May 9.	May 16.
Cases.	Deaths.	Cases.	Deaths.	
Tuberculosis pulmonalis ..	53	187	143	18
Idiopathic ..	294	47	409	36
Muscles ..	1,668	47	1,513	35
Scarlet fever ..	968	43	1,072	41
Smallpox ..	..	..	1	..
Measles ..	136	..	134	..
Typhoid fever ..	32	8	25	6
Whooping cough ..	32	5	37	4
Cerebrospinal meningitis ..	8	7	10	11
Total ..	3,696	332	3,798	291

**The Society for the Study of Inebriety, Alcohol, and Other Narcotics.**—The thirty-eighth annual meeting of this society will be held in the Auditorium Hotel, Chicago, on June 2d, 3d, and 4th. There will be one session each day, from 9 a. m. to 12 m. The programme includes more than twenty papers which will be read and discussed by prominent members of the medical profession, and the meeting promises to be one of great interest. A "temperance lunch" will be served at the hotel on Wednesday, June 3d, at 1:30 p. m., which will be the occasion for an informal discussion of the alcohol problem. Dr. T. D. Crothers, of Hartford, Conn., secretary of the society, has charge of this "lunch meeting," and will be glad to furnish programme and any information desired regarding the meeting.

**Philadelphia's Two Hundred and Twenty-fifth Anniversary** celebration will include notable observances by medical men, as will be seen by the programme for "Medical Day" which has just been issued. On Tuesday morning, October 8th, at 11 o'clock, in the Academy of Music, the following addresses will be delivered: The College and Allied Institutions of Philadelphia, by Dr. George A. Pier-sol; The Great Hospitals of Philadelphia, by Dr. J. Chalmers Da Costa; The Development of Practical Medicine in Philadelphia, by Dr. James M. Anders.

**Personal.**—Dr. John M. Swan, of Philadelphia, has been appointed secretary for the United States of the Section in Tropical Medicine of the Fifth Pan-American Medical Congress, which will be held in Guatemala City, Guatemala, August 5th to 10th.

Dr. Louis Faugères Bishop and Mrs. Bishop will sail for Europe on June 17th. They intend to spend the summer in Nannheim, Germany, returning to New York early in September.

Dr. H. B. Roop, of Columbia, Pa., is registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

On the afternoon of Tuesday, May 19th, Dr. Charles E. Beavor, of London, delivered, by invitation, a lecture on the Methods of Examining Muscular Movements, at the Hospital of the University of Pennsylvania.

#### Society Meetings for the Coming Week:

**MONDAY, May 25th.**—Medical Society of the County of New York.

**TUESDAY, May 26th.**—New York Dermatological Society (annual); New York Medical Union; New York Otological Society; Metropolitan Medical Society of New York City; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology).

**WEDNESDAY, May 27th.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society.

**THURSDAY, May 28th.**—New York Academy of Medicine (Section in Obstetrics and Gynecology); Brooklyn Pathological Society; Hospital Graduates' Club, New York (anniversary); New York Celtic Medical Society; Brooklyn Society for Neurology.

**The Health of Pittsburgh.**—During the week ending May 2, 1908, the following cases of transmissible diseases were reported to the Bureau of Health of Pittsburgh: Chickenpox, 7 cases, 0 deaths; typhoid fever, 38 cases, 1 death; scarlet fever, 16 cases, 1 death; diphtheria, 12 cases, 3 deaths; measles, 175 cases, 8 deaths; whooping cough, 14 cases, 0 deaths; pulmonary tuberculosis, 25 cases, 10 deaths. The total deaths for the week numbered 140 in an estimated population of 403,330, corresponding to an annual death rate of 18.04 in 1,000 of population.

During the week ending May 9, 1908, the following cases of transmissible diseases were reported: Chickenpox, 4 cases, 0 deaths; typhoid fever, 26 cases, 2 deaths; scarlet fever, 31 cases, 0 deaths; diphtheria, 7 cases, 3 deaths; measles, 260 cases, 2 deaths; whooping cough, 6 cases, 2 deaths; pulmonary tuberculosis, 31 cases, 15 deaths. The total deaths for the week numbered 160 in an estimated population of 403,330, corresponding to an annual death rate of 20.62 in 1,000 of population.

**Increased Pay for Naval Officers.**—A bill has been signed by the President providing for increased pay for officers and men of the Navy, which, according to the members of the Committee on Military Affairs, puts the officers of the Navy on a parity with those of the Army under the new army appropriation bill. The bill fixes the remuneration of commissioned officers on the active list at the following figures: Lieutenant, junior grade, \$2,000; lieutenant, \$2,400; lieutenant commander, \$3,000; commander, \$3,500; captain, \$4,000; rear admiral, second nine, or commodore, \$6,000; rear admiral, first nine, \$8,000. Each officer below the rank of rear admiral receives 10 per cent. of his current year's pay for each term of five years' service in the Army, Navy, and Marine Corps, in addition to his annual pay, provided that the annual pay of a captain shall not exceed \$5,000 per annum; of a commander, \$4,500 per annum; and of a lieutenant commander, \$4,000 per annum. Furthermore, officers are to receive an allowance of 10 per cent. additional when on sea duty or on shore duty beyond the continental limits of the United States.

**Details of the Army Pay Bill.**—The army appropriation bill contains many features which are of interest to the members of the medical corps. Among these are the authorization of the secretary of war to contract for the care, maintenance, and treatment, at any asylum in the Philippine Islands, of insane natives serving in the Army. The appropriation for the hospital corps amounts to \$955,840, of which \$100,000 is for length of service; for the medical corps, \$816,300, of which \$130,000 is for additional pay; for miscellaneous hospital matrons, \$9,000; superintendent of the nurse corps, \$1,800; female nurses, \$55,020; for hospital stewards, \$543,366; for quarters for hospital stewards, \$75,000; for medical supplies, \$700,000; for special apparatus, \$200,000; for museums and laboratories, \$5,000; and for the surgeon general's library, \$10,000. The total appropriation for the Army, including the items mentioned, amounts to \$95,382,246.61. The bill includes an appropriation of \$1,000,000 for heavy furniture for permanent use in the officers' quarters.

**The Health of Philadelphia.**—During the week ending May 2, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Typhoid fever, 68 cases, 14 deaths; scarlet fever, 61 cases, 5 deaths; smallpox, 2 cases, 0 deaths; chickenpox, 31 cases, 0 deaths; diphtheria, 79 cases, 9 deaths; cerebrospinal meningitis, 1 case, 0 deaths; measles, 504 cases, 17 deaths; whooping cough, 25 cases, 5 deaths; pulmonary tuberculosis, 125 cases, 64 deaths; pneumonia, 72 cases, 51 deaths; erysipelas, 6 cases, 1 death; puerperal fever, 6 cases, 7 deaths; mumps, 34 cases, 0 deaths; cancer, 20 cases, 21 deaths. The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 10; diarrhoea and enteritis, under two years of age, 15. The total deaths for the week numbered 513 in an estimated population of 1,532,738, corresponding to an annual death rate of 17.40 in 1,000 of population. The total infant mortality was 107; under one year of age, 74; between one and two years of age, 33. There were 49 still births, 24 males, and 25 females.

**Meetings of Sections of the New York Academy of Medicine.**—The Section in Ophthalmology met on Monday evening, May 18th. After the presentation of patients by Dr. J. E. Giles and Dr. H. H. Tyson, Dr. Edwin Torok read a paper entitled *The Diagnostic and Therapeutic Value of Tuberculin in Tuberculous Eye Diseases*.

The Section in Medicine met on Tuesday evening, May 19th. Among the cases presented for discussion were an unusual case of diabetes mellitus, by Dr. T. C. Janeway, and a case of myelogenous leucemia with unusual perlepenitis, by Dr. N. S. Patterson. Dr. C. A. McWilliams read a paper on *Acute Dilatation of the Stomach*.

On Wednesday evening, May 20th, a meeting of the Section in Genitourinary Surgery was held. Dr. Charles Goodman reported a case of papilloma of the bladder. Dr. John Van der Poel presented specimens of hydrocele sac containing atrophic testis and of teratoma testis. Dr. Hiram N. Vineberg read a paper entitled *Pyelitis in Pregnancy and in the Puerperium*, which was followed by a general discussion.

A meeting of the Section in Laryngology and Rhinology will be held on Saturday evening, May 23d, at 8:15 o'clock. The programme includes the following papers: *Some Essential Principles in the Surgery of the Normal Accessory Sinuses*, by Dr. John F. Barnhill, of Indianapolis, Ind.; *Frontal Sinus Diseases*, by Dr. Albert Jansen, of Berlin, Germany. Among those who will take part in the discussion are Dr. Robert C. Myles, Dr. T. P. Berens, and Dr. Felix Cohen.

The Section in Orthopaedic Surgery will hold no meeting this month.

A meeting of the Section in Ophthalmology and Genitourinary Surgery will be held on Thursday evening, May 21st, at 8:15 o'clock. Dr. Ralph W. Wood will read a paper on *Some Cases of ruptured aneurysm after two Cesarean sections*. Dr. Ralph W. Wood will present a specimen of a dissected aneurysm of the right artery from a child of nine years. Dr. Edgar C. Wood will read a paper on *Supraventricular tachycardia in successive pregnancies*. Dr. H. A. Miller, of Pittsburgh, Pa., will read a paper on *Artificially induced abortion by the method of controlling the uterine blood supply by means of Phosphorus Compound*. Dr. F. L. W. will read a paper on *Postpartum Eclampsia*, based on the report of a case.

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL. May 14, 1908.

1. A Comparative Study of Tsutsugamushi Disease and Spotted or Tick Fever of Montana,  
By P. M. ASHBURN and CHARLES F. CRAIG.
2. A Study of the Value of the Measurements of Chest Expansion,  
By HARRY W. GOODALL and J. LYMAN BELKNAP.
3. The Extraintestinal Origin of Hydrobilirubin,  
By A. E. AUSTIN and MABEL D. ORDWAY.
4. A Lipoma from the Brachial Plexus: A Review of Some of the Rare Cases of this Tumor,  
By W. P. CARR.

#### 1. A Comparative Study of Tsutsugamushi Disease and Spotted or Tick Fever of Montana.

—Ashburn and Craig come to the conclusion that a consideration of the facts concerning the two diseases as at present known justifies the opinion that they are separate and distinct disease entities; they present many points of semblance, but not enough of them to overbalance those of difference. According to Tanaka the name *tsutsugamushi* has been known since the earliest historical times, while the name *shashitsu* occurs in old Chinese writings of more than a thousand years ago. A quotation from one such writing indicates that at that time the disease was recognized as a distinct affection and was ascribed to the bite of a mite which occurred in summer time in certain districts that had been flooded by the spring rains. The bite was described and the statement made that after three days high fever developed and a pustule appeared at the site of the injury. It was also recognized that only certain regions were infected, and that the disease only appeared in persons entering them. The disease was brought to the attention of the Western world by Palm, in 1878, and Bälz, in 1879, and since that time it has been the subject of much painstaking work by Japanese medical men and of numerous articles in Japanese and some in foreign journals. Numerous microorganisms, including cocci, bacilli, and protozoa, have been described as the cause of the disease, and several investigators are working at the present time, each with what he thinks the causative factor. It cannot be said that any of these workers has yet established his allegations. Three hypotheses at present divide the workers and rule the work of investigation: 1. That the disease is due to a bacterium, a belief favored by the workers of the Institute of Infectious Diseases. 2. That it is a protozoal infection. Professor Ogata is the leading exponent of this idea. 3. Tanaka thinks the disease due to a toxine contained in the body of the red mite. *Spotted fever* of Montana has been recognized for only a few years, twenty-five at the most, while the literature relating to it has practically all been made since 1902. At that time Wilson and Channing published their first account of it and their ideas as to its cause and method of transmission, in a preliminary report to the Montana State Board of Health. Mayor Wood, in 1888, and May, in 1889, reported a similar, or the same, disease in Idaho, but the form occurring there presents great points of difference, particularly in regard to mortality. It occurs in very strictly limited areas, particularly in a strip of country about 100 to 200 miles wide and



fifty miles long, lying on the west side of the Bitter Root River and the eastern side of the Bitter Root Mountains, and partly on the slopes of these mountains. The country in question has a considerable snowfall and the snow remains on the mountains until mid June and on the highest peaks two or three weeks longer. The Bitter Root River is largely fed from this snow, and, as it begins to melt in March and continues to do so with increasing rapidity until most of it has disappeared, the stream is in a state of freshet during that time and does not again reach "low water" until July. During the same period ticks, *Dermacentor occidentalis*, which before and after it are infrequently seen, appear in great numbers, particularly in the woods, thickets, and uncultivated regions. Likewise, and, as a rule, during the same period, cases of spotted or tick fever appear, and in almost all cases there is a history of a recent visit to, or residence in, the infected district, and, in many cases, of tick bites received there. It may be said that the disease is introduced by the bite of *Dermacentor occidentalis*. A consideration of the ætiology of the two diseases shows many points of resemblance, but also differences. Both occur in small and usually strictly limited areas along certain streams running through mountainous country. The country in each instance is subject to heavy snowfall in winter and the streams to spring or summer floods. Along each infected stream the dangerous spots are usually more or less uncultivated and the soil overgrown with underbrush, trees, or weeds, while the immune spots are well cultivated. In each instance the disease is attributed to the bite of an *Acarina*, and in each a supposed protozoan blood parasite has been described as the cause and has not been confirmed as such. Contagion is unknown in either disease. The differences in the ætiology of the two are equally well marked. The *Acarina* whose bite causes *tsutsugamushi* is always a six legged, larval *Trombidium*, whose adult form is unknown. That causing spotted or tick fever of Montana is always *Dermacentor occidentalis*, and usually the adult. *Tsutsugamushi* disease occurs always after floods, and it is contracted on ground which has actually been submerged by the swollen river. Fields immediately adjoining the infected areas and but a few feet higher are considered safe. The Montana disease may precede the flooding of the streams, or, more usually, accompanies it. It is very commonly contracted on ground which has not been submerged, but is on hillsides high above the level of the river. The cases begin in March and rarely appear after the middle of July. *Tsutsugamushi* disease is beginning to appear at that time and continues to do so into October.

3. **The Extraintestinal Origin of Hydrobilirubin.** Austin and Ordway state that when no bile enters the intestine (absence of urobilin in feces and urine) urobilin may occasionally be found in fistula bile. This is not due to the conversion of bilirubin to urobilin by the blood; what effect cells actively may have upon it we do not know. It is evident that the liver does not form urobilin, or it would be oftener found when complete closure of the common duct occurs. If urobilin is ever regenerated to bilirubin, it is probably not an oxidative process, as so often stated. As cholecystitis is often accompa-

nied by bacterial infection of the gallbladder, from which these germs may easily make their way into the liver and there exercise their functions as in the intestines, the query appears a just one, if the formation of urobilin other than in the intestine may not be due to bacterial infection.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.  
May 16, 1908.

1. Ideas and Ideals in Medicine, By S. J. MELTZER.
2. A Résumé of the Coagulation of the Blood, with Especial Reference to the Therapeutic Efficacy of the Alleged Coagulants, By WILLIAM EGBERT ROBERTSON, G. MORTON ILLMAN, and HARRY A. DUNCAN.
3. Milk and Its Relation to Human Tuberculosis, By JAMES T. GORTON.
4. Acute Glanders. Report of a Case, with a Review of Recent Literature and a Complete Bacteriologic Report, By LEO B. MEYER and BURRILL B. CROHN.
5. Glanders in Man, By ARTHUR DEAN BEVAN and WALTER W. HAMBURGER.
6. The Successful Treatment of Catarrhal Deafness, with Especial Reference to Conditions in the Fossæ of Rosenmüller, By J. W. JERVEY.
7. Rapid and Aseptic Anastomosis of the Hollow Viscera by a New Method, By E. WYLLYS ANDREWS.

2. **Coagulation of the Blood.**—Robertson, Illman, and Duncan find that during the febrile stage of the infectious diseases coagulation is noticeably retarded. The clinical employment of the calcium salts has no direct or invariable effect on the coagulation time of the blood, either in large doses one hour after its administration or in small or large doses at any subsequent period, even extending over two or more weeks. In their hands the calcium content of the blood, as determined in terms of ammonium oxalate, proved unreliable. They were unable to show definite relationship between leucocytosis and coagulation time. Nucleic acid uniformly failed to produce an increase in the number of leucocytes and also failed to hasten coagulation. But the reaction of the coagulation time to hæmorrhage was shown conclusively. Though not as striking as some of their other results, they have been able to show that citric acid prolongs the coagulation time, and it seemed, even when the difference in time before and after its use was not a very material one, that the viscosity of the blood was lessened.

4. **Acute Glanders in Man.**—Meyer and Crohn say that in a typical case, with a good history the diagnosis should not be difficult, if one has the disease in mind. Acute glanders in man is seen so seldom that it is usually not even thought of, especially when there is little in the way of skin lesions. A bad coryza, which may be the most marked local sign of glanders, is, of course, often present in grip or pneumonia. Many of the cases recorded in the literature, in which mistaken diagnoses were made, showed neither coryza nor skin lesions at the onset, this being often characterized by chill, followed by typical symptoms of pneumonia or grip or by joint symptoms simulating rheumatism. Only after a variable time has elapsed does there appear nasal symptoms or a skin eruption which suggests the possibility of glanders in any case. When, however, with a more or less septic condition, there appear on the skin indurated painful reddened areas with soft centres, with less tendency to

rupture than ordinary abscesses, and which, when opened, discharge a thin, serosanguinous material, the resulting ulcer having a necrotic base, usually involving muscle, and with no tendency to heal, glands should be thought of, and all the means at our disposal should be made use of in aiding us to reach a correct diagnosis. The injection of malein, which is employed in diagnosing incipient or latent glands in horses, is of no service in an attack of suspected acute glands in man, as a positive diagnosis depends mainly on a rise of temperature (in addition to a local reaction), and this is always present. They have heretofore depended on finding the *Bacillus mallei* in the cultures, and in the typical results obtained by inoculation. These means will, in practically all cases, enable us to reach a diagnosis, but they are time consuming, requiring from one to three days to furnish results. Recently a new method of arriving at a diagnosis has been devised, one based on the phenomenon of agglutination and precipitation, and, therefore, similar to the Widal test in typhoid. This method, according to the report, is used officially in the diagnosis of glands in horses, in Austria and Prussia, and is considered fairly accurate.

**6. The Successful Treatment of Catarrhal Deafness.**—Jervoy describes the method of treatment which he uses: After thorough cocaineization, the operator, facing the patient and slightly to his right, passes the right index finger (palm of the hand up) through the mouth, behind the soft palate and into the postnasal space. After locating the landmarks of the space, the finger tip is placed over the top of the cartilaginous ring of the tubal orifice into the upper end of the crescentic fossa. Pressing the finger firmly and deeply into the fossa, it is swept backward and downward throughout the fossa's length, breaking down all resisting tissues, repeating the movement if necessary, and not failing to break up the mass of granulations which frequently occupies the extreme lower end of the fossa behind the posterior faucial pillar. By inclining the finger to the opposite side it can then be treated in the same fashion, thus attending to both sides without withdrawing the finger. After the bleeding, which is usually slight, has ceased a cotton tipped, curved, postnasal probe, dipped in a five to ten per cent. silver nitrate solution or a thirty per cent. argyrol solution, is firmly swept through the fossa. This application should be repeated every forty-eight hours for ten days or two weeks. The results are excellent, sometimes brilliant, even apparently miraculous, and often immediate. The author has several times seen the hearing of a patient improve from 200 to 300 per cent. within a half hour of the operation. The improvement is a permanent one, which usually improves still further under persistent catheterization and routine applications. The latter should always be carried out faithfully in these cases. The diagnosis of the condition is easy by means of the rhinoscopic mirror. Occasionally, when the fossa are almost or quite filled with formations which happen to present a more or less smooth surface, the appearance will be that of very shallow or absent fossa. A mistake should not be made. The fossa is never absent and never very shallow in the adult. At

least three eighths of an inch of natural depth is always present, and sometimes considerably more. The granulations or glandular hypertrophies sometimes extend down below the end of the fossa, and appear, on oral examination, as reddish elevations or thickenings just behind the posterior faucial pillar. This appearance is often given the name of lateral pharyngitis, and its treatment by the ordinary routine has heretofore been rather unsatisfactory. If the patient has a wide open nostril all the way through, anterior rhinoscopy will show a limited excursion of the tubal orifice during the act of swallowing. Inspection of the tympanic membranes will show a lessened or absent light reflex, a ground glass, lustreless appearance, with more or less depression. The hearing will usually be perceptibly dulled, and if the condition is of long standing it may be almost lost. Bone conduction of sounds will be good, while air conduction is seriously impaired, showing that the disorder is of the passages and not of the perceptive apparatus.

#### MEDICAL RECORD.

May 10, 1908.

1. The Occurrence of Epileptiform Attacks in Diabetes Mellitus. By LEWIS A. CONNER.
2. The Surgical Treatment of Alveolar Pulmonary Emphysema. By CHARLES GOODMAN and SIEGFRIED WACHSMANN.
3. A Plea for Stricter Prophylaxis and More Scientific Management of Obstetrical Cases in Menem House Practice. By E. K. BROWN.
4. Air Borne Infections, Their Mode of Entrance: Preventive, Abortive, and Ameliorative Treatment. By W. SCHLER BRYANT.
5. The Problem Which Confronts the Otologist in the Treatment of Chronic Catarrhal Deafness. By CAROLUS M. COBB.
6. Nitroglycerin in the Treatment of Neuritis. By H. BERTON STEVENSON.

**1. The Occurrence of Epileptiform Attacks in Diabetes Mellitus.**—Conner remarks that, although some of the epileptiform attacks which occur in the course of diabetes are manifestly due to other associated conditions (uræmia, cerebral softening, meningitis, etc.), a certain proportion of them are unquestionably related directly to the diabetes itself, and are the expression of some form of diabetic intoxication. Such attacks may simulate closely the general convulsions of true epilepsy, or they may be distinctly Jacksonian in character and be limited to one side of the body or to certain groups of muscles. These localized convulsions are usually associated with transient paralysis of the affected muscles, aphasia, sensory disturbances, or other symptoms suggestive of a circumscribed brain lesion, and may thus lead to serious errors in diagnosis. The convulsions may appear only during the terminal coma, or they may be repeated at frequent intervals for days or weeks before coma develops, or, finally, they may cease with improvement of the diabetic symptoms. The association of such epileptiform attacks with the signs of acid intoxication is by no means constant. It seems probable, therefore, that the cause of the convulsive attacks must be sought for in some other form of diabetic intoxication.

**2. The Surgical Treatment of Alveolar Pulmonary Emphysema.**—Goodman and Wachsmann have adapted Freund's mode of operation.

The pathological findings are that the costal cartilages are of a dirty yellow color, in a state of fibrillation and cystic, showing also calcareous deposits which cause them to become increased in size; they are hardened, brittle, and devoid of their normal elasticity. In the presence of such changes, the proper excursion or motion of the corresponding ribs is interfered with. The cartilages of the second and third ribs of the right side are most frequently involved, but these changes may involve all the costal cartilages. The first cartilage, however, is rarely, and then usually the last, to be involved in this disease. With the degeneration of the cartilages and the accompanying rigidity of the ribs, the sternum is forced outwards and contributes eventually to the formation of the rigid barrel shaped thorax, which retains the lung in a continued state of distention. With the increase in the diameters of the chest, the normal function of the diaphragm is interfered with, and the muscle shows evidences of atrophy and fatty degeneration. By removing or resecting the offending cartilages, the proper functioning power of the chest may be restored; the ribs will be permitted to exercise their proper range of motion, and the proper expiratory efforts of the lungs will be facilitated. They have found that Freund's operation is of great benefit in emphysema with a rigid dilated condition of the thorax. A most convincing feature of this treatment is observed during operation; when the costal cartilage is resected the rib recedes immediately, at times below the level of the sternum. The ribs move so freely that the finger tip is distinctly squeezed when inserted between the sternum and rib. The lung visibly contracts. Relief may be afforded by operating upon one side. The operation is not dangerous, and is not followed by shock. Cardiac insufficiency, asthma, chronic bronchitis, and albuminuria are not necessarily contraindications of the operation. The best results are likely to follow, however, when the operation is undertaken before complications have arisen. A removal of, or a plastic operation on, the perichondrium of the resected cartilages seems imperative in order to obtain lasting improvement.

**4. Air Borne Infections.**—Bryant says that the evidence accumulated for many years, proving that air borne infections are the most important, is now at our disposal. While the infections conveyed in fluids or solids are less numerous and have fewer victims, the diseases carried by the air are very many, and the list is constantly growing. Tuberculosis, scarlet fever, measles, pertussis, chickenpox, variola, influenza, pneumonia of various kinds, diphtheria, epidemic cerebrospinal meningitis, acute poliomyelitis, acute articular rheumatism, pyogenic bacterial infections, arteriosclerosis, acute nephritis, typhoid fever, etc., are now known to be air borne infectious diseases. Where do these infections gain entrance to the body? Probably at the spot where the first signs of disease are detected, namely, in the nasopharynx. It has been proved beyond the shadow of a doubt that this is the road of infection in the majority of the diseases that have been named. Note the chronicity of the symptoms, primary local infection and later toxæmia, and the sequence of local and general bacterial find-

ings. Some of the best understood of the diseases which show these relations clearly are influenza, scarlet fever, epidemic cerebrospinal meningitis, acute articular rheumatism, and diphtheria.

#### BRITISH MEDICAL JOURNAL.

May 2, 1908.

1. The Influence of Pregnancy upon Certain Medical Diseases and of Certain Medical Diseases upon Pregnancy (Goulstonian Lectures, I). By H. FRENCH.
2. The Treatment of Widespread Suppuration and Multilocular Abscesses, By W. G. SPENCER.
3. A Consecutive Series of Thirty-four Cases of Excision of a Portion of the Rectum for Carcinoma, By C. A. MORTON.
4. Case of Strangulated Femoral Hernia, complicated by Prolapse of the Cæcum and Adhesion of the Vermiform Appendix to the Sac, By D. V. MAXWELL ADAMS.
5. Acute Fæcal Impaction in the Rectum, By W. M. ROBSON.
6. A Case of Tubercular Leprosy, By M. MACKINNON.
7. Kala Azar in the Royal Navy, with Illustrative Cases, By P. W. B. SMITH.

#### 1. Pregnancy in Its Relation to Disease.—

French, in the first of his Goulstonian lectures, states that there are certain medical diseases for which pregnancy itself seems directly responsible. One of the most definite of these is herpes gestationis, a disease apparently related to pemphigus, hydroa, erythema bullosum, and to dermatitis herpetiformis. The eruption varies as to the relative preponderance of erythema, papules, and wheals, but the distinctive lesion is vesicular or bullous. The vesicles are not often confluent or crowded together as in herpes zoster. They are preceded by an itching erythema, rapidly becoming papular and then vesicular. The chief clinical distinction between it and dermatitis herpetiformis is the direct relationship of herpes gestationis to pregnancy. Increased pigmentation of the skin is apt to be left after each attack; this may be generalized all over the body, but usually it is most marked where the eruption has been the worst. It is probably not allied in any way to uterine chloasma, and the chief causes are the constant scratching and rubbing, and also the arsenic which is given in most cases. Herpes gestationis agrees with the other bullous dermatoses in exhibiting eosinophilia; this is not confined to the blood alone, but the eosinophile leucocytes are also found in the interepithelial lymphatic spaces, and in the fluid of the blebs. But they are not increased in the fluid of an artificial blister. The general opinion is that the eosinophilia is the result of the skin lesion, due, perhaps, to the absorption of something from the skin, just as in ankylostomiasis there is eosinophilia, due to absorption of a toxine from the bowel. It seems clear that the cause of herpes gestationis arises within the body, and that the lesion is not due to agents acting directly upon the skin from without. Bacteriological investigations have proved negative. Impetigo herpetiformis seems to be a virulent degree of herpes gestationis, dangerous to life. Fortunately, it is rare. The eruption is pustular, and may spread over the entire body. The pustules dry up with the formation of scabby crusts, fresh ones appear in the adjacent skin, and so the eruption spreads in a circinate manner. There is no ulceration. The patient has continuous remittent fever, with an exacerbation with



each fresh crop of pustules. Vomiting and delirium are usual, and the patient generally dies in a few months. Labor does not prevent the fatal termination. Post mortem there is no evidence of pyæmic or septicæmic infection. The cause is probably an internal toxæmia. Eczema and psoriasis are often influenced by pregnancy. As a general rule, a patient's eczema will very likely be mitigated rather than made worse during pregnancy. Pregnancy either makes psoriasis worse or better—more often the latter. On the other hand, the effect of lactation upon psoriasis is almost invariably bad. Pregnancy is an important factor in the causation of pyelonephritis. The sequence of events probably is as follows: Enlargement of the uterus; compression of the ureter against the brim of the true pelvis; consequent difficulty in the ejection of urine secreted by the corresponding kidney; infection of the urine retained in the partially obstructed ureter and renal pelvis; and subsequent spread of the kidney substance itself. And just as in pyelonephritis in man, due to prostatic enlargement, removal of the obstruction by the birth of the child tends to cure the renal mischief. In nearly every case the right kidney is very much more affected than the left. This is probably due to the fact that the uterus develops much more to the right than to the left; it also inclines and is rotated to the right. The bacteriology of the condition is very constant; in all but a few of the cases the *Bacillus coli communis* is the causative microorganism. It is nearly always in pure culture. The pyelonephritis of pregnancy is often mistaken for something else—*e. g.*, lumbago, influenza, pneumonia, pleurisy, appendicitis, etc. The main symptoms are backache and pyrexia, with or without headache, vomiting, or rigors. Examination of the urine will, of course, show pus and microorganisms.

**3. Excision of the Rectum for Cancer.**—Morton's article is based on a series of thirty-four consecutive cases of rectal cancer treated by excision. There were four deaths, a mortality of twelve per cent. Two deaths were due to shock, one to peritonitis, and one to acute mania. Eight cases have remained free from recurrence after one to three years. In all the recurrent cases the disease was extensive. In fifteen cases the coccyx was not removed, and the peritonæum was not opened. Where the growth is low down, yet far enough above the anus to leave a healthy segment of bowel, by removing the coccyx a circular union can be made, sphincter action preserved, and yet the peritoneal cavity not have to be opened at all. It is usually stated that if the growth is fixed to the tissues outside the rectum the case is inoperable. But this does not hold good always. Growths may be fixed to the prostate and yet not infiltrate it. Fixation to the lower end of the sacrum or the coccyx need not contraindicate operation, for that portion of the bone can be removed. If the posterior vaginal wall is involved, it can also be removed. As a rule, there is no great amount of shock after the operation. If it is done with the patient almost prone, very little blood is lost. The best position for drainage is on the back. But pressure must be taken off the wound by proper arrangement of the pillows. After the first twenty-four hours the back and

lateral positions should be alternated. As regards the amount of control over evacuation of the bowel after the operation, the result is generally about the same as after a colotomy on the left side. The bowels act once or twice a day, and leaking is slight or absent. After circular union the action of the bowels may be normal. Half the patients here reported were from sixty to seventy years of age. In two very extensive cases the ages were only twenty-six and twenty-eight years. In conclusion, the author's study of these thirty-four cases shows that, even including the cases of growth high up, the excision of which necessitates removal of a part of the sacrum and a free opening of the peritoneal cavity, the mortality is not very high. There may be no recurrence in quite a number of the cases, and life will be much prolonged and made much more comfortable in a large number.

# LANCET.

May 2, 1908.

1. The Influence of Pregnancy upon Certain Medical Diseases, and of Certain Medical Diseases upon Pregnancy (Goulstonian Lectures, I). By H. FRENCH.
  2. The Special Psychology of Women. By T. C. SHAW.
  3. Ophthalmia Neonatorum; an Experiment in Treatment. By A. N. WALKER and A. A. MUSSEN.
  4. The Treatment of Trachomatous Dacryocystitis. By T. H. BUTLER.
  5. On the Pathology and Treatment of Inguinal Hernia in Children. By C. H. FAGGE.
  6. Disseminated Sclerosis, commencing with Failure of Vision. By R. T. WILLIAMSON.
  7. On the Rectal Administration of Antitoxic Sera. By J. P. PARKINSON.
  8. Motoring Notes. By C. T. W. HIRSCH.
- 3. Ophthalmia Neonatorum.**—Walker calls attention to the unsatisfactory results of treatment of cases of ophthalmia neonatorum among the poor, due to the cases being seen late and not being continuously treated. He is satisfied that the disease is very amenable to treatment if attacked vigorously at the outset. But this is the very treatment which the average case does not receive, owing to the impossibility of carrying out, in the homes of the poor, frequent and thorough irrigation both by day and by night. The indication then is the admission of cases occurring among the poor, as soon as possible after the beginning of the disease, into an ophthalmic hospital, where vigorous treatment can be carried out. A separate ward must be provided and a special nurse appointed who must not be allowed to touch clean cases. In order not to interfere with the feeding and nutrition of the infant, its mother should be admitted to the hospital also.
- 5. Inguinal Hernia in Children.**—Fagge accepts the view of Russell that hernia is primarily a developmental defect owing to either partial or complete persistence of the embryonal processus vaginalis. As regards the diagnosis of inguinal hernia in children, the only other inguinoscrotal swelling likely to cause difficulty is a patent processus vaginalis containing fluid—a "congenital" hydrocele. This is usually irreducible, though the fluid spontaneously returns to the abdomen after the child has been lying down for a short time. When the fluid returns into the vaginal process it does so slowly, and this is in itself quite sufficient to distinguish it from a hernia. As regards treatment, the author has never seen circumstances have

the slightest effect, either in aiding the cure or even in preventing the enlargement of a hernia. The woolen skein is absolute as a truss. When truss treatment is adopted it must begin as soon as the rupture appears. A well fitting spring truss covered with rubber must be applied daily before the child is lifted from its cot, while the hernial contents are still within the abdomen. In many cases where the hernia tends to come down at night a light truss must be worn at night also. The difficulty of efficiently carrying out this line of procedure is enormous. A truss must be worn for several years before we can hope that the hernia will not return if it is omitted, and during this time attention must be paid to changing the truss in accordance with the growth of the child. The writer thinks it is the duty of every medical man to impress upon parents that trusses hold out no prospect of permanent cure, and that the time has certainly arrived when cure can be more easily and almost certainly obtained by operative means, which, in themselves, are practically devoid of risk. The following are absolute indications for operation. 1. Herniæ which cannot be kept up by trusses, or which are painful when a truss is worn. 2. Large scrotal herniæ which have stretched the inguinal canal considerably and therefore render trusses necessary throughout life. 3. The association of an undescended testis with an inguinal hernia. 4. A hernia which has been irreducible on a previous occasion. This does not, of course, include strangulated herniæ, which must be dealt with at once. In the writer's opinion, taxis should never be attempted.

6. **Disseminated Sclerosis.**—Williamson reports a series of cases of disseminated sclerosis in which failure of vision, in one or both eyes, was the first symptom of the disease. Other symptoms may not appear or may be very slight for a long period, even for many years. Signs of optic atrophy may or may not be present. At first these cases are usually diagnosed as primary optic atrophy, or as retrobulbar neuritis of "unknown origin." In this form of disseminated sclerosis, pain, and anæsthesia are very rare. The signs of chief diagnostic value in the early stage are: (1) Unilateral or bilateral visual failure, with central scotoma in some cases, and often with pallor of the optic disc, especially of the temporal half; (2) the Babinski type of plantar reflex on one or both sides; (3) the irregular and shaky character of the handwriting, even when the tremor is so slight that it can hardly be detected; and (4) the age of the patient, under forty years. The absence of any cause for the affection and of any history of syphilis, the absence of any pain and anæsthesia, and the presence of the knee jerks, tendo Achillis reflexes, and pupillary reflexes are points of diagnostic value in favor of disseminated sclerosis. In many cases, after the visual defect has become marked there is a decided improvement or almost complete recovery of vision. Even when the visual defect does progress it rarely advances to complete blindness, differing in this respect from the optic atrophy of tabes dorsalis. Though the prognosis of disseminated sclerosis is usually unfavorable and the termination fatal, yet in many cases the disease is very chronic.

## LA PRESSE MEDICALE

April 11, 1908.

1. The Suture of Vessels, By ALBERT FROUIN.
2. Facial Hemispasm, with Motor Troubles of the Limbs of the Opposite Side, By BRISSAUD and J. A. SICARD.
3. The *Treponema Pallidum*. Diagnosis of Syphilis with the Ultramicroscope, By PAUL GASTOU.
4. The Midday Diarrhœa, By R. ROMME.

1. **The Suture of Vessels.**—Frouin describes with illustrations the technique of uniting the ends of a divided artery, and of joining an artery and a vein.

2. **Facial Hemispasm with Motor Troubles of the Limbs of the Opposite Side.**—Brissaud and Sicard report three cases. The first, a man forty-six years old, syphilitic, with facial hemispasm on the right side, hemiparesis of the upper and lower limbs of the left side, and a facial paralysis on the left side of a peripheric type; the second, a general paralytic, fifty-two years of age, who had total facial hemispasm of the right side, ten to twenty spasms an hour, with hemiparesis of the upper and lower limbs; the third, a tabetic, of forty-eight years, with left facial hemispasm and hemiparesis, and trembling of the right upper and lower limbs.

3. **Diagnosis of Syphilis with the Ultramicroscope.**—Gastou describes the principle of the ultramicroscope, the mechanism of the Leitz-Cogit instrument, the manner in which it is used, and the appearance of the *Treponema pallidum* when thus seen. Finally, he gives a distinctive diagnosis between the spirochæta and spirillæ as seen with the ultramicroscope.

April 15, 1908.

The Scientific Contest with Typhoid Fever,  
By ROBERT DEBRE.

## LA SEMAINE MEDICALE.

April 15, 1908.

Twenty-fifth German Congress of Internal Medicine, held at Vienna, April 6 to 9, 1908.

1. The Female Genital Organs and Internal Diseases.
2. Actual State of Our Knowledge Concerning the Pathology and Treatment of Syphilis.
3. The New Methods of Clinical Investigation of Intestinal Functions.

## BERLINER KLINISCHE WOCHENSCHRIFT

April 13, 1908.

1. The Treatment of Phlegmon of the Sheath of a Tendon, By R. KLAPP.
2. Concerning Special Nervous Symptoms in Addison's Disease, By L. WAGNER.
3. Wassermann's Syphilis Reaction, By R. BENEKE.
4. Concerning the Rôle of the Lipoid in Wassermann's Syphilis Reaction, By O. PORGES and GEORG MEIER.
5. The Pathogenesis of Salivation, By H. RÖDER.
6. The Symptomatology of Chorionepithelioma, Particularly of the Pulmonary Metastases, By E. SCHEIDEMANDEL.
7. The Indications Discoverable with the X Rays of Gastrectasia and Ptosis of the Pylorus, By FRANZ M. GRÖDEL.
8. Concerning Myosis in Reflex Immobility of the Pupil, By LEVINSON.
9. Concerning Sigmoiditis and Perisigmoiditis Puerperalis, By F. LEHMANN.
10. Concerning a Hitherto Undescribed Symptom Observed in Chronic Strictures of the Œsophagus, By P. M. REWIDZOFF.
11. The Leuchæmic and Pseudoleuchæmic Diseases of the Skin, By ARTHUR ALEXANDER.

1. **Treatment of Phlegmon of the Sheath of a Tendon.**—Klapp incises the phlegmon not from

the flexor side, but always from the lateral side. In the fingers the incisions are made on either side to the palmar side of the arteries, so that there is no danger of wounding them, leaving a portion of the skin unwounded at each joint. By these incisions the pus is freely evacuated and the sheaths are then washed out with a warm physiological salt solution. A dressing is then applied and changed daily. He has used this method in nineteen cases which he divides into four groups: 1, Ten cases of pure phlegmon of the sheath of a tendon, nine cured, one became partially necrotic. 2, Two cases with large subcutaneous panaritium over the tendon in which the latter had been exposed for a long time through extensive necrosis of the skin, one cured, one partly necrotic. 3, Six cases of panaritium tendinosum complicated with changes in the bones (infected fracture of the phalanx by a bite, gunshot injury with laceration of the sheath of the tendon, panaritium ossale), two cured, four partially or wholly necrotic. 4, One case which resulted in death from sepsis on the twelfth day after the infection, in spite of the most careful evacuation of the pus.

**4. The rôle of the Lipoid in Wassermann's Syphilis Reaction.**—Porges and Meier say that it is certain that the materials demonstrated in the serum and other body fluids by Wassermann's reaction should not be designated as antibodies in the sense in which that term has hitherto been used, i. e., to denote substances connected with the healing process. They are rather materials which possess a great power of elimination of certain lipid substances of exceeding importance to the normal cells of the organism, particularly of lecithin. While they state that it is their desire not to draw conclusions, but rather to simply report experimental facts, they nevertheless point out that further conclusions might be drawn from the knowledge thus discovered in regard to the details in syphilitic infection and in postsyphilitic diseases, especially as literature already contains a great number of facts and observations which indicate the rôle played by lecithin in certain syphilitic affections.

**5. Pathogenesis of Salivation.**—Röder concludes from the results of his experiments on dogs that the salivary secretion is affected by three different kinds of reflexes: 1, the involuntary reflexes of the oral cavity; 2, the voluntary reflexes; 3, the reaction from the sensory motor zone of the cerebral cortex when simultaneous movements are executed.

**6. Chorionepithelioma.**—Scheidemandel says that the chorionepithelioma is the form of tumor which is most frequently productive of pulmonary metastases. The symptoms are sudden hæmoptysis, dyspnoea, cyanosis, chills, and pain in the breast, which form the first and only indications of the presence of this form of tumor in persons previously with healthy lungs. The history of the former existence of a hydatid or cystic mole is of great importance in the diagnosis. Further confirmation can be obtained from a gynecological examination, especially an inspection of the vagina for the varicose tumor nodules. In men chorionepithelioma of the lungs may appear in association with teratoid neoplasms of the testicle. Treatment must be operative

with demonstrable disease of the uterus; the presence of pulmonary metastases does not form a contraindication to the operative procedure.

**7. Indications Discoverable with the X Rays of Gastrectasia and Ptoxis of the Pylorus.**—Grödel delineates the conditions in a number of patients examined by him and compares them with the delineation of the picture presented by the normal stomach. The pathological conditions were those of atonic ectasia and hereditary ectasia of the stomach, with or without ptoxis of the pylorus.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

April 14, 1908.

1. Accidental Cardiac Sounds in Pregnancy, By LINK.
2. The Practical Value of the Opsonic Index, By SAATHOFF.
3. Tuberculin and Antituberculin, By LÜDKE.
4. The Treatment of Surgical Tuberculosis with the Antituberculosis Serum of Marmorek, By HOHMEIER.
5. Contributions to the Epidemiology and Bacteriology of Epidemic Cerebrospinal Meningitis, By TRAUTMANN.
6. Serum Reaction in Scarlet Fever and Measles, By SCHERESCHESKY.
7. The Composition of Whale's Milk, By SCHEIBE.
8. Border Line Cases in Gynecology, By BREWITT.
9. The Treatment of Cardiac Diseases, By FREUND.
10. Concerning Intermittent Lameness (Dysbasia Angiosclerotica, Erb), By GRUBE.
11. The Phosphatometer, with Some Remarks Concerning Phosphoric Acid in the Urine and Phosphaturia, By FRIEDMANN.
12. Eye Disease Caused by Working with an Artificial Fertilizer, By BOND.
13. Concerning a Rare Case of Extensive Destruction of Bone Resulting from a Tuberculous Suppuration of the Middle Ear in a Child Two Years of Age, By MÜHLENKAMP.
14. A Clamp for the Umbilical Cord, By MÜLLER.
15. Obituary of Friedrich von Esmerich, By WAITZ.

**2. Practical Value of the Opsonic Index.**—Saathoff concludes that on account of the complicated nature and extremely difficult technique, the method of determination of the opsonic index can be practised only in certain institutes which are able to employ an investigator for this purpose. This detracts greatly from the value of the method. On account of the great and incalculable sources of error which appertain to the determination of the opsonic index the method is of value only in the rare cases in which the eruptions are very great. For these reasons the opsonic index is unreliable for therapeutic application. The value and the further development of active immunization remains untouched.

**4. Treatment of Surgical Tuberculosis with the Antituberculous Serum of Marmorek.**—Hohmeier states as the result of his experience that he has not observed any serious disturbance or injury of the organism from the use of the serum, that he considers it possible that in very mild cases of bony tuberculosis Marmorek's serum may accelerate a cure, but cannot ascribe a positive effect upon quite fresh and slight tuberculous diseases of the bones or joints to the serum; that he thinks he has observed an effect of the serum upon granulations which, before the treatment, were gray and sluggish, and afterward assumed a bright red appearance, that he did not obtain a cure in cases of tuberculosis of the bones of moderate severity, though in one case he



succeeded in closing obstinate fistule; that in severe cases of tuberculosis of the bones he did not observe the least improvement as the result of the serum, either immediately or, so far as he had opportunity to observe, subsequently, and that he did not obtain an improvement of the general condition which he could ascribe to the serum.

**6. Serum Reaction in Scarlet Fever and Measles.**—Schereschewsky says that, although no definite conclusions in regard to the relations of the streptococcus to scarlet fever can be drawn from his experiments, yet the latter show the presence of materials in the serum of scarlet fever patients which have the power to precipitate each other, and that these substances, scarlet fever precipitin and precipitogen, are not to be replaced by the streptococcus precipitinogen of the streptococcus pyogenes of his stock.

**10. Intermittent Lameness.**—Grube reports four typical cases of dysbasia angiosclerotica with absence of the foot pulse. All the patients were men, aged sixty-six, fifty-four, seventy, and fifty-nine. Three were suffering from diabetes or glycosuria, one had contracted kidneys. Erb ascribes a certain aetiological value to the misuse of tobacco, and this had formerly been present in two of the cases. One case gave no history of the misuse of either alcohol or tobacco, or of syphilis.

#### AMERICAN JOURNAL OF SURGERY.

*April, 1908.*

1. A Point in the Technique of Appendicectomy,  
By HOWARD LILIENTHAL.
2. An Original Observation as to the Nature of Colic;  
and Remarks Concerning Its Diagnostic Value,  
By GEORGE FRANKLIN SHIELS.
3. Uterine Fibroids Complicating Pregnancy,  
By C. C. BARROWS.
4. Blood Examination in Surgical Diagnosis. A Practical  
Study of Its Scope and Technique (*Continued*).  
By IRA S. WILE.
5. The Early Restoration of Function After Excision of the  
Tuberculous Elbow Joint,  
By GILBERT GEOFFREY COTTAM.
6. Treatment of the Bladder After Suprapubic Cystotomy  
for Stone,  
By WILLIAM A. GOLDSMITH.
7. Gastroenterostomy,  
By JOHN DARRINGTON.
8. Matas's Operation. Report of Four Cases,  
By CRAIG BARROW.
9. Cesarean Section; Report of Two Cases,  
By E. J. JOHNSON.
10. Two Cases of Complicated Uterine Prolapsus: Com-  
plete Prolapsus of Uterine Fibroid; Ovarian Cyst  
Complicating Second Degree Prolapse,  
By WILMER KRUSEN.
11. Faecal Fistula Following Appendicectomy, with Report  
of Three Cases,  
By JOSEPH B. BISSELL.
12. Remarks on the Treatment of Fracture of the Hip,  
with Especial Reference to Whitman's Method,  
By C. N. COWDEN.

**1. A Point in the Technique of Appendicectomy.**—Lilienthal remarks that the handling of the intestines, and even their exposure to the air, is one of the most potent causes of shock after abdominal operations. To lessen this element of danger in appendicectomy, he has used the following method, which can be performed in most of the cases, especially in interval cases and in the early stage of the acute form of perityphlitis. Through a small incision made in the locality preferred by the operator, a gloved finger is inserted, locating the cæcum; a portion of this viscus is withdrawn with dressing forceps, and landmarks followed in the usual way

to locate the base of the appendix. During this procedure there will be a little unavoidable handling of intestine outside of the abdomen. Having exposed the base of the appendix, a ligature is passed through the mesentericolum, to be used subsequently for ligating the organ; the ends of this ligature are left long, and are tied together or held with a clamp. The exposed part of the appendix and all other intestines are now returned to the abdominal cavity. When traction upon the ligature is made the base of the appendix and nothing more is brought into the wound. In the majority of cases it will then be found extremely simple to deliver the entire appendix even though a considerable number of adhesions should be encountered. During the procedure of freeing and removing the appendix, this organ only is in the field.

#### THE PRACTITIONER.

*April, 1908.*

1. The Treatment of Acute Pneumonia, By L. WEST.
2. Polycythæmia in Diseases of the Heart and Lungs and  
During Residence at High Altitudes,  
By F. P. WEBER.
3. Injuries to the Head in Young Children,  
By D. DREW.
4. The Importance of Accurate Diagnosis and the Treat-  
ment of Fractures in the Vicinity of Joints,  
By C. H. FAGGE.
5. The Relation Between Sciatica and Disease of the Hip  
Joint,  
By W. I. BRUCE.
6. Some Important Points in Connection with Infant  
Feeding,  
By J. BURNET.
7. Chronic Colitis and Its Surgical Treatment,  
By P. L. MUMMERY.
8. The Ambulatory Treatment of Fractures as Applied  
to Osteotomy,  
By G. B. BUCHANAN.
9. Some Recent Literature Upon Arthritis. A Review  
and Commentary,  
By F. J. POYNTON.
10. A Review of Otolary,  
By R. LAKE.

#### 2. Polycythæmia in Diseases of the Heart and Lungs and During Residence in High Altitudes.

—West observes that an abnormal number of red corpuscles may be absolute or relative. The latter is due to concentration of the blood, as from choleraic diarrhoea; the former is due to an actual increase in the volume of blood in the body. Cases of the former may be due (1) to imperfect oxygenation of the blood and tissues resulting from circulatory disturbance in chronic cardiac and pulmonary disease, or (2) to residence at a high altitude, with diminished oxygen tension in the inspired air, or (3) to splenomegalia. In the first class of these cases, deficiency of oxygen stimulates the function of the red bone marrow and causes increased production of red cells, being thus a conservative or compensatory reaction. In the second class there is also a conservative vital reaction of the bone marrow, compensating for the difficulty in oxygenation at the high altitudes. In the third class nothing further is known than that here also is an increased activity of the bone marrow. True polycythæmia is usually associated with a condition of true plethora. The viscosity of the blood is increased in all of the varieties of polycythæmia, and this is a factor of importance in chronic disease of the heart and lungs. It is an indication for venesection, with consequent relief to the right side of the heart and dilution of the blood current.

#### 3. Injuries to the Head in Young Children.—

Drew states that these injuries differ from similar

ones received in later years, the skull being less resisting, the bones flexible, the dura more adherent, and the sutures ununited. Fractures rarely occur, but may result from abnormality in the maternal pelvis, precipitate labor, or the use of forceps. Depressions may be slight, with indentation which gradually disappears, or they may be extensive and demand operation. The depression may destroy life in utero, or such a result may be deferred for hours or days after birth. Injury to the brain may be quite out of proportion to the apparent injury to the skull. If the dura is torn the subdural space will be opened, the cerebrospinal fluid will escape, and a cephalohydrocele may result. If such a tumor increases in size the prognosis will be unfavorable, meningitis or hydrocephalus being the probable sequence. The most frequent injury to the head in the newborn is hæmatoma. If unassociated with fracture it is usually absorbed in three or four weeks. In fracture, with or without depression, the question of operation becomes an important one for consideration.

**4. The Importance of Accurate Diagnosis and the Treatment of Fractures in the Vicinity of Joints.**—Fagge justly remarks that immediately after a fracture a correct diagnosis is often impossible. The diminished mobility often suggests dislocation, especially in those fractures which extend from a joint surface into the shaft of a bone. Even radiography may not reveal such lesions. It must not be forgotten that dislocation is frequently associated with fractures. Following Cheyne, these fractures are of three forms. 1. Those which do not involve the articular ends of the bone and are outside the capsule. 2. Those which extend into the joint cavity, as a linear split involving one of the condyles of the humerus or a T shaped fracture or comminution of the articular extremity. 3. Those which do not extend into joints, but are typically associated with displacement of the adjacent articular surfaces. A diagnosis may be confirmed by radiography, but one must be able to make a diagnosis without such aid. The deformity should be reduced under a general anaesthetic, and an x ray picture may be taken after the application of the splint. If the fragments do not remain in apposition an open operation will be required within five or ten days from the reception of the injury. The aim of treatment should be not only the replacement of the normal outline of the bone, but restoration of the movements of the adjacent joint and muscles.

**6. Some Important Points in Connection with Infant Feeding.**—Burnet assumes that there is no perfect substitute for mother's milk. Diluted cow's milk is the best substitute there is, but the tendency is to make the dilution too complicated. Sterilized milk is dangerous. A child may gain in weight under its use, but soon it will become anæmic, constipated, and perhaps rachitic. Milk deposits should not be managed by nurses and women, but by a physician who knows the supreme value of breast feeding. Sterilized milk, after repeated handling, is no longer sterile, and that is the condition with much of the supply in milk depots. Pure cow's milk is not more likely to cause diarrhoea than the average breast milk. Sterilized milk, it must be remembered, has been deprived of some

of its most useful properties. As to the matter of weight in infants, too much stress has been laid upon this subject. Gain in weight does not necessarily indicate gain in health and strength; it may even be associated with rachitis. Loss of weight, however, does indicate retrogression. Infant foods are not essential to the rearing of healthy children.

**7. Chronic Colitis and Its Surgical Treatment.**—Mummery classifies this disease as chronic mucous colitis, membranous colitis, chronic ulcerative colitis, and follicular ulcerative colitis. The electric sigmoidoscope has greatly extended our knowledge of this disease, for the sigmoid is the portion of the colon most frequently affected. The first two of these forms are quite similar; their cause must be discovered, and if this should be appendicitis, cancer, or local lesion, the cause must be removed surgically. One of the suggested measures of treatment is appendicostomy, after which the colon can be regularly washed out with appropriate solutions. Another suggestion is ileosigmoidostomy, by which the ileum is drained directly into the rectum. Chronic ulcerative and follicular ulcerative colitis are also two forms of the same disease, the ulcers being small and punched out, with red, raised edges; diarrhoea and bloody stools are usually present. Or the ulcers may be large, irregular, and extend around the bowel, the condition being serious and often fatal. Medical treatment having failed in such cases, a right lumbar colotomy should be performed. This will often turn the scale in the patient's favor.

#### ARCHIVES OF PÆDIATRICS

April, 1908.

1. The Relation of the Bacilli Belonging to the So Called Dysentery Group to the Diarrhoeal Affections of Infants. By J. H. M. KNOX, JR.
2. The Need of Greater Accuracy in Prescribing Starch in Infant Feeding. By M. LADD.
3. Specimens and Photograph of Resected Ribs. By F. HUBER.
4. A Case of Articular Rheumatism in an Infant. By J. P. C. GRIFFITH.
5. Congenital Malformation of the Oesophagus, with Report of a Case. By J. PHILLIPS.
6. Sarcoma of the Kidney in Infancy. By W. F. CHENEY.
7. The Pathology of Tuberculosis in Children. By J. McCRAE.
8. Laboratory Aids to the Diagnosis of Tuberculosis in Infants. By T. H. COFFIN.
9. Channels of Communication in Tuberculosis. By S. McC. HAMILL.

**2. The Need of Greater Accuracy in Prescribing Starch in Infant Feeding.**—Ladd states that his plea is neither for nor against the use of starches in the first year of life, but for a more scientific basis of administering them when they may be needed. Starch should be prescribed in percentages, the same as fats, sugar, and proteid. Infants being unable to digest starch at birth, the logical way of using it, barley water, for example, is to begin with a small percentage and gradually increase it. In a series of analyses of cereal decoctions it was observed: (1) That the barley used was preparation made after the manner described have the same composition. (2) That two ounces of either flour to a quart gave a 3 per cent. starch solution. (3) That three ounces of either flour to a quart give 4.5 per cent. starch solution. (4) That the percentage of fat added to a mixture by the cereal is

practically nothing. (5) That the percentage of proteids added to a mixture by the cereal is small. The general formula for the cereal decoction to be added to modified milk to obtain any percentage of starch is starch percentage desired, multiplied by total ounces mixture and divided by 3.5.

**6. Sarcoma of the Kidney in Infancy.**—Cheney is presented with three questions in the study of this subject: (1) How frequent is sarcoma of the kidney in infancy? The answer is it is exceedingly rare. (2) How are we to recognize so rare a disease when confronted with it? The answer is that it is a tumor of very rapid growth, that it does not cause cachexia until it is very large, that it causes little or no pain or disturbance of the general health, and that it is usually first discovered by accident on account of change in the contour of the abdomen. Hematuria may or may not be present. Such tumors lie behind the colon; they begin at one side, but grow downward and inward, other abdominal tumors being more centrally located from the start. Such tumors are also hard, firm, and fixed. (3) Is operation justifiable? The mortality from operation is high, and recurrence is not infrequent, but as it is the only treatment which offers a shadow of hope, it is the treatment which the author advises.

**9. Channels of Communication in Tuberculosis.**—Hamill draws the following conclusions: 1. That it is impossible to gain knowledge concerning the point of entrance either from the location or the degree of the tuberculous lesions. 2. Foetal infection has been proved, but is not common. 3. Infection through the mouth, tonsils, and pharynx is frequent, and may be produced by inhalation or ingestion. 4. Primary inhalation infection through the lungs does occur. 5. Infection through the intestinal tract is definitely proved. 6. The bronchial glands and lungs may be infected through the intestinal tract as well as through the lower respiratory tract. 7. The relative significance of the various modes of infection is difficult to determine, for it has been clearly shown that from whatever point the tubercle bacilli may be introduced they may eventually reach the bronchial glands and lungs without leaving any evidence as to the mode of entrance.

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

*Meeting of February 20, 1908.*

Dr. ABRAHAM JACOBI, Chairman pro tem.

*The meeting was held under the auspices of the Section in Neurology and Psychopathology.*

**The Development of the Modern Care and Treatment of the Insane, as Illustrated by the State Hospital System of New York.**—Dr. CARLOS F. MACDONALD read this paper. He said he had entered upon the work of caring for the insane in 1870. Since that time he had witnessed and participated in the efforts made to improve the methods of caring for the insane, especially as regarded the disuse of mechanical restraints and punish-

ments of various kinds, and the abolition of the barbarous system of so called "county care" and the substitution thereof of the modern hospital for the insane. Cupidity and self interest should have no sway where suffering humanity was concerned. Insanity, of all diseases, was by far the most frequent, most widely prevalent, and most far reaching in its effects, and the commonwealth was in duty bound to provide these dependent sufferers with suitable shelter, food, and raiment, together with means of occupation and diversion, competent medical care, and supervision. To-day in the State of New York alone there were more than 29,000 certified lunatics, not to mention the large number of border line cases which were at any time likely to require medical care and attention. The average life of the insane was twelve years, and the annual per capita cost of maintenance was \$200; therefore, each person who failed to recover during this period represented a loss to the State of \$2,400; whereas a sane person for a like period would represent a gain of \$2,400. To-day there were in the State of New York fifteen State hospitals for the insane (two for insane criminals) and twenty-two licensed private institutions for the insane. The whole number of committed insane in the public and private hospitals of the State at the end of the fiscal year, September 30, 1907, was 29,093 (13,927 men and 15,166 women). The whole number of insane in licensed private institutions was 777. The net increase for the fiscal year in all institutions was 791; in the State hospitals, including the criminal asylums, the net increase was 799. The number of resident medical officers in State hospitals was about 150, and attendants, nurses, and other employees, 5,000. The cost of the State hospitals represented an investment of more than \$26,000,000, while the average annual expenditure for their maintenance was about \$5,000,000. The average weekly per capita cost of maintenance for the last fiscal year was \$3.53. This weekly rate was somewhat higher than the average for the whole United States, in which the number of insane was roughly estimated at 200,000. The first attempt on the part of the State to provide State care for her insane was made nearly sixty years ago, when, in 1836, the legislature created the State Lunatic Asylum at Utica, now the Utica State Hospital. This institution, however, was not opened for the reception of patients until January, 1843. Prior to that time the insane poor, in both acute and chronic cases, were mostly cared for in county or town poorhouses or in jails. Provision was made whereby patients who failed to recover after a certain length of time, or who were pronounced incurable, might be removed to the county poorhouse. This was a most inhumane provision, and it continued in operation, with certain modifications, though with practically the same results, until the creation of the State Commission in Lunacy, in 1880, and the subsequent passage of the State Care Act in 1890. The standard of care and the resultant conditions were graphically portrayed in the following extract from a report made to the legislature in 1864 by the late Dr. Sylvester D. Willard, who personally investigated the condition of the insane in the various poorhouses,



county insane asylums, and other institutions where the insane poor were kept:

In some of these buildings the insane are kept in cages and cells, dark and prisonlike, as if they were convicts, instead of the life weary, deprived of reason. They are in numerous instances left to sleep on straw, like animals, without other bedding, and there are scores who endure the piercing cold and frost of winter without either shoes or stockings being provided for them; they are pauper lunatics and shut out from the charity of the world, where they could at least beg shoes. Insane, in a narrow cell, perhaps without clothing, sleeping on straw or in a bunk receiving air and light only through a rough, prisonlike door, bereft of sympathy and of social life, except it be with a fellow lunatic, without a cheering influence or a bright hope of the future! The violent have only to rave and become more violent, and pace in madness their miserable apartments. These institutions afford no possible means for the various grades of the insane; the old and the young, the timid and the brazen, the sick, the feeble, and the violent, are herded together without distinction as to the character or degree of their madness, and the natural tendency is for all to become irretrievably worse. In some violent cases the clothing is torn and strewn about the apartments, and the lunatics continue to exist in wretched nakedness, having no clothing and sleeping upon straw filthy with excrement and unchanged for several days. Can any picture be more dismal? And yet it is not overdrawn.

The publication of the report aroused public sentiment and resulted in a second spasmodic effort to provide for State care of the chronic insane by the establishment, in 1865, of the Willard Asylum for the Chronic Insane, now the Willard State Hospital, and subsequently an institution at Binghamton. This second era in lunacy legislation for State care largely failed of its object through delay on the part of the State to provide sufficient accommodations for this class; owing to this lack of accommodation, the State asylums for the acute insane were permitted by law to continue the pernicious practice of returning their unrecovered patients to the county poorhouses, some of which were called "county asylums." This inhuman practice continued until the creation of the State Commission in Lunacy, in 1889, and the enactment of the State Care Law in 1890. This commission, the creation of which gave a powerful impetus to the State care movement, promptly joined hands with the State Charities Aid Association and others in their efforts in behalf of State care. In the first year of its existence (1889) it made a thorough examination of the twenty-one county institutions for the insane, in many of which the conditions were found to be nearly as bad as those portrayed in Dr. Willard's report. In its first report to the legislature the commission disclosed the wretched condition of these institutions and their inmates, and recommended the abolition of the county care system and the transfer of all the inmates of such institutions to State hospitals. This report gave the death blow to county care of the insane in the State of New York. Dr. MacDonald then called attention to the important features of the State Care Act (Chap. 126, Laws of 1890) and of the acts supplementary thereto.

Among the more important improvements that had accrued for the insane and their government, under the new order of things, might be mentioned the following: 1. A codification of the laws of the State relative to the insane into one comprehensive statute, known as the Insanity Law. 2. A complete registration of all qualified examiners in lunacy. 3. A complete registration of all persons committed

to institutions for the insane, both public and private. 4. Provision for the transfer of patients from one institution to another without recommitment. 5. The removal of patients from their homes or elsewhere, by trained nurses sent from the hospitals and, if necessary, a medical officer. 6. Removal of the legal distinction between acute and chronic insanity by designating each State institution for the insane as "hospital" instead of "asylum," and inculcating the hospital idea. 7. A regulation regarding the correspondence of the insane, which provided that any patient who desired might write at least once in two weeks, etc. 8. Provision for paroling patients for a period of thirty days, with a return to the hospital without recommitment. 9. A regulation requiring that patients on admission shall be informed of the nature of the institution. 10. Affording to all patients the legal right of a hearing. 11. A rule restricting the issuing of licenses to conduct private establishments for the insane to reputable physicians. 12. A general adoption of a uniform dress for nurses' and attendants' wear. 13. Provision for the clinical teaching of psychiatry in the State hospitals. 14. Provision for the appointment of medical internes in addition to the regular medical staff. 15. A regulation requiring competitive civil service examinations for appointments as resident officers. 16. A material increase in the average rates of salaries and wages of all grades of service. 17. The introduction of women nurses in the men's wards. 18. A material extension of accommodations for attendants and nurses in detached buildings. 19. The establishment of training schools for nurses in all the hospitals. 20. Provision for the employment of dentists for patients, also for ophthalmological examinations by eye specialists. 21. An annual allowance to each hospital for the purchase of medical books and journals and other periodicals. 22. The employment of a chef in each hospital. 23. The adoption of a schedule of food supplies. 24. A marked improvement in the methods of bathing. 25. A requirement that the hospitals shall enter into joint contracts for the purchase of staple articles of supply through competitive bids. 26. The abolition of mechanical restraints in all the hospitals, and the substitution thereof of useful occupations, diversions, and amusements of various kinds. 27. The introduction, in 1901, of tent life for the care of the tuberculous patients. Dr. Mabon, superintendent of the Manhattan State Hospital on Ward's Island, stated that the recovery rate of patients cared for in the open air was as high as forty per cent., whereas the death rate was "extremely low." 28. The systematic employment of patients at useful occupations. 29. The establishment of a pathological institute. Prior to October 1, 1893, at which time the commission was given supervision and control of the hospital finances, the average annual per capita cost of maintenance was \$222; the commission reduced this to \$184, and at the same time materially raised the standard of care, thus effecting, in a single year, a saving of hundreds of thousands of dollars.

Dr. WILLIAM MABON, superintendent of the Manhattan State Hospital, called attention to the institute work and to the uniform methods of clinical study and laboratory research. The methods now

used at the Manhattan State Hospital were as follows: The division for men, as well as that for women, had a reception service; in each there was a staff of from four to five physicians who worked under the direction of an assistant. Physical examinations were made at first; afterward the mental symptoms were studied. Dr. Adolf Meyer was the director of the pathological institute, and he had formulated a very valuable classification. Meetings of the staff were held in the two divisions each week day morning to give them an opportunity to express an opinion as to the advisability of discharging a patient, etc. Every third Tuesday night was held a staff meeting, and original papers were presented and discussed. The results of this method had shown the great value to be obtained by members of the staff.

Dr. FREDERICK PETERSON, ex-president of the New York State Commission in Lunacy, said that a book might be filled with praise for what they had accomplished; they could also fill a book with what they had not accomplished. Nearly twenty per cent. of the insane owed their insanity to a preventable cause, alcohol; through alcoholic insanity there was a loss to the State of about \$2,400,000. People should be taught that insanity was a preventable and curable illness. Insanity was a disease; an insane person was sick. The responsibility of overcrowding, which the Lunacy Commission reported, was due to neglect by the legislature; only one hospital for the insane had been built in eighteen years. On October 1, 1906, the Lunacy Commission reported that the excess of patients in the hospitals over the estimated capacity was 1,812; more money should be appropriated for the building of more asylums. It was an interesting fact that the admissions of people between sixty and one hundred years old amounted to some sixteen per cent. to seventeen per cent., physiologically senile or dotards. There was also an inadequate supply of physicians; the proportion should be not less than one physician to 150 patients.

Dr. CHARLES W. PILGRIM, of Poughkeepsie, president of the State Commission in Lunacy, told of the many obstacles the commission had to overcome, and believed that when the history of the insane in the State of New York was written, two names would appear very prominently, those of Dr. Carlos F. MacDonald and the Hon. Goodwin Brown.

Dr. ALBERT WARREN FERRIS, member of the New York State Commission in Lunacy, said that licensed private houses for the care and treatment of the insane were allowed to receive voluntary patients, as well as those committed under the Insanity Act, a very reprehensible condition. No actual ruling as to these voluntary patients was made until 1891, when the new commission formulated a special document. Attention was called to Section 445 of the Penal Code, under the title Maintaining Private Insane Asylums, and to Section 47 of the Insanity Law, and the amended chapter 497, Laws of 1905. There seemed to be a desire among a certain class of physicians to quietly and secretly place patients in the custody of unskilled and improper persons. The question as to when a patient was properly a voluntary one was a vexed one, but

he believed such a person to be one who understood to some extent his ailment in so far that he knew he was ill, and also understood that the house to which he was taken was for the treatment of ailing people and that he was willing to stay. Voluntary patients should have every possible facility to prevent the graver forms of mental disturbance. Efforts that were now being made to prevent insanity by studying conditions, food, occupations, education, environment, etc., would lead to the saving of many valuable lives, as well as to the early restoration of many hundreds of shattered individuals to their position in the community, to enjoy life, liberty, and the pursuit of happiness.

The Hon. GOODWIN BROWN said that up to 1880 the world for the insane was in chaos; they lived to be cured by chance, or else were treated as criminals. Efforts made to alleviate the condition of these unfortunates were futile. In all great crises men were brought forth when most needed, such as Hannibal, Caesar, Cromwell, and Napoleon, and in this crisis the man most needed was forthcoming, Dr. Carlos F. MacDonald.

### Book Notices.

*[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]*

*Nerven und Seele.* Von Dr. PAUL KRONTHAL. Mit 139 Figuren im Text. Jena: Gustav Fischer, 1908. Pp. 431.

Goethe has said that "all professional men labor under the disadvantage of not being able to neglect what is useless," and there certainly is no profession to which this applies with more force than the medical profession. At the same time we cannot resist the conviction that in the wisdom of the ancients all is not useless, for it may be recalled that Gomprecht, one of the ablest of modern historians, has said that, if the wisdom of the Greeks had left us nothing more than an outline of the atomic theory, it had made its lasting contribution to the development of human culture. The philosophy engendered by the Greeks has continued to the present time, and it is with much pleasure that, as medical disciples, we note that the physician has always remained a philosopher.

In the volume before us we find one of the most recent attempts to solve the physiological relations which exist between the nervous system and the soul, this time from the pen of a well known neurologist. It would be natural that the mode of approach should be more or less anatomical, and fully one half of the volume before us is devoted to a critical analysis of the structure of the neurone, which, we may say in passing, seems entirely too detailed in its anatomical features for any philosophical correlation. Certainly all the facts which have been patiently dug out in the historical laboratories of the world are here collected. An attempt has been made to show wherein anatomical structure underlies physiological function. The attempt has been too rigidly limited to cytological details, and the much more fascinating features of neurone linking have been neglected.

In attacking the second portion of his problem, namely, the soul, the author first justifies himself by maintaining that the study of the nature of the soul is a natural science idea. The psyche is really the reaction phase only of all external stimuli making an impress on nervous structures. It is the sum of the reflexes due to peripheral stimulation. He therefore discusses in detail more or less what these peripheral reactions are, and endeavors to show how sleep, memory, will, feeling, and reflex are integers in the problem. Kronthal, in a certain sense, departs from most works of a similar character in paying attention to the pathology of the psyche by a full consideration of the insane mental reactions, and through them attempts some explanation of what have been called the soul processes. In this respect it would seem that a fruitful avenue has been traversed, for in the study of the biological sciences it has been demonstrated over and over again that a true knowledge of the physiology of function has only been arrived at through the path of its pathology.

The author's point of view is naturally materialistic. He discusses nerve cells, nerve paths, and nerve impulses, and shows us how far the materialistic point of view may be traveled without difficulty. That he has solved the unsolvable problem of psychophysical parallelism is hardly to be expected. Nevertheless, it is interesting reading, well put together, and remarkably simple so far as the German construction is concerned.

*The Borderland of Epilepsy.* Faints, Vagal Attacks, Vertigo, Migraine, Sleep Symptoms, and their Treatment. By Sir WILLIAM R. GOWERS, M. D., F. R. C. P., F. R. S., Hon. Fellow, Royal College of Physicians, Ireland, etc. Philadelphia: P. Blakiston's Son & Co., 1907. Pp. vi-121. (Price, \$1.25.)

To the narrow student of nervous phenomena this work will come as a shock. All too prone are many physicians to accept a diagnosis of a condition as a finality. Their therapeutics is hypnotized by a word, and an all too prevalent nihilism in the field of treatment renders them powerless before the magic word epilepsy.

But there are epilepsies and epilepsies; those due to irremediable and incorrigible defects of structure—no fewer than fifty pathological defects are known to be the exciting causes of that general symptom picture which, for too many, diagnosed as epilepsy, fails to awaken any desire to discover a cause and seek for a remedy.

Gowers has done well to call attention to a large group of epilepsies in which the irremediable causes are not present, and in which, with proper care, treatment may be instituted which will give enduring benefit. Tonics of this kind are like draughts of cold water; they stimulate and invigorate, and we feel that many are in need of the very excitation that this excellent work will produce.

*Confessions of a Mad Man.* By the Writer of *The Young People*. New York: The Macmillan Company, 1908. Pp. ix-128. (Price, \$1.25.)

This is a book worthy to be placed in the hands of every student of medicine on the day he is graduated. Its conception is lofty, and the literary style of the author has a compelling charm, so that the reader is held captive to the volume until it is read

from beginning to end. All through the ten essays which make up the book there runs a vein of exquisite sensibility which reveals the writer as one who is a lover of his calling, and who, moreover, has the right idea of a calling as distinguished from an avocation. In fact, the first essay in the book is a dissertation on the meaning of the word vocation, the conclusion being reached that, "if a doctor's life may not be a divine vocation, then no life is a vocation and nothing is divine." There is food for thought in every chapter, and the sentiments to which the author gives expression will be relished as much by the old and experienced doctor in practice as by the young man who has just been graduated and has started to make a name for himself. There is much good counsel in the book and plenty of helpful suggestion, all combined with much practical philosophy, bound up in instances with noble examples from the lives of men whose names are writ large in the history of medicine. The chapter on Ambroise Paré will be at the same time a revelation and a well-spring of inspiration for many an ambitious young surgeon, and that not less by the fine moral tone of the writing than by its easy charm of diction and its uplift. It is not a book that lends itself well to quotation; it must be read as a whole and in the spirit of the author, whose *Confession* is not a confession of sins, but a confession of devotion and loyalty to his own profession. Although published anonymously, "by The Writer of *The Young People*," it is easy to guess at the identity of the author, who cannot be other than Dr. Stephen Paget, son of the late Sir James Paget, who is known to be the author of *Our Young People*.

*Nursing the Insane.* By CLARA BARRUS, M. D., Woman Assistant Physician in the Middletown State Homeopathic Hospital, Middletown, N. Y. New York: The Macmillan Company, 1908. Pp. x-409.

In taking from the preface of this work some of the ideas expressed by the author we feel that we can best represent the spirit that animates it. This spirit is one with which we are in cordial sympathy, and we are desirous that it should be more widespread among workers in this most perplexing field.

Within the memory of the passing generation our institutions have been evolved from mere places of detention and custody into modern hospitals, which aim to provide comfortable, pleasant, and hygienic surroundings for the patients, scientific treatment directed to the cure of the curable, and judicious and humane care for all. But even with this highly desirable evolution there are still too many dark places, not peculiar to hospitals for mental disorders alone, but which, when found in such, are all the more deplorable, since so many of the patients are unable by the very disorders from which they suffer to obtain redress.

The inmates of a hospital for mental disorders are for the most part peculiar and trying to treat—peculiar and trying, however, only so long as the old fashioned ideas regarding mental disorders are held to. "To deal with them wisely and kindly requires exceptional qualities of mind and character," writes Dr. Barrus, and we might raise the query, How are such exceptional qualities to be obtained for the miserable pitance which State legislatures dole out to the physicians, nurses, and attendants?



To train nurses and attendants in this special branch of work is the object of this book, and we know of no similar one that approaches the subject in the broad, comprehensive spirit which is so desirable. It is well written, specific, and adequate, and we can commend it most cordially. It is not alone of value to nurses; physicians should read it, as it reflects the proper attitude of mind that is necessary in order to deal adequately with the problems. Such an attitude of mind the physicians of this country themselves are in need of acquiring, and in the volume before us are set forth principles which have been the fruit of a ripe and sympathetic experience.

*Movable Kidneys and Other Displacements and Malformations.* By DAVID NEWMAN, M. D., F. F. P. S. G., Surgeon to the Glasgow Royal Infirmary, etc. New York, Bombay and Calcutta: Longmans, Green, & Co., 1907. Pp. 233.

It is an evidence of the great accumulation of knowledge on special subjects in medical science that there should be material for a fair sized volume on a subject the scope of which, to ordinary observation, is not broad. The author's classification into movable and floating kidney, according as the organ is not or is in the peritoneal cavity, is not very exact, for a floating kidney is certainly a movable one.

Extraperitoneal and intraperitoneal might be more accurate. The latter is rarely seen, and the former frequently causes no symptoms. The author is in favor of nephrorrhaphy whenever the symptoms from the displacement are at all severe. He is rather more radical in this respect than Treves, whose experience is certainly as great, and who believes that an operation is seldom required.

A large number of illustrative cases are reported in detail, and various anomalous conditions of the kidney are represented by very good illustrations. We fail to find anything new, however, in the author's consideration of his subject.

*A Textbook of Minor Surgery.* By EDWARD MILTON FOOTE, A. M., M. D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University), etc. Illustrated by 407 Engravings from Original Drawings and Photographs. New York and London: D. Appleton & Co., 1908. Pp. xxvi-752.

When we first saw this substantial volume, our first thought was one of wonder that so big a book had been written on the subject, for we called to mind the little minor surgeries of the past. But examination of the work shows that the author classes as "minor" the greater part of surgical practice—all of it, we may say, that is not of heroic magnitude. He gives what we must admit is a good reason for doing so, namely, that the authors of the more pretentious recent textbooks of surgery have to a great extent rather slighted those portions of their subject which fall short of the supreme degree of impressiveness. Just this kind of book, therefore, has been needed, and Dr. Foote has given us a good one. His teachings are such as a rather careful examination of the contents does not allow us to find fault with, further than to remark that the regional division has necessarily led to some repetition. The dedication is particularly good: "This book is dedicated to the man at the point of the knife, for his grit and patience, and especially for his willingness to be photographed that others may profit by his misfortune."

The mechanical quality of the volume—in print, paper, pictures, and binding—is most creditable to the publishers.

*Healthy Boyhood.* By ARTHUR TREWBY, M. A. With an Introduction by Sir DYCE DUCKWORTH, M. D., LL. D., Consulting Physician to St. Bartholomew's Hospital, etc., and a Foreword by Field Marshal EARL ROBERTS, K. G., K. P., V. C., O. M., P. C., G. C. B., G. C. S. I., G. C. I. E., D. C. L., LL. D. New York: Longmans, Green, & Co., 1907. Pp. 63.

In the lay press, as well as in our professional journals, we find the question discussed very often: What should a boy know who is entering upon manhood, and who should instruct him; or should this theme be left untouched? Our author thinks that a boy at such a period should be made acquainted with the mysteries of life in a scientific, fatherly way; the introduction into the knowledge of manhood should not be left to chance, but the knowledge should be well expounded to adolescents.

The book may be given to the boy to read, and will thus take the place of verbal instructions by parent or teacher. It can be well recommended to any household, as its language and expression are so guardedly written that nobody can object to it, and only good can come from reading it.

*Rotunda Midwifery for Nurses and Midwives.* By G. P. WRENCH, M. D., Late Assistant Master, Rotunda Hospital. With an Introduction by the Master of the Rotunda Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1908. Pp. xiv-324.

There are those who think that too many books have been written for the purpose of teaching nurses how to practise medicine more or less, and we admit that our own tendency is toward that opinion. However, the thought would hardly arise if such books were always written so judiciously as this one of Dr. Wrench's. The Dublin Rotunda has always stood high as a source of instruction in obstetrics, and its medical officers may be relied upon to present the subject in a conservative manner.

Dr. Wrench teaches in a most practical way in this book, and he does it in simple and easily intelligible language, though the statement that "white leg" causes morbidity" (page 252) is perhaps more sententious than lucid, and the following statement (page 139) does not seem quite consistent: "Our hospital patients get up on the evening of the seventh and go out on the eighth day. A woman may sit up on the fifth day. She may go out after she has been up for five or six days."

Dr. Wrench says of "quiet rupture of the uterus" (a phrase with which we are not familiar): "This is a form of rupture which occurs without previous signs of threatening rupture. It is not uncommon in Ireland." In such matters as this, as in many others, this little book may be of service to young physicians as well as to nurses and midwives. It is deserving of high commendation.

*Clinical Lectures and Addresses on Surgery.* By C. B. LOCKWOOD, Surgeon to St. Bartholomew's Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. viii-307.

The volume before us is a second edition, though that is not stated on the title page. The fact of its appearing in the same year with the first edition shows the acceptability of the book. The chapter

headings are as follows: An Introduction to the Study of Clinical Surgery; Clinical Reasoning; The Course of Intraabdominal Inflammation; On the Recognition and Management of Intestinal Obstruction; The Essentials of a Diagnosis; Secondary Infection of the Lymphatic Glands in Malignant Disease of the Tongue; Carcinoma of the Breast and its Spread into the Lymphatics; Varicose Veins; Swellings Above, Below, and Within the Neck of the Scrotum, particularly Inguinal Varicocele and Hydrocele; Exploratory Laparotomy, especially in Cases of Malignant Disease; Faecal Leaks and Fistulae; The Immediate Microscopical Diagnosis of Tumors during the Course of Operations; Clinical Pathology in its Relation to Diagnosis and Treatment; and Salivary Calculi.

So slight a connection is there among most of these subjects that the lectures may fairly be called *disiecta membra*, but they are exceedingly practical and the teaching given in them is wise. The author gives many useful hints that one might look for in vain in a formal textbook. Mr. Lockwood's style is colloquial to an unusual degree, but there is never any doubt as to his meaning. We commend the book without reserve.

*The Influence of Alcohol and Other Drugs on Disease.* The Croonian Lectures Delivered at the Royal College of Physicians in 1906. By W. H. R. RIVERS, M. D., F. R. C. P., Fellow of St. John's College, Cambridge. London: Edward Arnold, 1908. Pp. viii-136.

The lectures printed in this book are those delivered at the Royal College of Physicians, entitled the Croonian Lectures for 1906, differing in their printed form somewhat in details of arrangement and in the addition of new matter from their first presentation, which for the most part took place in the *Journal of Physiology*.

The author first takes up the methods followed in his experiments, dealing with the double problem of individual muscle fatigue and the more psychical factor of general fatigue. He then takes up in detail the drugs studied, caffeine, alcohol, cocaine, strychnine, and tobacco being chosen.

The problems dealt with by Rivers have all received considerable attention from the efforts of physiologists, pharmacologists, and psychiatrists, and in the main his results are confirmatory of those arrived at by the more advanced workers in these fields. To the worker in psychiatry the results are of special interest in that the author confirms in large part the observations of Kraepelin, the psychiatrist, whose researches have given in the past decade the greatest impetus to the forward study of mental disorders.

### Miscellany.

**German Comment on Dr. Rose's Ideas of Medical Language.**—Dr. Herman Triepel, professor of anatomy at the University of Breslau, submitted to the German Anatomical Society at the twenty-second annual convention in Berlin a memorial on anatomical nomenclature. (*Denkschrift über die anatomische Nomenclatur der anatomischen Gesellschaft auf ihrer 22. Versammlung* in Berlin, vorgelegt am 22 April, 1908), endorsing the views and suggestions put forward by Dr. Achilles Rose since 1894. Thus, he also confirms Rose's statement that the work of the Commission on Nomenclature of the German Anatomical Society, now known by the designation of B. N. A., is not perfect, that it is defective in regard to language, and that a thorough revision of the B. N. A. is indicated. During the last few years quite an appreciable number of books have been published, notably also in America, which have adopted the Basle nomenclature, and Triepel is of the opinion that the unopposed dissemination of the imperfections in medical onomatology should be checked. In agreement with Rose, Triepel considers it an important requisite to secure the assistance of Greek colleagues for the linguistic revision of the B. N. A. He points out that the value and position of modern Greek has up to the present time been frequently misunderstood. The Greek written language has preserved to the present day, and with great tenacity, the material features of ancient Greek. In spite of its conservative character, however, it is not dead; it lives in the national consciousness, not only as a written, but also a spoken language. This is the idea to which Rose has given expression in numerous writings, calling attention to the fact that the thesaurus of modern Greek is particularly adapted to supply the technical terms of medical science. Rose is confirmed in saying that only an educated Greek could command the linguistic feeling which is a prerequisite in the formation of new words from the elements of the existing treasure. Of particular importance is the following passage: "If we are in doubt as to the validity of an anatomical name, taken from the Greek language, we shall probably obtain satisfactory information by consulting a Greek textbook of anatomy. For our purposes the most commendable of all Greek textbooks is the one by Papaioannou, the most extensive one in existence. (Sclavuno's textbook is not yet completed.) In order to be able to employ in his work a nomenclature free from objections, Papaioannou studied, as stated in the preface, the writings of the ancient Greek philosophers and physicians. Some of the names he encountered had to be first remodeled, in so far as they did not conform to the strict requirements of the laws of Greek word construction. In many designations which had been misunderstood or mistranslated by European nations, and had been taken over without criticism by modern Greek authors, he had to establish their true meaning in order to find a proper place for them. Other words again have undergone an entirely new formation at his hands, keeping strictly to the applicable linguistic rules. Papaioannou's nomenclature 'is to-day generally employed in Greece in scientific works, lectures, etc.' as his son, Professor Theodore Papaioannou, states. Triepel believes that it is reserved to just that book of Papaioannou to render the most important services in the construction of an improved nomenclature. It is also interesting that on April 14, 1907, the Medical Society of Athens appointed a committee for the purpose of undertaking a revision of the entire medical nomenclature.

## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending May 15, 1908:

Places.	Date.	Cases.	Deaths.
Alabama—Mobile, city and county.	April 13-18.	38	17
California—Los Angeles.	April 11-18.	1	1
California—San Francisco.	April 11-18.	1	0
District of Columbia—Washington.	April 25-May 2.	1	0
Illinois—Danville.	April 26-May 3.	3	3
Illinois—Galesburg.	April 25-May 2.	1	1
Illinois—Rockford.	April 25-May 2.	1	1
Illinois—Springfield.	April 23-30.	1	1
Indiana—Anderson.	April 23-30.	1	1
Indiana—Indianapolis.	April 26-May 3.	1	1
Indiana—La Fayette.	April 27-May 4.	1	1
Indiana—Muncie.	April 27-May 4.	1	1
Iowa—Ottumwa.	April 25-May 2.	2	2
Iowa—Sioux City.	April 1-30.	17	2
Kansas—Kansas City.	April 25-May 2.	10	1
Kansas—Topeka.	April 25-May 2.	2	2
Kansas—Wichita.	April 25-May 2.	3	3
Kentucky—Henderson.	April 1-30.	1	1
Louisiana—New Orleans.	April 25-May 2.	2	2
Michigan—Kalamazoo.	April 18-25.	3	3
Michigan—Port Huron.	April 21-May 2.	3	3
Michigan—Saginaw.	April 18-May 2.	1	1
Minnesota—Stillwater.	April 23-30.	1	1
Mississippi—Gulfport.	April 24.	1	1
Missouri—Kansas City.	April 25-May 2.	18	18
Missouri—St. Louis.	April 25-May 2.	1	1
New York—New York.	April 25-May 2.	1	1
New York—Niagara Falls.	April 25-May 2.	2	2
North Carolina—Charlotte.	April 25-May 2.	1	1
Ohio—Cincinnati.	April 24-30.	1	1
Ohio—Cincinnati.	April 24-30.	1	1
Tennessee—Knoxville.	April 25-May 2.	1	1
Tennessee—Nashville.	April 25-May 2.	1	1
Texas—San Antonio.	April 25-May 2.	5	5
Virginia—Newport News.	April 1-30.	1	1
Washington—Spokane.	April 18-25.	11	11
Wisconsin—Beloit.	April 23-May 7.	1	1

Places.	Date.	Cases.	Deaths.
Africa—East London.	March 21-28.	2	2
Arabia—Aden.	April 6-13.	1	3
Austria—Trieste.	April 4-11.	1	1
Belgium—Ghent.	April 11-18.	2	2
Canada—Halifax.	April 11-18.	1	1
China—Foochow.	March 26.	3	3
China—Hongkong.	March 7-14.	33	29
China—Shanghai.	March 15-April 5.	5	11
Ecuador—Guayaquil.	April 4-11.	1	4
France—Paris.	April 11-18.	2	2
Germany—General.	April 11-18.	25	25
Great Britain—Leith.	April 11-18.	1	1
India—Bombay.	March 31-April 7.	61	61
India—Calcutta.	March 31-April 7.	1	1
India—Madras.	March 28-April 3.	1	1
Indo China—Cholan.	March 21-28.	1	1
Italy—Catania.	April 16-23.	8	8
Italy—Genoa.	March 1-31.	8	8
Japan—Kobe.	March 28-April 4.	4	6
Japan—Nagasaki.	March 21-28.	1	1
Japan—Tokyo.	March 21-28.	120	120
Java—Batavia.	March 7-April 4.	28	28
Mexico—Agua Calientes.	April 19-26.	1	1
Mexico—Guaymas.	March 1-31.	11	11
Porto Rico—San Juan.	April 6.	1	1
Portugal—Lisbon.	April 6-13.	6	6
Russia—Lithuania.	March 28-April 25.	9	2
Russia—Moscow.	April 4-11.	17	10
Russia—Odessa.	April 4-11.	1	1
Russia—Riga.	April 4-11.	13	13
Russia—Warsaw.	March 21-28.	3	3
Switzerland—Zurich.	April 1-18.	5	5
Turkey—Istanbul.	Feb. 28-April 3.	140	21

Places.	Date.	Cases.	Deaths.
Italy—Rome.	April 4-11.	1	1
Italy—Rome.	April 11-18.	1	1
Italy—Rome.	April 11-18.	1	1
Italy—Rome.	April 11-18.	1	1
Italy—Rome.	April 11-18.	1	1

## Cholera—Foreign.

Places.	Date.	Cases.	Deaths.
India—Bombay.	March 21-28.	1	1
India—Calcutta.	March 21-28.	46	46
India—Madras.	March 21-28.	9	9
India—Rangoon.	March 21-28.	10	10
China—Hongkong.	March 7-14.	2	2
China—Shanghai.	March 15-April 5.	1	1
China—Tientsin.	March 15-April 5.	1	1
China—Yokohama.	March 15-April 5.	1	1
Japan—Tokyo.	March 18-April 4.	107	82

Places.	Date.	Cases.	Deaths.
India—Bombay.	March 31-April 7.	491	491
India—Calcutta.	March 14-28.	119	119
India—Rangoon.	March 21-28.	27	27
Japan—Osaka.	March 21-28.	1	1
Peru—General.	March 28-April 4.	53	27
Peru—Callao.	March 28-April 4.	2	1
Peru—Lima.	March 28-April 4.	3	1

## Army Intelligence:

Official list of changes in the stations and duties of officers of the Medical Corps of the United States Army for the week ending May 16, 1908:

ASHFORD, B. K., Captain. Relieved from duty at Washington Barracks, D. C., about July 1st, and ordered to San Juan, P. R., for duty.

BAKER, F. C., Captain. Ordered to Fort Moultrie, S. C., for temporary duty during army and militia defence exercises, June 18th to 28th.

DESHON, G. D., Major. Relieved from duty and station at Fort Des Moines, Ia., and assigned to station and duty at the Army and Navy General Hospital, Hot Springs, Ark.

KOEPFER, C. E., Captain. Granted leave of absence with permission to visit the United States, to sail from Havana, May 22d, and to sail from Newport News, returning, June 15th.

RAFFERTY, O., Major. When relieved from duty at San Juan, P. R., ordered to Fort Wayne, Mich., for duty.

RAYMOND, H. I., Major. Ordered to Washington Barracks, D. C., for treatment at the General Hospital.

VEDDER, E. B., Captain. Granted leave of absence for four months.

## Navy Intelligence:

Official list of changes in the stations and duties of officers in the Medical Corps of the United States Navy for the week ending May 16, 1908:

DENNIS, J. B., Surgeon. Detached from the *South Dakota* and ordered to the *Virginia*.

LOWNDES, C. H. T., Surgeon. Detached from the *Virginia* and ordered to the *South Dakota*.

## Births, Marriages, and Deaths.

## Born.

LYSTER.—In Ancon, Canal Zone, Panama, on Sunday, April 26th, to Dr. Theodore C. Lyster, United States Army, and Mrs. Lyster, a son.

PORTER.—In Key West, Florida, on Thursday, May 7th, to Dr. Joseph Porter, Jr., United States Marine Hospital Service, and Mrs. Porter, a son.

## Married.

GRAHAM—HACKER.—In St. Louis, Missouri, on Tuesday, May 5th, Dr. Thomas E. Graham and Miss Julia E. Hacker.

LITTLE—TADD.—In Philadelphia, on Monday, May 11th, Dr. John Forsyth Little and Miss Edith Jane Tadd.

## Died.

CAMERON.—In Westmoreland, Maryland, on Sunday, May 3d, Dr. Martin F. J. Cameron, aged forty years.

HEINTZ.—In Marion, Arkansas, on Sunday, May 10th, Dr. Louis Ferdinand Heintz, aged thirty-eight years.

HITT.—In Los Angeles, California, on Sunday, May 10th, Dr. S. Merritt Hitt, aged forty years.

HOPKINS.—In Philadelphia, on Tuesday, May 12th, Dr. Ellwood E. Hopkins.

McCANDLISH.—In Emporia, Kansas, on Tuesday, May 5th, Dr. Robert McCandlish, aged eighty-two years.

McCARTHY.—In Barrie, Ontario, on Monday, May 11th, Dr. John Leigh Goldie McCarthy, aged sixty-three years.

MURRAY.—In St. Louis, Missouri, on Thursday, May 7th, Dr. S. J. Murray, aged forty-two years.

STANTON.—In Bridgeport, Connecticut, on Friday, May 8th, Dr. Thomas F. Stanton, aged forty-four years.

STEELE.—In Wayne, Pennsylvania, on Sunday, May 17th, Dr. John Dutton Steele, of Philadelphia, aged forty years.

THOMAS.—In Cumberland, Maryland, on Tuesday, May 5th, Dr. William George Thomas.



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### Original Communications.

#### THE MANAGEMENT OF SELF LIMITED DISEASE.\*

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The partridge rummaging through brushwood or scratching in forest litter in quest of bug or berry; the heron at the stream, sentinel like, patiently, persistently peering into the shallows for a sign and glimpse of a craved prize; the owl, with impelling hunger, ranging among the mystic shadows of the night; these are the medical specialist in laboratory, or in clinic, or in private practice investigating, observing, exploring. The hawk soaring above house top and tree top and hill top, sailing in unimpeded flight the upper airs, commanding the landscape below from horizon to horizon, that is the medical philosopher, analyzing, classifying, correlating, reconciling the gross findings of the delvers. If placed somewhat at disadvantage as to discernment of facts in their minutia and detail, yet is the general practitioner peculiarly adapted by position and pursuits to the intervaluation and interadjustment and interharmonization of general ideas and general truths. And self evident is it that to orientate is as vitally requisite as to advance.

In a domain only partially explored are the results of exploration, by reason of their patchy, incomplete, disconnected character, liable to appear contradictory or antagonistic. In the field of therapeutics this is found to be notoriously the case. Here, indeed, are the poles of thought and advocacy widely separated, with sons of Arah stoutly holding each antipodal standpoint. On the one side we have von Leyden graciously announcing "*Die Zeiten des Nihilismus in der Klinik und des Pessimismus in der Praxis sind überunden, sie liegen hinter uns.*" ("The times of nihilism in the clinic and of pessimism in practice are surmounted, they lie behind us.") On the other side we find a scholarly and experienced leader courageously attacking even the time cemented stronghold of quinine, and otherwise out-Sangradoing Sangrado in the paucity of his remedial measures, still further narrowing and simplifying the famous formula, "*La saignée et l'eau chaude*" of the Valladolid doctor by replacing its "*la saignée*" with "*l'eau froide*"—water, the alpha and the omega, "water, water everywhere." On one shore of the Atlantic a distinguished teacher firmly maintains that "he is the best doctor who knows the worth of medicines." On the opposite shore a silver

tongue declares that "he is the best doctor who knows the *worthlessness* of medicines." Extremes, however, are in a sense not irreconcilable. Ordinarily antithetic doctrines are neither all right nor all wrong—they mutually look toward a common intermediate truth. Ask "A," who is viewing a given point from the east, what is the direction of approach toward that point, and he will reply westward. Ask "B," who is viewing the same point from the west, what is the direction of approach toward that point, and he will reply, eastward. The function of disinterested criticism is to find between conceptions thus at variance the *juste milieu*. So in the province of therapeutics it will be manifest that between scornful nihilism and arrogant absolutism there should move a discriminating common sense; between sullen pessimism and ecstatic optimism there should operate a progressiveness at once alert and active; between stolid unbelief and frenzied credulity there should reign a reasonable and reasoning scepticism.

Restricting discussion to the confines of our proposed subject, the management of self limited disease, we would apply therein the aforestated theses as criteria. The phraseology, self limited disease, is inaccurate, but so sanctioned by use that in propriety it may not be arbitrarily rejected. It is misleading, however, and needs to be defined. Venturing a definition, we submit that so called "self limited" disease is disease which, with more or less certainty, with more or less safety, with more or less promptness, the natural forces eliminate.

The term "management" is advisably employed. It is meant to indicate direction rather than coercion; influence rather than usurpation; promotion of recovery rather than cure. The term is not exclusive of the idea of specific treatment of disease—indeed, it is entirely compatible with such idea. A specific is, simply, an agent which directly and causally accelerates and safeguards Nature's movement toward health along her own course. The only pity is that we have at our command so few of these agents.

Nether does the method implied in the word "management" debart drugs as remedies. The requirement for modification of some certain physical process does not necessarily carry with it an indication of the exact character and form of the instrument to be selected. Other things being equal, considerations of effectiveness and availability vary properly are determinative at this point. If no special contraindication exists, what reason or wisdom can there be in ignoring the claims of a drug simply because it is a drug? Why is it not logical

\*Read before the University County Medical Society, at Westport, Pennsylvania, April 20, 1908.

and scientific to attain salutary results by extraordinary means where ordinary measures fail or are lacking?

Arriving at the immediate and intimate discussion of our subject, I would submit first of all and most prominently that the primary and fundamental factor in the management of self limited disease is the thorough, the exhaustive, the lucid, the commanding comprehension of the natural course of such disease. We must know clearly and fully the features of the typical case, and we must know the safe and permissible deviations therefrom. We must be familiar with the symmetry of symptoms, and we must be able to recognize the bounds of unessential asymmetry of the same. Just so far as we do not *know* are we bound to keep our hands off. Merest hazard even is as safe a guide as ignorance; certainly a usually benign natural order will be immeasurably more trustworthy than sightless eyes. "God moves in a mysterious way his wonders to perform." Nature to the doctor is divine. If he be not initiated into her mysteries he must not presume to assist at her offices. The doctor who is keenly, humbly conscious of what he does not know will refrain from positive action beyond the limits of his knowledge. He will prefer the risk of negative error. He will choose not to do rather than to do by chance. In assuming this position he will, of course, bring himself within the range of the thrust of La Bruyère where, in his *Characters*, he satirizes our profession thus: "La témérité des charlatans, et leurs tristes succès, qui en sont les suites, font valoir la médecine et les médecins; car ceux-ci laissent mourir, les autres tuent." ("The temerity of quacks, and their sad successes which are the consequences of it, make for the reputation of medicine and of physicians; for the latter simply let people die, while the former kill them.")

But far better is it to render ourselves liable to such shafts of irony as aimed at a conservative negativism than to incur just criticism of the kind embodied in his epigram on "The Physician" by the German fabulist, Nicolay, which I beg leave to quote:

*"Wenn Uebel und Natur in einem Körper streiten,  
So kommt ein blinder Arzt und haut nach beiden  
Seiten;*

*Wenn er das Uebel trifft, so stellt er wieder her;  
Wenn die Natur, so tödtet er."*

This may be translated as follows: "When a disorder and Nature are battling in a human body, there comes a blind doctor and slashes toward either side; if he chances to hit the disorder, he restores to health again; if he chances to hit Nature he kills."

Truly he charges himself with an awful responsibility who dares to supplant Nature—to censor and alter her plans of operation—to halt or modify her processes and procedures. It is a very serious matter to administer a really active dose of a potent drug; to do it intelligently is eminently proper; to do it at random is altogether reprehensible. In alluding to certain desperate conditions, where one sick is at the very last extremity, Celsus coined the dictum, "*Melius est anceps remedium quam nullum*"—"Better a hazardous remedy than none." This

proposition of the Cicero of medicine his commentators have quite generally reprobated. Bouchut apologizes for it only on the ground that it was applied by its famous author solely to cases practically devoid of hope except as hope might remain in the caprice of some heroic intervention.

In the management of self limited disease immediately after the requirement of adequate acquaintance with the natural history of such disease comes the obligation to see that this natural history be normally developed. The single but solemn duty of the doctor here is to have the disease keep its due course, or maintain its symmetry. He can do no *more* than that; he should try to do no more. His province includes no *less* than that; he should aim at no less. As a corollary of his obligation to see that these diseases hold their course stands the further obligation to not interfere when that course is being followed. Symptom tinkering is extremely pernicious, can do naught but harm, where a proper balance or proportion between the symptoms already exists. In illustration take temperature. Not so long ago it was thought good practice to depress exalted temperature, regardless of its relationships; now it is coming to be considered a useful factor, and its deficiency within bounds is deplored.

Thus far our discussion has been general. Let us now briefly touch a few points in particular. And first it may be mentioned that in self limited disease, as, indeed, also in every other condition of disease, the problems of heredity and habit and environment and idiosyncrasy—in fact, all those elements which make an individual an individual and render every case a case by itself, all this should be taken into the reckoning. Sir Dyce Duckworth has recently entered protest against the tendency of medicine to neglect the personal. It would seem that it has been peculiarly Osler's mission to champion the claims of man to be dealt with even in a medical way as a human being unique and unduplicated, rather than as an animate lump of matter of distinctly generic mould.

In every case of self limited disease rest and sleep should be given careful attention. To this end pain of a degree that is distressing and exhausting should be controlled. Of course the heart should be assiduously, untiringly watched. A consideration of vital importance is the efficient performance of their functions by the emunctories—this cannot be overemphasized. Nutrition should be looked after; but here again natural indications should be closely studied—we should be careful not to say *eat*, when Nature says *fast*. Water will be the indispensable food.

Many of us are quite familiar with river rafting. The management of self limited disease, it seems to the writer, is like unto that. Is the raft duly in its channel? On the bosom of the current undisturbed let it float—the river will strongly, securely bear it forward—the motionless oars will be the certain sign that all is well. Has the raft drifted out of its channel? Let there be no hesitation or delay; let a "long pull and a strong pull and a pull all together" bring it back where rafts are wont to go. Yonder is the pilot—mostly standing with folded arms, his eyes bent on stream and shore ahead.

Now he directs a slight adjustment this way and now that way, and again he urges a mighty, a resolute effort against a power drawing his raft toward rock or shoal. He does not have things done only later to have them undone. Never does he lose his head; if he should he would lose his raft. He knows where he is and whither he is going; if he did not he would not be a pilot. Probably he will arrive down river without loss. Should his raft ground or "stove" he will not be at fault.

Yes, the medical man is the counterpart of the riverman. Like him he has a charge to guide down the angry current of a flood from which there is no escape except in the quiet waters below. Similar knowledge should be his, and similar principles should govern him. He can do no more than the riverman, albeit his trust is incomparably momentous. To know the courses, and to wisely, skillfully strive to hold them is the measure of possible competency. Let him, then, simply be another captain of a raft. In failure he, too, will be faultless. But if at last his raft glides out upon a serene expanse beneath sunny skies, even though the oars have been most of the time idle, for what he did *not* do as much as for what he *did* do he will be a victor—he will be a pilot—he will be a doctor.

#### CONDITIONS AFFECTING THE PROPORTIONS OF FAT AND PROTEINS IN COW'S MILK.

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In the utilization of cow's milk in infant feeding a knowledge of the proportion of fat and proteins is of fundamental importance. The assumption, so common in works on infant feeding and in practice, that fat and proteins in cows' milk are present in fairly uniform percentages, is not supported by the actual facts.

The accumulation of extensive data in the records of this station bearing on the subject of this paper furnish abundant material for a somewhat detailed discussion. Briefly stated, these records include the following data: (1) Analyses of the mixed milk of numerous herds of cows, as obtained at cheese factories in this State. We have over three hundred such analyses, representing results of work done during several different factory seasons (April to November). (2) Analyses of the milk of each of fifty different herds of cows, whose milk was taken to one cheese factory, analysis being made every other week from April through October. This work furnished about 650 analyses of herd milk, such as is common in the dairy regions of this State. (3) Analyses of milk of individual cows, representing a systematic investigation covering entire periods of lactation. Seven different breeds are represented, each with three to six individuals, the results covering for each individual one to eight periods of lactation. This work has furnished several thousand analyses of milks. The extent of our data is such that in the limits of this article they can be used only in the digested form of summaries or in illustration of specific details.

It is the purpose of this article to present data

showing, (1) the range of variation in the amounts of fat and proteins in milk; (2) the conditions which influence variation of these constituents; (3) the variations in the relation of fat to proteins; and (4) some of the practical applications of the facts presented.

#### *General Range of Variation in the Percentages of Fat and Proteins in Milk.*

The extreme variation possible in cow's milk is a matter of general rather than practical interest. As such, we first present the results furnished by our records. As would be expected and as is well known, the variations in the percentages of constituents are much greater in the case of single milkings of individual cows than in the case of averages for entire periods of lactation, or than in the case of the mixed milk of a herd of cows, or than in the case where the milk of several different herds is mixed. Of course, practically all the milk handled in commerce is either the milk of individual herds or the mixed milk of numerous herds.

(1) *Fat*.—Taking all the results in our records for the single complete milkings of individual cows, the lowest percentage of fat found is 2.25 and the highest 9; the minimum amount being found in the milk of a Holstein-Friesian cow, the maximum in that of a Jersey cow that was far along in lactation. During a period of lactation (usually ten to twelve months) the fat in the milk of an individual cow may vary, in the case of single milkings, more than three per cent., from lowest to highest. The extreme variation of fat between two successive milkings (night and morning) may be as much as two per cent. in the case of the same animal.

The percentage of fat in the milk of individual cows for an entire period of lactation, according to our records, is a minimum of 2.79 (Holstein-Friesian) and a maximum of 6.30 (Jersey).

In the case of individual herds of cows, such as are common in the dairy regions of this State, the minimum percentage of fat on any one day was found to be 2.90; the maximum, 5.50, which occurred late in the season (October). The lowest season average for any one herd was 3.31 per cent.; the highest, 4.31 per cent.

In the case of milk consisting of a mixture of the milk of different herds, the lowest percentage of fat found was 3.04 and the highest 4.60.

*Proteins*.—For the purpose of this article we can consider the proteins of milk as consisting of casein and albumin.

In the single milkings of individual cows we have found as low as 2.19 per cent. of total proteins and as high as 8.56 per cent., the casein varying from 1.59 to 4.49 per cent., and albumin from 0.31 to 5.32 per cent. The highest percentages were found in the case of cows far along in lactation and giving only small amounts of milk. Such milk is, of course, not normal from a commercial standpoint and possesses interest mainly in showing what the secretion may become under certain known conditions.

The percentage of proteins in the milk of individual cows for an entire period of lactation varies from 2.87 to 4.44, of casein, from 1.00 to 3.58 and of albumin, from 0.47 to 4.00.

In the case of individual herds of cows, the per-



centage of proteins ranged from 2.31 to 3.71; of casein, from 1.79 to 3.02; and of albumin, from 0.41 to 0.97.

In the case of milk consisting of a mixture of the milk of different herds of cows, the percentage of proteins varied from 2.53 to 3.76; of casein, from 1.93 to 3.00; and of albumin, from 0.47 to 0.88.

#### *Conditions Affecting Variations of Fat and Proteins in Milk.*

The conditions of the marked variations observed in the amounts of constituents in cow's milk have received considerable study, and many of our data are available, with special reference to this phase of the subject, which will be discussed under the following headings: (1) Individuality, (2) breed, (3) stage of lactation, (4) food, (5) season, (6) manner and time of feeding.

(1) *Individuality.*—In examining the results of analysis of single milkings in the case of two or more individual cows, one is first impressed with the marked differences usually existing. If one carries on the study of individuals for prolonged periods of time, it will be noticed that, while the composition of the milk of each may vary quite widely in single milkings at different times, each possesses certain characteristics that serve to distinguish it in a manner more or less marked. To change the composition of the milk of a cow to such an extent that it loses its individual characteristics requires extreme and abnormal conditions; and even when such changes are effected, they are usually only temporary. Probably no question in animal nutrition has attracted so much attention along practical lines as that of changing the percentage of fat in milk by means of feeding, or, to state it in another form, the problem of overcoming through food the influence of individuality. The problem has not yet been solved, at least not in an economical form, and it is generally regarded by students of animal nutrition as a dairyman's will-o'-the-wisp. A few analyses are given in Table II, illustrating individuality in a general way.

(2) *Breed.*—The influence of what is known as breed upon the composition of cow's milk has been recognized and extensively studied. The following figures, representing in the case of each of seven different breeds averages of three to six individuals of each breed for an aggregate of four to twenty periods of lactation, will illustrate the point under consideration.

TABLE I. FAT AND PROTEINS IN MILK OF DIFFERENT BREEDS OF COWS.

Name of breed.	Fat, per cent.	Proteins, per cent.	Casein, per cent.	Albumin, per cent.
1. Holstein-Friesian.....	3.29	3.24	2.29	0.64
2. Ayrshire.....	3.29	3.07	2.49	0.61
3. American Holsteins.....	4.01	3.45	2.63	0.69
4. Shorthorn.....	4.02	3.43	2.79	0.64
5. Devon.....	4.89	3.93	3.10	0.83
6. Guernsey.....	3.98	3.39	2.91	0.65
7. Jersey.....	5.78	3.68	3.03	0.65

The characteristics of a breed are, of course, more or less modified in the case of individuals, so that we may have quite wide variations in the percentages of fat and proteins in the milk of different individuals of the same breed; but it is extremely rare that the individual characteristics overcome those of breed to such an extent that we should, for

example, not be able to distinguish normal Guernsey or Jersey milk from Holstein or Ayrshire milk, even in the case of single milkings. While extreme variations in the case of individuals of the same breed can be thoroughly studied only with single milkings, the average differences for entire periods of lactation are very marked, as is illustrated in the case of two breeds by the following figures.

TABLE II. DIFFERENCES IN PERCENTAGE OF FAT AND PROTEINS IN MILK OF INDIVIDUALS.

	Fat.	Proteins.	Casein.	Albumin.
Individual Jerseys:				
1.....	5.49	3.57	2.91	0.66
2.....	5.61	3.44	2.83	0.61
3.....	5.77	3.69	2.91	0.78
4.....	6.04	3.87	3.19	0.68
5.....	6.15	3.96	3.42	0.54
Individual Holstein-Friesians:				
1.....	3.95	2.97	2.29	0.68
2.....	3.11	2.60	2.11	0.49
3.....	3.16	2.99	2.41	0.55
4.....	3.19	2.62	2.27	0.65
5.....	3.53	3.34	2.70	0.64

(3) *Stage of Lactation.*—From the time a cow "comes fresh in milk" up to the time when she becomes "dry," the composition of the milk undergoes a gradual process of change, quite independent of other conditions. The period of lactation varies in length with different individual cows, but, for practical purposes, lasts about ten to twelve months. The changes in the percentages of fat and of proteins observed during the progress of the lactation period are quite marked and fairly regular, without reference to individual or breed. The colostrum, the secretion produced by a cow soon after calving, is very different in composition from normal milk, and is not considered at all in our discussion. The figures presented in the following table represent the monthly averages of nearly 100 different lactation periods.

TABLE III. INFLUENCE OF LACTATION ON PERCENTAGES OF FAT AND PROTEINS IN MILK.

Month of lactation.	Fat.	Proteins.	Casein.	Albumin.
1.....	4.39	3.16	2.54	0.62
2.....	4.11	2.99	2.42	0.57
3.....	4.21	3.04	2.46	0.58
4.....	4.28	3.13	2.52	0.61
5.....	4.38	3.25	2.61	0.64
6.....	4.53	3.33	2.68	0.65
7.....	4.57	3.40	2.74	0.66
8.....	4.59	3.47	2.80	0.67
9.....	4.67	3.57	2.90	0.67
10.....	4.90	3.79	3.01	0.78
11.....	5.07	4.04	3.13	0.91

In studying this table, we notice that the percentages of fat and proteins drop in the second month of lactation, as compared with the first, and then begin to increase, continuing to increase from month to month during the entire period of lactation. Such behavior appears to be the general rule. Occasionally, an individual may, for a single period of lactation, depart quite widely from the general tendency. Individuals usually, but not always, show much of the uniformity observed in the results shown in Table III. The occasional variations from the general tendency are due to special, temporary causes in each case, usually connected with such conditions as weather, health, care, etc.

In the tenth and eleventh months of lactation, the increase of fat and proteins is more marked than during the preceding months. In the case of cows whose lactation period is prolonged for one and a half or two years, with a good flow of milk, the percentages of fat and of proteins may not continue to increase, but may even decrease.

In this connection, it will be a matter of interest

to consider the influence of advancing lactation upon the percentages of fat and of proteins, as observed by us in the case of milk used at cheese factories in this State; because this milk represents the condition present in the large milk producing sections of the State. In general, dairymen have their cows "come fresh in milk" in March and April, so that the milk taken to a cheese factory (or sent to the city markets) represents during the season (April to November) stages of the lactation period extending from about the second to the eighth months. Cows kept under ordinary farm conditions are subject to greater variation of external influences than in the case of the cows used in our station investigation. The following figures give the results of our work with cheese factory milk.

TABLE IV. INFLUENCE OF LACTATION ON PERCENTAGES OF FAT AND PROTEINS IN CASE OF CHEESE FACTORY MILK.

Month.	Fat, percent.	Proteins, percent.	Casein, percent.	Albumin, percent.
April	3.43	2.81	2.59	0.22
May	3.38	3.02	2.34	0.68
June	3.64	3.43	2.42	0.99
July	3.62	3.07	2.43	0.60
August	3.81	3.02	2.39	0.63
September	3.92	3.20	2.55	0.65
October	4.23	3.55	2.81	0.74

These results show, in general, an increase in the percentages of fat and of proteins similar to that observed in Table III. The irregularities shown in July and August, especially by a decrease in proteins, will be considered later.

(4) *Food*.—It has been stated already that, under normal conditions, the percentage composition of milk is little influenced by variations in food. In the course of our studies of cheese factory milk, it was noticed that, under certain conditions, marked changes in composition take place. Each year of our studies it was observed that about the middle of May there was a marked increase of fat and proteins. Thus the difference in composition of milk between the first half and the second half of May in one season is shown by the following figures:

	Fat, percent.	Proteins, percent.	Casein, percent.	Albumin, percent.
First half of May	3.49	2.88	2.45	0.43
Second half of May	3.70	3.17	2.48	0.69

A careful study of all the available facts justifies the explanation that these changes were largely due to a marked change in the character of the food and environment of the cows, since they were turned into pasture about the middle of May. Under the known existing conditions, there was thus a change from dry food of an indifferent character, mainly straw or poor hay without grain, to a highly succulent food of a most palatable and nutritious character. It is probable that the change of environment of the cows from confinement in barn and yard to the freedom of the pasture exercised a beneficial physiological influence.

In Table IV it is noticed that there is a marked decrease of proteins in July and August. Similar changes were always observed in the case of cows kept at pasture without supplementary sources of food whenever there was a period of drouth sufficiently severe to cause a drying up of pastures. Under such circumstances, the main food supply was seriously affected. The changes in composition of milk were accompanied by severe shrinkage in

yield of milk. Accompanying this impaired condition of food supply, the animals were subjected to the unfavorable effects coming from excessive heat, combined with annoyance of flies. Such changes in composition and yield of milk do not occur in times of drouth in the case of cows which are protected from the effects of extreme weather and whose food supply is kept normal.

(5) *Season*.—The influence of season upon variations in the composition of milk, apart from the effect of advancing lactation, is, to a considerable extent, associated with that of food supply, as indicated by the discussion preceding. When conditions are normal or when cows are properly protected from the effects of abnormal weather conditions, variations in the composition of milk appear to be quite independent of seasonal influences.

(6) *Time and Manner of Milking*.—The composition of the milk given by an individual cow may be much influenced by the conditions under which milking is done. We shall consider three conditions: (a) Time between milkings; (b) fractional milking of the whole udder; and (c) milking different quarters of udder separately.

(a) *Time Between Milkings*.—In general, when the time between successive milkings is the same, the composition of the milk varies little in the absence of any special, disturbing influence. Averaging about 500 analyses, each, of morning's and evening's milk, representing 15 cows, we find the morning's milk to contain 100 parts of fat, as compared with 99.06 parts in the evening's milk, and 100 parts of proteins for 98.34, the time between the milkings being as nearly uniform as possible. However, if we consider single milkings of an individual cow, we may, in special instances, find considerable variation, in illustration of which the following figures are given:

TABLE V. PERCENTAGES OF FAT AND PROTEINS IN MORNING'S AND EVENING'S MILK.

Date.	Fat	Proteins	Casein	Albumin
Dec. 13th, a. m.	5.00	4.16	3.8	0.4
Dec. 13th, p. m.	6.00	4.28	3.8	0.8
Dec. 20th, a. m.	6.00	4.19	3.26	0.93
Dec. 20th, p. m.	6.00	3.93	3.99	0.94
Dec. 27th, a. m.	5.80	4.49	4.51	0.8
Dec. 27th, p. m.	4.48	3.8	3	0.8
Jan. 4th, a. m.	4.20	4.47	3	0.8
Jan. 4th, p. m.	4.20	4.23	3.8	0.4

(b) *Fractional Milkings of Whole Udder*.—The first portions of milk drawn from a cow's udder are very unlike normal milk in composition, showing a marked deficiency of fat. Each successive portion of milk drawn increases in fat content and the last portions drawn usually contain twice as much fat as normal milk. In illustration of these statements, we give analyses of the milk of a Guernsey cow, representing milk drawn successively from the whole udder in four fractions.

TABLE VI. ANALYSES OF FAT AND PROTEINS IN MILK OF WHOLE UDDER.

Fraction	Fat, percent.	Proteins, percent.	Casein, percent.	Albumin, percent.
First	0.1	0.1	0.1	0.1
Second	0.1	0.1	0.1	0.1
Third	0.1	0.1	0.1	0.1
Fourth	0.1	0.1	0.1	0.1
Whole milk of	3.6	3.15	2.7	0.45

While the fat increases rapidly with each successive portion of milk drawn from the udder, the proteins decrease slightly, as would be expected

from the mere presence of increase of fat. The work was repeated by us with several different cows and the several sets of corresponding analyses show similar results.

(c) *Milking Different Quarters of Udder.*—As the result of a large number of analyses of milk drawn separately from each quarter of the udder, it appears that the milk in each quarter possesses individual characteristics of composition, the extent of difference between the quarters varying in the case of different cows. The following figures furnish an illustration:

TABLE VII. PERCENTAGES OF FAT AND PROTEINS IN MILK FROM DIFFERENT QUARTERS OF UDDER.

Quarter of udder.	Fat.	Proteins.	Casein.	Albumin.
Left hind quarter	4.15	2.97	2.33	0.64
Left forward quarter	4.60	2.94	2.32	0.62
Right hind quarter	5.20	2.89	2.31	0.58
Right forward quarter	5.20	2.96	2.38	0.58

The variations in percentage of fat are much greater than in the case of proteins.

Not only does the composition of the milk in one quarter of the udder differ from that in other quarters, but the composition in the same quarter varies according to the order, relative to the other quarters, in which the milk is drawn, as shown by the following example:

TABLE VIII. PERCENTAGE OF FAT AND OF PROTEINS IN MILK OF SAME QUARTER OF UDDER WHEN DRAWN IN DIFFERENT ORDER RELATIVE TO OTHER QUARTERS.

Left forward quarter of udder.	Fat.	Proteins.	Casein.	Albumin.
When milked first	5.10	2.85	2.30	0.55
When milked second	4.85	3.00	2.40	0.60
When milked third	4.60	2.96	2.36	0.60
When milked fourth	3.95	2.91	2.35	0.50

### Variations in the Relation of Fat to Proteins in Cow's Milk.

We have thus far considered the conditions which affect the percentages of fat and of proteins in milk, without paying attention to the relative variations of these constituents. It now remains to study the effect of various conditions upon (1) the relation of fat to total proteins, (2) the relation of fat to casein, and (3) the relation of casein to albumin.

*Conditions Affecting the Relation of Fat to Total Proteins and to Casein in Milk.*—This phase of our subject will be briefly considered under the headings already used in discussing the general subject preceding and the figures already presented in the foregoing tables will be utilized in furnishing desired data.

(a) *Breed.*—The influence of breed in affecting the relation of fat to proteins is shown in the following table, the data of which are derived from Table I:

TABLE IX. INFLUENCE OF BREED UPON RELATION OF FAT TO PROTEINS.

Breed.	Fat, per cent.	Proteins, per cent.	Parts of	Casein, per cent.	Parts of
			fat to proteins, 1 part of fat. Fat : Proteins.		casein for 1 part of fat. Fat : Casein.
1. Friesian	3.26	2.84	1 : 0.87	2.20	1 : 0.67
2. Ayrshire	3.76	3.07	1 : 0.82	2.46	1 : 0.65
3. American					
Holstein	4.8	4.1	1 : 0.87	2.63	1 : 0.66
Jersey	4.8	4.1	1 : 0.86	2.59	1 : 0.65
4. Guernsey	4.89	4.2	1 : 0.86	2.59	1 : 0.65
5. Galloway	5.2	4.6	1 : 0.66	2.91	1 : 0.53
7. Jersey	5.78	3.68	1 : 0.64	3.03	1 : 0.52

It is seen that the different breeds represented separate into two general groups in relation to the ratio of fat to total proteins and to casein in milk. In the case of the first five breeds, the ratio of fat

to proteins or to casein does not vary widely. The milk of the Holstein-Friesian breed contains least fat and most proteins in relation to fat. In the case of the next four breeds in the list the fat varies from 3.76 to 4.89 per cent., but the proteins also vary in very nearly the same ratio as the fat. The Guernsey and Jersey breeds constitute the second group, the fat being high in amount, but the proteins relatively low. These two breeds vary comparatively little in reference to the ratio of fat, either to the proteins or to casein.

(b) *Individuality.*—We will notice briefly the variations that occur in case of different individuals of the same breed. The figures in the following table are derived from Table II and represent the averages for an entire period of lactation in the case of several different individuals of two breeds. More marked differences could be obtained, of course, by taking single milkings or monthly averages.

TABLE X. INFLUENCE OF INDIVIDUALITY UPON THE RELATION OF FAT TO PROTEINS.

Individual Jersey.	Fat, per cent.	Proteins, per cent.	Parts of	Casein, per cent.	Parts of
			fat to proteins, 1 part of fat. Fat : Proteins.		casein for 1 part of fat. Fat : Casein.
1	5.19	3.57	1 : 0.64	2.91	1 : 0.56
2	5.01	3.44	1 : 0.63	2.83	1 : 0.53
3	5.77	3.69	1 : 0.64	2.91	1 : 0.50
4	6.04	3.87	1 : 0.61	3.19	1 : 0.59
5	6.15	3.96	1 : 0.65	3.43	1 : 0.53
Individual Holstein-Friesians:					
1	3.95	2.97	1 : 0.97	2.29	1 : 0.75
2	3.17	2.60	1 : 0.84	2.11	1 : 0.68
3	3.16	2.96	1 : 0.94	2.41	1 : 0.76
4	3.19	2.92	1 : 0.91	2.27	1 : 0.71
5	3.53	3.34	1 : 0.95	2.70	1 : 0.77

Whether we take the ratio of fat to proteins or of fat to casein, there would be very little difficulty in identifying any individual in the list with its proper breed, even though there is some range of variation between the individuals of each breed.

(c) *Stage of Lactation.*—We have previously noticed that during the period of lactation the fat and proteins increase gradually and quite regularly. We will now consider the question as to whether these constituents increase in the same ratio. The data in the following table are derived from the figures given in Table III.

TABLE XI. INFLUENCE OF STAGE OF LACTATION UPON THE RELATION OF FAT TO PROTEINS.

Month of lactation:	Fat, per cent.	Proteins, per cent.	Parts of	Casein, per cent.	Parts of
			fat to proteins, 1 part of fat. Fat : Proteins.		casein for 1 part of fat. Fat : Casein.
1	4.19	3.16	1 : 0.74	2.84	1 : 0.50
2	4.11	2.99	1 : 0.67	2.62	1 : 0.50
3	4.23	3.04	1 : 0.72	2.16	1 : 0.58
4	4.25	3.13	1 : 0.74	2.52	1 : 0.50
5	4.38	3.25	1 : 0.74	2.61	1 : 0.60
6	4.53	3.33	1 : 0.74	2.68	1 : 0.59
7	4.87	3.49	1 : 0.74	2.74	1 : 0.60
8	4.90	3.47	1 : 0.73	2.84	1 : 0.61
9	4.67	3.57	1 : 0.76	2.90	1 : 0.62
10	4.90	3.79	1 : 0.77	3.01	1 : 0.62
11	5.07	4.04	1 : 0.80	3.13	1 : 0.62

An examination of the fourth and of the last columns in the above table shows a remarkable uniformity in the ratio of fat to total proteins and to casein throughout most of the period of lactation. During the first three months a very slight tendency appears for the fat to increase with reference to proteins, or, stated another way, for the proteins to decrease in proportion to fat. After this there is very close uniformity in the ratio of fat to proteins up to the eighth month, after which the total proteins increase gradually in relation to fat to the end



of the lactation period. During the last three months of lactation, the fat increases quite rapidly, but the proteins increase even more rapidly in relation to fat. During this period the casein increases in exact proportion to fat, maintaining a uniform ratio that is very striking. The close uniformity observed in Table XI is not always so marked, of course, in every individual case, but the tendency shown is a very general one.

In this connection, we will use the data embodied in Table IV to illustrate the relations under consideration in the case of the mixed milk of many herds of cows, as obtained at cheese factories.

TABLE XII. INFLUENCE OF SEASON OF LACTATION UPON THE RELATION OF FAT TO PROTEINS IN CHEESE-FACTORY MILK.

Months.	Fat, Proteins, per cent.		Parts of casein, proteins for 1 part of fat.		Parts of casein, proteins for 1 part of fat.	
	cent.	cent.	Fat: Proteins.	cent.	Fat: Casein.	cent.
April	3.13	2.81	1:0.82	2.29	1:0.77	
May	3.58	3.02	1:0.84	2.34	1:0.82	
June	3.64	3.24	1:0.83	2.47	1:0.88	
July	3.62	3.07	1:0.85	2.03	1:0.77	
August	3.84	3.09	1:0.79	2.09	1:0.62	
September	3.90	3.20	1:0.82	2.20	1:0.75	
October	4.23	3.55	1:0.84	2.81	1:0.76	

The amount of total proteins shows a tendency to increase relative to fat for a few months, when a decrease occurs, which is followed by a later increase. The casein maintains a fairly uniform relation to fat during the whole season, except during August, when a decrease was caused by the effect of drouth upon pasturage and attendant unfavorable conditions.

(d) Food and Season.—Attention has previously been called to the effect of turning cows into pasture, as manifested by changes in the composition of milk in the first and second half of the month of May. We will now notice whether the relation of fat and proteins is changed.

	Fat, Proteins, per cent.		Parts of casein, proteins for 1 part of fat.		Parts of casein, proteins for 1 part of fat.	
	cent.	cent.	Fat: Proteins.	cent.	Fat: Casein.	cent.
First half of May	3.46	2.95	1:0.82	2.05	1:0.60	
Second half of May	3.70	3.17	1:0.86	2.45	1:0.66	

It is seen that while total proteins increased with reference to fat, the ratio of casein to fat changed only slightly.

(e) Conditions of Milking.—An inspection of Tables V, VI, VII, and VIII indicates that the total proteins and the casein also remain fairly uniform while the fat may vary greatly in the case of milk drawn from the udder in fractional portions, in the case of milk drawn from different quarters of the udder, etc.

#### Conditions Affecting the Relation of Casein to Albumin in Milk

The general statement has been prominently current in medical literature to the effect that casein and albumin are present in cow's milk in very constant relative proportions, the amount of casein being five times that of albumin. Taking herd milks, we have found the casein varying all the way from 2.6 to 5.6 parts for one part of albumin. In single milkings of individual cows, the variations are considerably wider. The data already presented enable us to study this question under a variety of conditions.

(a) Breed.—The variation of albumin in relation to casein in the case of different breeds of cows is shown in the following table, the data of which are derived from Table I:

TABLE XIII. INFLUENCE OF BREED UPON RELATION OF CASEIN TO ALBUMIN.

Name of breed.	Proteins, per cent.		Casein, per cent.		Albumin, per cent.		Parts of casein to 1 part of albumin.		Percentage of total proteins in form of casein.		Percentage of total proteins in form of albumin.	
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.						
1. Holstein-Friesian	2.84	2.20	0.64	1:3.4	77.5	22.5						
2. Ayrshire	3.07	2.46	0.61	1:4.0	80.1	19.9						
3. American Holderness	3.32	2.63	0.69	1:3.8	79.2	20.8						
4. Shorthorn	3.04	2.50	0.62	1:4.5	80.3	19.7						
5. Devon	3.03	2.48	0.62	1:4.5	80.3	19.7						
6. Guernsey	3.56	2.91	0.82	1:4.3	81.7	18.3						
7. Jersey	3.68	3.03	0.95	1:4.7	82.3	17.7						

In studying the results embodied in Table XIII, it is noticeable that the casein and albumin vary more or less in their relative proportions in the case of different breeds of cows, and in no case is the proportion of casein to albumin as high as is ordinarily stated (five to one). It is also noticeable that, in general, the albumin forms a larger proportion, and the casein a smaller proportion, of the proteins in milk that contains a low percentage of fat than in case of milk containing a high percentage of fat, when we compare the milk of different breeds of cows. Thus, in the milk of Holstein-Friesian cows, we have the least amount of fat, and the albumin forms a larger part (22.5 per cent.) of the proteins than in case of any other breed under discussion. In the case of Guernsey and Jersey milk, in which the fat content is highest, the proportion of albumin with reference to total proteins or to casein is least (17.7 and 18.3 per cent. of total proteins).

(b) Individuality.—For illustration of the relative proportions of casein and albumin in the case of the milk of different individuals of the same breed, we take the data embodied in the following table from Table II:

TABLE XIV. INFLUENCE OF INDIVIDUALITY UPON RELATION OF CASEIN TO ALBUMIN IN MILK.

Individual Jersey:	Fat, Proteins, per cent.		Parts of casein, proteins for 1 part of fat.		Parts of casein, proteins for 1 part of fat.	
	cent.	cent.	Fat: Proteins.	cent.	Fat: Casein.	cent.
1	3.46	2.95	1:0.82	2.05	1:0.60	
2	3.70	3.17	1:0.86	2.45	1:0.66	
3	3.46	2.95	1:0.82	2.05	1:0.60	
4	3.70	3.17	1:0.86	2.45	1:0.66	
5	3.46	2.95	1:0.82	2.05	1:0.60	
6	3.70	3.17	1:0.86	2.45	1:0.66	
7	3.46	2.95	1:0.82	2.05	1:0.60	
8	3.70	3.17	1:0.86	2.45	1:0.66	
9	3.46	2.95	1:0.82	2.05	1:0.60	
10	3.70	3.17	1:0.86	2.45	1:0.66	

We see marked variation in the relation of casein to albumin in the case of the milk of different individuals of the same breed, the ratio varying in case of the Jersey from 2.7 to 5.3 parts of casein

for one of albumin, and in case of the Holstein-Friesians, from 3.2 to 4.4.

(c) Stage of Lactation.—Making use of the data given in Table III, we are able to prepare the following table:

TABLE XV. INFLUENCE OF LACTATION UPON RELATION OF CASEIN TO ALBUMIN.

Month of lactation	Proteins, per cent.	Casein, per cent.	Albumin, per cent.	Parts of casein for 1 part of albumin	Albumin : Casein	Percentage of total proteins in form of casein	Percentage of total proteins in form of albumin
1	3.16	2.24	0.92	1:4.1	80.4	19.6	
2	3.30	2.42	0.88	1:4.2	80.0	19.1	
3	3.04	2.40	0.64	1:4.2	80.0	19.1	
4	3.13	2.52	0.61	1:4.1	80.5	19.5	
5	3.25	2.51	0.74	1:4.1	80.3	19.7	
6	3.33	2.68	0.65	1:4.1	80.8	19.2	
7	3.40	2.74	0.66	1:4.2	80.6	19.4	
8	3.47	2.80	0.67	1:4.2	80.7	19.3	
9	3.57	2.90	0.67	1:4.3	81.2	18.8	
10	3.79	3.01	0.78	1:3.9	79.4	20.6	
11	3.94	3.13	0.81	1:3.4	77.5	22.5	

The relation of casein and albumin, as shown by the foregoing data, is remarkably uniform during the first eight months of lactation, varying between 4.1 and 4.2 parts of casein for one part of albumin; or, stated in another way, the percentage of total proteins in the form of albumin varied from 19.1 to 19.7 and, in the form of casein, from 80.3 to 80.9. After the ninth month, the casein decreases relative to albumin, or the albumin increases in relation to casein; and the change is quite marked and rapid during the tenth and eleventh months, constituting the closing months of the lactation period studied.

In the case of the mixed milk of numerous herds of cows whose milk was used in cheese making, we have the following results, derived from Table IV:

TABLE XVI. INFLUENCE OF STAGE OF LACTATION UPON RELATION OF CASEIN TO ALBUMIN IN CASE OF MILK USED FOR CHEESE MAKING.

	Proteins, per cent.	Casein, per cent.	Albumin, per cent.	Parts of casein for 1 part of albumin	Albumin : Casein	Percentage of total proteins in form of casein	Percentage of total proteins in form of albumin
April	2.81	2.20	0.62	1:4.4	81.5	18.5	
May	2.91	2.31	0.60	1:4.4	77.5	22.5	
June	3.04	2.40	0.64	1:3.9	79.4	20.6	
July	3.13	2.52	0.61	1:4.1	80.5	19.5	
August	3.25	2.51	0.74	1:4.1	80.3	19.7	
September	3.33	2.68	0.65	1:4.1	80.8	19.2	
October	3.40	2.74	0.66	1:4.2	80.6	19.4	
November	3.47	2.80	0.67	1:4.2	80.7	19.3	
December	3.57	2.90	0.67	1:4.3	81.2	18.8	

The proportion of casein in relation to albumin decreases until July, when it makes a marked increase and then remains quite uniform during the remainder of the season, which extends approximately through the seventh or eighth month of lactation.

(d) Time and Manner of Milking.—Variation in time and manner of milking may, as we have seen, profoundly affect the fat in relation to proteins, the percentage of proteins remaining fairly constant, while the fat may vary greatly. It remains now to see whether such variation of conditions of milking affects at all the relation of casein to albumin. The data in the tables following are derived from Tables V, VI, VII, and VIII.

(i) Morning's and Evening's Milk.—The following data are given as a mere illustration:

TABLE XVII. RELATION OF CASEIN TO ALBUMIN IN MORNING'S AND EVENING'S MILK.

Date	Proteins, per cent.	Casein, per cent.	Albumin, per cent.	Parts of casein for 1 part of albumin	Albumin : Casein	Percentage of total proteins in form of casein	Percentage of total proteins in form of albumin
Dec. 13th, a. m.	3.10	2.20	0.90	1:4.1	80.4	19.6	
Dec. 13th, p. m.	3.25	2.45	0.80	1:4.2	80.0	19.1	
Dec. 20th, a. m.	3.11	2.20	0.91	1:4.2	80.0	19.1	
Dec. 20th, p. m.	3.03	2.19	0.84	1:4.3	81.2	18.8	
Dec. 28th, a. m.	3.21	2.51	0.70	1:4.1	80.8	19.2	
Dec. 28th, p. m.	3.08	2.30	0.78	1:4.1	80.9	19.1	
Jan. 4th, a. m.	3.47	2.85	0.62	1:4.1	80.6	19.4	
Jan. 4th, p. m.	3.58	2.85	0.73	1:4.1	80.0	20.0	

These data indicate that there may be quite marked variation in the relation of casein to albumin in the milk of morning and evening in the case of the milk of the same animal.

(2) Fractional Milkings of Whole Udder.—We have previously seen that the percentage of fat varies greatly in different portions of milk drawn from the same udder, while the total proteins remain fairly constant. Below we present data to illustrate to what extent the casein and albumin may vary relatively under such conditions.

TABLE XVIII. RELATION OF CASEIN TO ALBUMIN IN DIFFERENT FRACTIONS OF MILKING.

Fraction drawn	Proteins, per cent.	Casein, per cent.	Albumin, per cent.	Parts of casein for 1 part of albumin	Albumin : Casein	Percentage of total proteins in form of casein	Percentage of total proteins in form of albumin
First	3.29	2.67	0.62	1:4.3	81.1	18.9	
Second	3.21	2.57	0.64	1:4.0	80.0	20.0	
Third	3.10	2.49	0.61	1:4.1	80.3	19.7	
Fourth	2.97	2.39	0.58	1:4.1	80.5	19.5	
Whole milk of same cow	3.12	2.51	0.61	1:4.1	80.4	19.6	

These results indicate that under conditions which may very greatly affect the relation of fat to proteins, the relation of casein to albumin may be influenced very little.

(3) Milking Separately Different Quarters of Udder.—We have previously seen milk from different quarters of the udder vary in fat content, with little change in percentage of proteins.

TABLE XIX. RELATION OF CASEIN TO ALBUMIN IN MILK FROM DIFFERENT QUARTERS OF UDDER.

Quarter of udder	Proteins, per cent.	Casein, per cent.	Albumin, per cent.	Parts of casein for 1 part of albumin	Albumin : Casein	Percentage of total proteins in form of casein	Percentage of total proteins in form of albumin
Left hind quarter	2.97	2.33	0.64	1:4.0	78.4	21.6	
Left forward quarter	2.94	2.32	0.62	1:4.2	78.9	21.1	
Right hind quarter	2.89	2.31	0.58	1:4.0	80.0	20.0	
Right forward quarter	2.90	2.38	0.52	1:4.1	80.4	19.6	

The relation of casein to albumin differs in the right and left halves of the udder, but, in this particular case, is practically constant in the two quarters of each half.

(4) Milking Same Quarter of Udder in Different Orders Relative to Other Quarters.—The data below illustrate variation of the relation of casein to albumin as the result of milking the same quarter of the udder in different orders with reference to the other quarters.

TABLE XX. RELATION OF CASEIN TO ALBUMIN AS INFLUENCED BY MILKING ONE QUARTER OF UDDER IN DIFFERENT ORDERS.

Left forward quarter of udder	Proteins, per cent.	Casein, per cent.	Albumin, per cent.	Parts of casein to 1 part of albumin	Percentage of total proteins in form of casein	Percentage of total proteins in form of albumin
When milked first....	2.88	2.30	0.58	1:4.5	80.0	20.0
When milked second....	3.00	2.40	0.60	1:4.0	80.0	20.0
When milked third....	2.96	2.36	0.60	1:4.0	80.0	20.0
When milked fourth....	2.91	2.35	0.56	1:4.1	80.0	20.0

The results show simply that in this particular case there is some slight variation of casein in relation to albumin in milk when the same quarter of the udder is milked in different order relative to other quarters.

#### Methods for Calculating Total Proteins and Casein in Milk.

While the relation of fat to casein in cow's milk is a variable one, a relation exists in the case of mixed milk which can be utilized in calculating the amount of casein approximately when the per cent. of fat is known. As a result of the writer's study of the milk of each of fifty different herds of cows during one season (May to October, inclusive), a general relation was noticed between the fat and casein content. In general, it was found that when fat in milk increases 1.0 per cent., casein increases 0.4 per cent. This was found to hold quite satisfactorily when applied in case of ordinary herd milk varying in fat content from 3.0 to 4.5 per cent. In milk with less than 3.0 per cent. of fat, the casein content is usually higher in relation to fat than in milk with more than 3.0 per cent. of fat; while in the case of milk containing more than 4.5 per cent. of fat, the ratio of casein to fat is usually somewhat less than in milk containing less than 4.5 per cent. of fat. Starting with milk containing an average of 3 per cent. of fat and a casein content of 2.1 per cent., milk with 4 per cent. of fat was found usually to contain about 2.5 per cent. of casein. On the basis of these observed general relations, the following rule was worked out: From the number representing the per cent. of fat in milk subtract 3, multiply the remainder by 0.4 and to the result add 2.1. Expressed as a formula, we have:

$(F - 3) \times 0.4 + 2.1 = \text{per cent. of casein}$  (F equals number representing the per cent. of fat in milk).

This formula may give somewhat low results in the case of milk produced after the eighth or ninth month of the lactation period, when the casein is usually greater in relation to fat than during the previous stage of the lactation period.

Applied to samples of herd milk, this formula is capable of giving very satisfactory results, as shown by the following data:

TABLE XXI. CASEIN IN MILK, CALCULATED BY THE ABOVE FORMULA, COMPARED WITH ACTUAL CONTENT.

Per cent. fat in milk	Calculated casein, per cent.	Actual casein, per cent.
3.88	2.45	2.45
4.00	2.50	2.50
4.06	2.52	2.52
4.15	2.54	2.54
4.20	2.56	2.56
4.30	2.60	2.60
4.35	2.62	2.62
4.38	2.64	2.64
4.40	2.65	2.65
4.42	2.66	2.66

For ordinary purposes, where strict accuracy is not required, the rule can be used quite satisfactorily when applied to herd milk within the limits specified, and comparatively little commercial milk goes outside of these limits.

This method of ascertaining the amount of casein in cow's milk can be found especially useful in connection with infant feeding in cases where it is desired to know approximately the amount of casein in cow's milk. In connection with the feeding of top milk, the following use can be made of the method: Before the cream is allowed to rise, the milk to be used can be sampled and examined for fat by the Babcock test. From the percentage of fat thus found the amount of casein can be calculated. And very nearly this percentage of casein will be present in the top milk. Then, if the relation of fat to casein in the top milk is desired, the fat can be determined directly by the Babcock test. This simple procedure, involving a fat test of the whole milk before creaming and of the top milk after creaming, will enable the specialist in infant feeding to obtain a control over his work which he cannot otherwise have.

#### Summary.

1. Extent of Data.—The study of the conditions affecting the proportions of fat and proteins in cow's milk, as embodied in the preceding article, is based upon the following data: (1) 300 analyses of the mixed milk of numerous herds, obtained at cheese factories, such as is common in the dairy regions of New York State. (2) 650 analyses of milk of 50 separate herds of cows, covering a period of about six months. (3) Several thousand analyses of milk of individual cows, representing seven different breeds of cows (American Holderness, Ayrshire, Devon, Guernsey, Holstein-Friesian, Jersey, Shorthorn), covering for each individual several lactation periods and an aggregate of about 100 periods of lactation.

2. General Range of Variation in the Percentages of Fat and Proteins in Milk.—(1) In single milkings of individual cows, the fat varied from 2.25 to 9.0 per cent.; the total proteins, from 2.19 to 8.56 per cent.; the casein, from 1.59 to 4.49 per cent.; and the albumin, from 0.31 to 5.32 per cent. The highest percentages are found in the case of cows far along in lactation. (2) In the case of individual herds of cows, such as are common in this State, the fat varied from 2.90 to 5.50 per cent.; the total proteins, from 2.31 to 3.71 per cent.; the casein, from 1.79 to 3.02 per cent.; and the albumin, from 0.41 to 0.97 per cent. (3) In the case of milk consisting of a mixture of the milk of many different herds of cows, the fat varied from 3.04 to 4.00 per cent.; total proteins, from 2.53 to 3.76 per cent.; casein, from 1.93 to 3.00 per cent.; and albumin from 0.47 to 0.88 per cent.

3. Conditions Affecting Variations of Fat and Proteins in Milk.—The following conditions are discussed as those of special prominence in causing variations of percentages of fat and proteins in milk: (1) Individuality; (2) breed; (3) stage of lactation; (4) food; (5) season; (6) time and manner of milking, including fractional milkings, milk from different quarters of udder, and relative order of milking a quarter of udder.



4. Conditions Affecting the Relation of Fat to Total Proteins and to Casein in Milk.—(1) The breeds studied fall into two general groups; in one case, the ratio of fat to proteins is relatively high (Guernsey and Jersey); in the other, relatively lower. Individuals of the same breed may vary considerably in this respect. (2) The ratio of fat to proteins is very uniform through the lactation period, until about the ninth month, when the total proteins increase quite rapidly in relation to fat. The ratio of fat to casein is very uniform throughout the entire period of lactation, there being a slight increase of casein in relation to fat about the ninth month. (3) Variations in composition of milk due to manner of milking affect the fat more or less extensively, but the proteins very little.

5. Conditions Affecting the Relation of Casein to Albumin.—Albumin in milk varies quite widely in relation to casein. The ratio varies (1) with different breeds, (2) with different individuals of the same breed, (3) with time and manner of milking. (4) The relation is quite uniform during the first eight or nine months of lactation, after which the albumin increases relatively more than the casein.

6. Method for Calculating Amount of Casein in Normal Milk.—In the case of herd milk containing 3.00 to 4.50 per cent. of fat, the following formula for calculating the amount of casein has been found to give in most cases quite satisfactory results:

$(F - 3) \times 0.4 + 2.1 = \text{per cent. of casein in milk}$   
(F equals number representing the per cent. of fat in milk).

#### GONORRHOÆAL RHEUMATISM CURED BY SEMINAL VESICULOTOMY.

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In December, 1904, I originated the idea of trying to cure gonorrhœal rheumatism in the male through the employment of the operation I had devised of seminal vesiculotomy, and the first gonorrhœal rheumatic patient I operated upon was at the City Hospital in December, 1904. The result in the first and experimental case was a brilliant success. In February, 1905, I operated upon my second City Hospital case of gonorrhœal rheumatism, the result being a complete cure.

In an article entitled *The Relation of Gonorrhœal Rheumatism to Seminal Vesiculitis and Its Cure by Seminal Vesiculotomy*, published in the *Annals of Surgery*, June, 1905, those two City Hospital cases were reported, together with two other cases from my service at the Postgraduate Hospital, making in all four cures out of the four cases so far operated on. In explanation of my early study of this subject I will quote from my opening remarks in the article just alluded to in the *Annals of Surgery*:

As it was but five months ago, namely, in December, 1904, that the idea occurred to me to try to cure gonorrhœal rheumatism by the operative method I am now reporting, it is only since then that I have been actively investigating these cases from the standpoint of the male subject; and my special clinical study has been to try to determine whether the systemic infection in these cases seemed to enter from any special focus, or from the general mucous surface. I am as a result strongly of the opinion that the systemic infection in the male usually

enters from a special focus, and that that special focus is represented by a seminal vesiculitis. In support of this assertion, I have investigated fifteen cases of gonorrhœal rheumatism in the male. Six of these cases are from my private practice and nine from my practice at the City and Postgraduate Hospitals. In twelve of these the only existing genitourinary lesion was in the seminal vesicles, namely, seminal vesiculitis. In one there was a marked seminal vesiculitis and a subsiding inflammation of the mucous urethral surface. In two, although the seminal vesicles were not free from some involvement, still, the urethral inflammation seemed to be the chief feature. To further prove my contention, I have been able to subject to my operation of seminal vesiculotomy four out of the twelve cases showing seminal vesiculitis to be the only existing genitourinary lesion. By means of this surgical procedure, all systemic absorption from the seminal vesiculitis has been immediately checked and a resolution of the genital lesion has promptly followed. Almost immediately in all these cases the active symptoms of gonorrhœal rheumatism have wholly disappeared.

Up to date, February 1, 1908, I have performed the operation of seminal vesiculotomy one hundred and one times without a death. Out of this number the operation has been undertaken twenty-three times for the relief of gonorrhœal rheumatism.

In all the twenty-three patients the operation has had a profoundly beneficial effect on the rheumatism. All have left the hospital in a well or greatly improved condition. In all these patients there was of course a seminal vesiculitis to account for the focus from which the systemic absorption originated. Out of the twenty-three cases seventeen patients were cured as a direct result of the operation and were well when last seen. Of the remaining six patients, two got well after the operation and remained so till about a year ago, when each of them contracted gonorrhœa afresh. Rheumatic symptoms then reappeared. Both of these patients were then seen but once with moderate rheumatism, after which all trace of them was lost. Two more patients, after leaving the hospital in a very satisfactory condition, immediately resorted to sexual intercourse. The sexual exercise during the convalescent stage from the operation naturally rekindled the seminal vesicles, and there was a relapse of the rheumatism. In both these cases, however, the rheumatism again disappeared after the effects of the premature sexual exercise had passed off, and these patients are now well. Two very chronic cases relapsed, one after being well eight months after operation, and one after being relieved three months. In both these cases there was a recrudescence of the tenderness and inflammation in the seminal vesicles. They were destitute individuals, and probably exposure and poor living were to blame for the relapse.

In the acute bedridden cases the effect of the operation is most marked. In twenty-four to thirty-six hours the pain in the joints disappears, and by the fourth day the swelling. Some stiffness and some atrophy of the muscles are of course left after the rheumatic process has disappeared in these acute cases, requiring massage and passive movement.

In the chronic cases pain disappears in a week or ten days, and at the end of two weeks massage can be prescribed. In the very chronic cases it may take two to three months of massage and exercise to limber up the joints which have been robbed of their function. In fact, one has the same problem in these cases which the surgeon has after resolution from a fracture of long standing. It is well known that in chronic gonorrhœal rheumatism massage and

manipulation make matters worse, whereas in these cases convalescent after seminal vesiculotomy such treatment is beneficial, because there is no longer the systemic absorption of the toxine.

In many of the chronic cases the preceding gonorrhea was so remote an affair that the existing rheumatism had supposedly had no connection with it. In these cases the diagnoses of uric acid, chronic rheumatism allied to the so called inflammatory form, arthritis deformans, gout, neuritis, and neuralgia had been made to account for existing conditions.

The physician or orthopaedic surgeon rather than the genitourinary surgeon had been consulted by most of these sufferers.

One point I have noticed after operation in quite a number of these cases is that in the third week after operation there may be a mild and temporary recrudescence of the rheumatic symptoms, whereas in the two weeks immediately after operation there had been a complete recession of all such symptoms. Such recrudescence, I take it, is due to a somewhat premature closure of the tract of the incision before a complete elimination by drainage of all the toxins has taken place. In all such cases I have been able to demonstrate, by palpation, with the finger tip introduced at the rectum, considerable remaining tenderness and tumefaction in the region of one or both seminal vesicles. By further rest, together with tonics and attention to nutrition, such remaining tenderness and tumefaction will spontaneously disappear in most instances, provided the seminal vesiculotomy has been thoroughly performed. In case there should not be a spontaneous disappearance it may be necessary to open the tract of the wound and reintroduce the drainage tubes, keeping these same reintroduced tubes in place till all question of their necessity has disappeared. I have never found it necessary to reintroduce the drainage tubes in any of my cases of gonorrhoeal rheumatism, although on two or three occasions I have had to do so in connection with my seminal vesiculotomies, undertaken for the relief of other ailments.

During my December, 1907, and January, 1908, service at the City Hospital I have successfully performed seminal vesiculotomy eight times for the cure of gonorrhoeal rheumatism. For the collection of this large amount of material in so short a space of time I am under much obligation to Dr. Mitchell, who was my house surgeon for that period. A brief detail of the histories of these cases is as follows:

CASE I.—H. L., age twenty-two; December, 1907, helpless and bedridden, owing to gonorrhoeal rheumatism involving left leg, hip, and thigh. The symptoms were acute and severe. He had been confined to bed four months following a gonorrhea which he had contracted five months before. There was a marked seminal vesiculitis, but no other genitourinary lesion. Seminal vesiculotomy was performed. In this case there was some bleeding twenty-four hours after the operation, for which the incision was partially reopened and repacked. Following this reopening there was some urinary leakage through the wound. This case now, seven weeks after the operation, is entirely well of all trace of rheumatism. There is a slight stiffened state of the hip, but this is rapidly disappearing as a result of massage and of walking about. The resolution in this case was somewhat tardy, probably due to the repacking of the wound and the temporary urinary leakage. Patient is now ready to be discharged.

CASE II.—P. L., age twenty-three; December, 1907, very acute febrile case of gonorrhoeal rheumatism involving both wrists, left hip and right knee. These joints were

very much swollen and very tender. Patient was in bed and unable to move, and had been suffering from this acute attack about one month. This was his second attack. His first one, which had been very tedious, had been three years ago, following a gonorrhea. Previous to the present attack he had had a urethral discharge, but whether this was a reinfection or relapsing in character was not clear. Examination showed the present lesion to be a seminal vesiculitis. Seminal vesiculotomy was performed, followed by a very quick subsidence of all his rheumatic symptoms. In three days all active evidence of the rheumatism had disappeared. Four weeks after the operation the patient left the hospital to sail for Europe. He was completely well except for a slight stiffness of the right wrist. This was rapidly disappearing as the result of active use of the part.

CASE III.—V. A., forty-five years of age; December, 1907. This patient entered the hospital owing to trouble in connection with his left knee, which he had had apparently for four months. The knee was the seat of a hard, inflammatory tumefaction consisting of an exudation. This exudate had caused complete ankylosis. The joint was tender to deep pressure, and much pain and tenderness resulted when the weight of the body was put on the joint. The patient gave a past history of several gonorrhoeas or relapsing urethral discharges. His sexual function was also impaired. At the time he entered the hospital he felt that he had no gonorrhea or urinary inflammation. Medical and orthopaedic form of treatment had been tried with no beneficial effect, and the patient was transferred to my service. Examination showed that he had a chronic seminal vesiculitis, especially in connection with the right sac, the lower portion of which was enveloped in a sclerous infiltration. Seminal vesiculotomy was performed, the sclerous infiltration cut through, and the sacs freed from adhesions and freely incised. Painful sensations quickly left the joint after the operation, followed more slowly and gradually by a resolution of the hard exudate. With the disappearance of the exudate the joint motion has gradually returned. Now the patient walks about without pain and with much movement in the joint, and this movement is increasing rapidly.

CASE IV.—J. S., thirty years of age. Operated on early in January. Chronic gonorrhoeal rheumatism of eight years' standing. Both knees, hips, spine, and neck were involved. Back was bent, no mobility to spine, and but very little motion to neck. He had been on crutches for a year before operation. Got his first gonorrhea nine years ago and a second attack four years ago. Both seminal vesicles were thickened and embedded in a periseminal vesicular sclerosis. Seminal vesiculotomy was performed five weeks ago. The thickened sclerosed tissue surrounding the seminal vesicles was cut through on each side and the seminal vesicles were freed from surrounding adhesions, after which both sacs were freely incised, packed with gauze, and drainage tubes adjusted. In this case, owing to the chronicity of the lesion, there was no active intraseminal vesicular catarrh, the sac walls being in fact compressed and somewhat atrophic. A few intracellular diplococci were found in a smear taken from the region of the sac cavity. One week after operation patient could move his back and neck quite freely without pain. He is now walking about easily and quickly without crutch or cane. The affected joints are still somewhat stiff and the muscles have not yet recovered wholly from their atony, but those symptoms are rapidly disappearing as the result of massage and exercise.

CASE V.—M. T., December 29, 1907. This case presented an instance of acute gonorrhoeal rheumatism of six weeks' standing. Patient was confined to bed. Both knees and thighs, right wrist, and back were involved. The knees and wrist were very much swollen. Patient was thoroughly helpless and in great pain. He gave a history of gonorrhea eleven years ago, three years ago, and three months ago. The seminal vesicles were markedly sclerosed and evidently recently reinfectured. This was his first attack of rheumatism. Seminal vesiculotomy was performed. Three days after the operation patient was wholly free from pain, and by the end of four days all swelling had disappeared. He could then move his back and legs and wrist without discomfort. In this case at the end of two weeks after the operation there was a slight recrudescence of the pain in

<sup>1</sup> Cases III and IV, reported at the Session of the American Academy of Medicine, Philadelphia, 1908.

the joints due to the premature closing of the outside wound, thus checking all drainage. Before the fourth week, however, this recrudescence had disappeared, leaving the patient in good order and free from his rheumatism.

CASE VI.—J. L., twenty-three years of age; January, 1908. Patient presented a very acute synovitis of the right knee. The joint was greatly distended and there was marked surface redness and tenderness. No movement of the joint was possible. This condition had persisted for six weeks and had been uninfluenced by rest or antirheumatic treatment. Had had gonorrhœa five months before affection in joint appeared. The gonorrhœa had apparently gotten well in three weeks and so had not been connected in a causative way with the following joint involvement. There was no urethral discharge and the urine was clear. Rectal examination, however, showed seminal vesiculitis, the inflammatory involvement being chiefly in connection with the right seminal vesicle. I did not at first wish to operate in this case, being fearful, owing to the rather slight extent of the seminal vesiculitis, lest the operation would fail to relieve the joint. The patient having seen the benefits of the operation in the preceding cases, begged for the operation, and I accordingly performed seminal vesiculotomy. In three days all pain, swelling, and inflammatory evidence had disappeared from the knee. In fact, on inspection the right knee looked exactly as the left. In this case also at the end of two weeks there was a slight and temporary recrudescence of the rheumatism, the right wrist becoming a little stiff. This, however, shortly disappeared, leaving the patient well.

CASE VII.—J. S., age thirty-one; January, 1908. This case was to me one of the most interesting of the series. For three months the man had been unable to move his legs or thighs. He lay perfectly helpless on his back. He had first felt his rheumatism one year before, and from that time it had been gradually getting worse. Two years ago he had had gonorrhœa, but stated that he had gotten wholly over the disease in two months and had never after had occasion to think of it. He had taken all sorts of antirheumatic remedies, and had been treated by orthopædic surgeons, all to no avail. Rectal examination showed a marked old seminal vesiculitis with much periseminal vesicular inflammatory involvement. Seminal vesiculotomy was performed, and in three days he could move his legs and thighs freely. At the end of three weeks, on being let out of bed, he ran about the ward briskly with no discomfort. This was remarkable, as in most such cases the joints are left stiff for a time after the rheumatism has disappeared, necessitating massage.

CASE VIII.—J. S., age twenty-seven years of age; January, 1908. This patient had gonorrhœal rheumatism in both ankles and knees. He was not bedridden, but walked with great difficulty with a stick. Both ankles were somewhat swollen. He had been so affected one month. Two months before he had contracted gonorrhœa. This was apparently his third attack of gonorrhœa. The urethral discharge still persisted at this time. A chronic seminal vesiculitis existed which showed evidence of recent reinfection. Seminal vesiculotomy was performed, followed by a quick disappearance of the rheumatic symptoms. This patient at the time of this report is ready to leave his bed.

Before performing seminal vesiculotomy on any of these patients I have endeavored to exclude tuberculosis as a complicating element through the employment of the Calmette and tuberculin tests. Had these tests in any instance indicated tuberculosis I would have refrained from operation.

From the results obtained in the comparatively large number of cases operated on I now feel that the efficacy of this form of treatment is established.

My preceding articles bearing on seminal vesiculotomy are as follows:

A New Operative Method to Expose the Seminal Vesicles and Prostate for Purposes of Extirpation and Drainage. A Preliminary Report.—*Journal of the American Medical Association*, May 4, 1901.

Operative Surgery Applied to the Seminal Vesicles. A Demonstration of Some New Principles.—*Medical Record*, May 21, 1904.

Seminal Vesiculotomy. The Author's Operation.—*The Post-graduate*, October, 1904.

The Relation of Gonorrhœal Rheumatism to Seminal Vesiculitis and Its Cure by Seminal Vesiculotomy.—*Annals of Surgery*, June, 1905.

A Further Report on the Cure of Gonorrhœal Rheumatism through Seminal Vesiculotomy.—*American Journal of Dermatology and Genitourinary Surgery*, x, No. 3.

A Plea for the Sexual Protection of Young Boys.—*Ibidem*, xi, No. 9.

Operative Cure for a Hitherto Unrelieved Class of Cystitis.—*The American Journal of Urology*, December, 1906.

252 LEXINGTON AVENUE.

## THE KIDNEY IN ACUTE INFECTIONS.\*

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An incomplete list of the diseases with which the kidney may be related in infectious processes would include scarlet fever, typhus and typhoid fevers, malaria, pneumonia, diphtheria, influenza, acute rheumatism ulcerative endocarditis, septicæmia, erysipelas, intense and diffuse erythematæ, small-pox, measles, varicella, parotitis, tonsillitis, meningitis, acute tuberculosis, dysentery, yellow fever, and bubonic plague. It is not possible, in a brief paper, to consider these affections in detail; I can but prepare in some sort a composite picture. And in doing so I must paint with a broad brush.

To begin with, the kidneys are more subject than are some other organs to pathological influences. Because of their anatomical position they must bear an enormous amount of punishment; and they have comparatively little means of effective rebellion. Their texture is unusually intricate and delicate; and therefore so much the more in danger of breaking down under great and undue pressure. When the lungs are diseased they have a fairly large vent through which pathological material may be emitted; an outraged stomach may easily enough empty itself; any abuse of the alimentary tract may be very thoroughly purged away. But the kidneys cannot so easily meet the strains put upon them. They are imbedded in a mass of fat, in a region so shut off that examination of them by the clinician is most difficult and oftentimes impossible. We cannot directly examine them as we can the blood, the larynx, or the bladder; we cannot, in most cases, apply to them the physical tests we use in examining the heart and the lungs. Their only vent is the ureters; the urine which they excrete should and does give us much diagnostic information. Yet we are being surprised and not a little mortified when Cabot and others demonstrate the very wide discrepancy there had been between the diagnoses based upon urinary findings during life and the evidences revealed on the autopsy table.

The function of the kidneys under normal conditions is to eliminate from the blood substances which have been excreted elsewhere throughout the organism in the processes of metabolism. In the infections the products of inflammation are for the most part existent in the blood before they reach the kidneys. In addition to the heavy work of dis-

\*Read in a symposium before the New York Urological Society.



posing of these, these suffer, as must all the others, either from bacterial invasion or from the effects of the toxins evolved by the bacteria. The degree of degeneration or destruction of kidney tissue will also vary according to the biological characteristics of the given specific agency. The tubercle bacillus seems comparatively innocuous with regard to this organ; the streptococcus, on the other hand, works extensive necrotic changes.

The internal secretion of the kidney (which contains the renal juice) should be considered. The field of internal secretions is a new one; and the near future may prove it to be very broad and fertile. The point here is that under abnormal conditions the kidney either does not secrete the renal juice, or the secretion of the latter is modified; and thus the organism suffers from the deprivation of whatever benefits the juice exerts. We are not at all sure in what matter uræmia comes about. The prevailing belief has been that it is due to the retention of excrementitious matters in the blood, which the diseased kidney cannot eliminate. Yet there are many objections to this belief. And von Noorden, though he does not maintain the view, thinks it possible that uræmia really supervenes when this kidney function of internal secretion is held in abeyance. (Nephrectomized dogs died sooner than when the ureters were ligated; the kidney secretion could nevertheless, in the latter case, get into the blood. And the nephrectomized dogs lived longer when renal juice was injected into them.)

The symptomatology of kidney involvement is classic: Chilliness and rigors; pain in the back; fever, sometimes absent, sometimes high, especially in children; a high tension pulse; the aortic second sound accentuated (evidences of a heart hard at work). A dry, pale skin; no sweat; possibly acute uræmia; convulsions sometimes in children; hemorrhagic retinitis and papillitis; puffy eyelids; oedema of the extremities and perhaps of the lungs and the glottis; pleural effusion, possibly dropsy.

The specific gravity of the urine will vary inversely with the quantity passed; generally it is high, in the beginning at least. This fluid is highly colored, from a smoky hue to that of deep porter; it may be bloody. The sediment is abundant; albumin, epithelial, hyaline, renal tube casts and pus cells are to be found. Bacteria may be present. The acidity is high; the urea is at first abundant and later reduced. There may be suppressed or scanty urine. Such, in general terms, are the evidences of a kidney suffering from an acute infection. The symptoms may be very marked, without indicating great danger to the organ; on the other hand grave lesions will result, it would seem, with very few signs to manifest them. In certain infections characteristic things are found: In typhoid fever, for instance, the bacillus may be abundant in the urine, even for years after the attack; the diazo reaction may manifest the disease. In septicæmia pus and necrotic detritus may be forthcoming; on the other hand, there may be extensive necrosis which will not be evident, for the reason that the broken down tissue will find no outlet in the pelvis. A bloody urine is found even in grippe; it is not uncommon even in scarlet fever, smallpox, and yellow fever. We may, from urinary examination, infer pyæmic foci in cranial bones. A diphtheritic

membrane may develop in the pelvis. In acute dysentery the colon bacillus, which ordinarily seems innocuous (except, as Metchnikoff thinks, to hasten senility), may take on virulent properties. Like the typhoid bacillus, it may be found abundantly in the urine.

The pathological changes wrought in the kidney in infectious diseases may be slight and evanescent; or they may be extensive and permanent. The glomeruli become swollen and congested; and thus the circulation in them is obstructed. Detritus extends Bowman's capsule. The nutrition of these most delicate structures is interfered with. Yet the convoluted tubules seem to suffer most, since the tufts eliminate fluids, leaving the tubules to cope with the more concentrated blood which afterward passes through them. In these tubules the epithelial cells suffer granular or fatty degeneration. There may be such interstitial changes as cellular infiltration in and about the parenchymatous structures. The general organ suffers because of retention in the blood current of waste products and the infective material which the affected kidney does not eliminate.

Our ideas of diagnosis in renal disease have of recent years been not a little disturbed. A decade ago Councilman observed that "the chemical and microscopical examination of the urine, important as it is, does not give any sure indication as to the character of the renal lesions." Upon this hint Cabot investigated; Emerson, of Johns Hopkins University, and others also worked upon the same lines. Cabot holds that albumin and casts alone never prove the presence of nephritis; that by their appearance in the urine we can never estimate the anatomical condition of the kidney. Moreover, most estimates of urinary solids, phosphates, chlorides, sulphates, and especially urea, are a waste of time. The most reliable data about the urine are those most quickly obtained—the twenty-four hour quantity, the specific gravity, and the color. The iconoclastic Cabot divides disturbances of renal function into three sorts; renal irritation, renal insufficiency, and nephritis. He submits that the term irritation is vague; it means, no doubt, the equivalent of a mild inflammation. Many things, including fevers, may bring it about; it may be evidenced by albumin, casts, blood, pus, and renal epithelium, just as those things are held to indicate an acute nephritis. But Cabot's distinction is that if these urinary abnormalities disappear in a few days we have simple irritation; and that such a temporary change in the urine is perfectly consistent with normal kidneys, according to autopsy findings. And we should add that urinary examinations should be continued during weeks; that the search for bacteria should not be neglected; and that if the abnormalities persist through a number of weeks the meaning is that pathological changes have supervened in the kidney structure.

In renal insufficiency the kidney cannot excrete the products of nitrogenous metabolism, water, and inorganic salts; the urine is suppressed and visceral phenomena, dropsy and heightened vascular tension leading to cardiac hypertrophy and dilatation supervene. Cabot here likens the heart and the kidney to a team, and he declares that a strong heart will triumphantly help through a badly damaged

kidney. The harm done by a diseased kidney, he declares, will depend upon how well the heart can make up for the damage by increased work. If a fair amount of urine is passed we know that the heart is doing well; when the heart and the kidney are both failing the amount of the urine begins to decrease; and then we have evidences of renal insufficiency. I think, however, it is a mistake to rely too much on the heart in infectious fevers; the effect of bacterial and toxic invasion upon the myocardium (as in diphtheria and gripe), is such that sudden death has during the present season been not at all rare.

In acute nephritis, as in certain chronic forms, we must rely more than formerly on the history, the general condition, and the physical signs of all the organs; and less on urinary findings. It was a mistake to consider the kidney as a thing apart in the economy. Cabot declares that thirteen out of one hundred cases of acute nephritis were recognized first on autopsy; one in four were wrongly diagnosed. Eleven were clinically called acute nephritis; but the autopsies showed no corresponding lesion. Emerson's conclusions were much like Cabot's; they were reached from a consideration of over 1,000 cases, with 500 autopsies.

Osler observes that persons rarely die of the serious diseases which they have suffered during life; terminal infections carry off many incurable cases. Such is certainly the experience in hospital wards. He cites Flexner's analysis of 255 cases of chronic renal and cardiac disease, in which complete bacteriological examinations were made at autopsy; excluding tuberculous infection, 213 gave positive and forty-two negative results. Local intercurrent affections are very common; and the majority of cases of advanced arteriosclerosis and Bright's disease evidence at autopsy such bacteria as the *Streptococcus pyogenes*, the *Staphylococcus aureus*, the *Bacillus proteus*, and the gonococcus. Of eighty-five cases of chronic renal disease in which Flexner found bacteria, thirty-eight exhibited general infections.

In my own desultory experience as a coroner's physician a decade ago, I oftentimes had occasion to wonder how the lives of the subjects examined could have continued so long as they did, notwithstanding the extensive destruction of organic tissue which was revealed. I have understood this a great deal better since I heard Dr. S. J. Meltzer's paper on the Factors of Safety, which he read before the Harvey Society. With regard to the renal function we know that life is lived very comfortably after the surgeon removes one kidney. In animals at least two thirds of both kidneys can be removed without serious detriment to life or to the renal function. Moreover, the average quantity of the urine, as well as the normal quantities of its various constituents, may be greatly reduced without any visible detriment. With regard to human beings Meltzer observes: "For a score of years or more, in many of us the kidney is gradually losing some of its valuable material from one cause or another without any symptom, without a reminder sufficient to spoil our pleasure of life or to hamper our activities. Not until that luxurious surplus is approaching its exhaustion do we get a warning.

But then our work is mostly done and our time limit nearly reached."

I shall not outline the familiar treatment when the kidney is involved in infectious fevers, but shall submit but one observation: We are, or at least we have until recently been advised to direct the drinking of as much water as possible; water in unlimited amounts, "gallons of water. The patient can't get too much of it," the idea being to flush the kidneys and thus wash the debris from their tubes, an idea rather fanciful than scientific. Certainly the patient should drink as much fluid as he desired and as he can comfortably dispose of; but to force fluid upon him in unlimited quantities is certainly a mistake. For thus extra and often unnecessary work is laid upon the kidney and especially upon the heart; no doubt the latter has frequently broken down under such a strain. It were better to ease the labor these organs have to do by diaphoresis and hydrotherapy; we had best put as much of the work as possible upon other emunctories. This consideration should hold, I think, except in extensive erythemata, when the skin cannot perform its functions. It were oftentimes well to complement the drinking of water with proctoclysis; though, of course, this would not materially lessen the cardiac and renal strain.

44 EAST SIXTY-FOURTH STREET.

#### NOTES OF THE JUNGLE PLANT (*COMBRETUM SUNDIACUM*).\*

##### *Exhibit of Cases.*

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The various manifestations of chronic morphine and opium poisoning are conditions so well known that further reference to them is not necessary in calling attention to the antioium plant which has been used with apparent success in the Far East. In passing, however, I should like briefly to allude to the term morphinomania, as commonly used and placed in the same category with dipsomania, which as a disease is almost universally considered incurable. The vast majority of those addicted to morphine would, beyond doubt, discontinue its use promptly were it not for the physical torture which would almost immediately supervene. They use the drug from necessity, not from desire. There are unfortunate cases where neurasthenia or some peculiarity of constitution renders a permanent withdrawal of the drug almost impossible, and to this limited class may be attributed the origin of the term morphinomania, a morbid craving for morphine. In opium smoking, the pipe itself, the lamp, and associations are powerful factors in considering the possibilities of a permanent cure. There are many who, long after they have discontinued the drug, will continue to light each night the small lamp used in preparing the opium for smoking, so that after a few years' use of the drug these are the habits they crave possibly more than the opium itself. A more healthy and humane conception by

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physicians of drug addiction will do much toward eliminating the habit and will turn to legitimate channels the thousands of dollars which now fill the pockets of advertising frauds.

A party of Chinese wood cutters were presumedly the first to discover the properties of the drug which is now used extensively as a cure for the opium smoking habit in the Federated Malay States. The plant is a large climber, with a long woody stem often reaching a height of one hundred or more feet. In the *Materials for a Flora of the Malayan Peninsula* it is described botanically by Lieutenant Colonel Sir George King and is shown to belong to the order *Combretum sundiacum*. Sir George Watt, in a dictionary of the economic products of India, mentions two species of the genus as being used in native Indian medicine, but with no details as to their uses or properties.

In preparing the drug, the branches and leaves are chopped into pieces about one and a half inches in length; after drying, the woody portions are separated from the leaves, and both the bark and the leaves roasted, the leaves to a less extent than the bark. Upon completion of this process the two portions are mixed together again.

The infusion is prepared by taking, for example, ten ounces avoirdupois of the roasted drug and mixing with about four gallons of water. This solution is kept boiling for three hours, being loosely covered to prevent too rapid evaporation. The liquid is then strained and is ready for use. I do not believe that a fixed rule for prescribing can be laid down, but in general the method of administration to an opium smoker would be as follows:

Whatever the daily amount of opium the person habitually smokes, that amount is to be mixed with the infusion. The average allowance would be from sixty to one hundred and twenty grains, although beyond doubt a considerable quantity of the alkaloids are not absorbed into the system of the smoker. If, for example, one hundred and twenty grains had been the daily allowance, then two twenty-five ounce bottles of the infusion A and B are used. Into A is put one hundred and twenty grains of burnt opium (that is prepared the same as if for smoking). From the bottle A one and a half ounces is given to the patient and one and a half ounces from bottle B is put into bottle A. This is repeated each time a dose is taken, usually three times a day. Bottle A maintains its bulk, although continually decreasing in its opium contents until bottle B is exhausted. At the end of this course a second treatment is given, beginning with about one third the initial amount of opium used, and upon completion of this the patient should be cured. With twenty-five ounces in the bottle and one and a half ounces at each dose, there would be about sixteen doses in each bottle. Each dose would represent a decrease of one sixteenth of the total amount of opium left from each succeeding dose up to the seventeenth dose on the sixth day, or until bottle B is exhausted. There would then be no further change to the thirty-second dose, when the entire one hundred and twenty grains would have been taken and the contents of the two bottles exhausted.

The remedy, while not a panacea, seems to offer

the best medium of reduction thus far given to the profession, and while my experiments have been confined solely to the practical demonstration of the plant, I am led to believe that there may be present in the remedy an active ingredient, antiopium in its properties. The burnt opium in gradually decreasing doses certainly plays an important rôle in the treatment, but this alone, or in combination with any other form of medication heretofore known, has been, on the whole, unsatisfactory.

Both physician and patient must work together in harmony, and the suffering incident to the discontinuance of a powerful drug must be mitigated as much as possible, if permanent results are to be obtained.

I wish to acknowledge the great assistance which was given by the Rev. W. E. Horley, of the Methodist Episcopal Mission at Kuala Lumpur, and L. Wray, Esq., I. S. O., whose paper in *The Journal Federated Malay States Museums* has formed the basis of my investigations. The Rev. Mr. Horley writes me that "thousands have been cured, but, alas, many have returned to the drug. Will power and the grace of God are needed in conjunction with the remedy."

CASE I.—Mrs. M. had used the drug continuously for sixteen years, the habit having been acquired at the age of fifteen; the daily amount of opium taken by the patient varied from sixty to one hundred and twenty grains. No other drug or stimulant had been used.

The condition of the patient was critical, melancholia was pronounced, accompanied by a state of mental and physical collapse. Not being acquainted with the action of the new remedy, it was considered best to first improve the general condition of the patient, and a short preliminary treatment under the usual methods was given, during which the daily amount of the drug was somewhat reduced. The remedy was then prepared and administered as follows:

The initial amount of the solution prepared was equivalent to fifty ounces; with twenty-five ounces of this was dissolved one hundred grains of burnt opium; three doses were given a day, about one and one half ounces at each dose, the remaining twenty-five ounces being used to dilute the first solution in like proportion as each dose was taken. The reduction of the opium during the first five days amounted to about one sixteenth of the total amount at each dose. From the fifth to the seventh day the reduction remained constant. During the eighth day the dose

being necessary to relieve headache, accompanied by restlessness and to frequent attacks of sneezing; the distressing gastrointestinal symptoms so often connected with the withdrawal of opium or morphine not occurring during the entire treatment. Improvement in condition on the ninth day being apparent, the initial dose was again resumed and the course completed on the tenth day. The symptoms, however, not having sufficiently abated, a second

the initial amount of opium. The reduction was then continued at the same rate until the patient was free from further inconvenience.

I am indebted to the Rev. W. E. Horley, of the Methodist Episcopal Mission at Kuala Lumpur, and L. Wray, Esq., I. S. O., for the information that Mrs. M. was the first patient to be treated with the new remedy. Mrs. M. was the first patient to be treated with the new remedy, and she was the first patient to be treated with the new remedy. The treatment was given to her as an absolute slave to the habit, having been suffering from it for many years, and she was the first patient to be treated with the new remedy.

CASE II.—Mrs. F. had used the drug for many years, the habit having been acquired at the age of fifteen, and she was the first patient to be treated with the new remedy.



of the treatment with apparent success, but for reasons not clear to me, relapsed, although stoutly denying the same.

CASE III.—Mr. M. first acquired the opium smoking habit in Boston, fourteen years ago. After two years of smoking shifted to morphine subcutaneously, which has since been used continuously in amounts varying from fifteen to sixty grains in twenty-four hours. A preliminary treatment was given and with the intelligent cooperation of the patient, the drug was reduced from fifteen grains subcutaneously to four grains internally. One hundred and twenty grains of burnt opium were then dissolved with twenty-five ounces of the solution and three doses were given a day, following closely the procedure of the first case. Three courses were given and the treatment voluntarily discontinued.<sup>1</sup>

CASE IV.—Mr. H. L. Opium smoking habit of fourteen years' duration. General condition fair for this class of case. Some emaciation and quite marked nervous twitching. Patient used about eighty grains of opium in twenty-four hours. Under a short preliminary treatment the drug was reduced slightly and the general condition somewhat improved. Sixty grains of burnt opium were then dissolved with twenty-five ounces of the solution. Three doses were given a day, one and a half ounces at each dose, with no variation in the regular scale of reduction up to the sixth day. The number and amount of the doses were then voluntarily decreased by the patient and finally discontinued on the twelfth day. During the entire treatment no other drug or stimulant was used. As in the former cases, attention to hygiene and diet were insisted upon.

CASE V.—Mr. E. W. Morphine habit of seven years' duration. Daily amount nine grains internally. Regular toxic symptoms with very pronounced pallor and emaciation. Tonics were given, and with the earnest cooperation of the patient the drug was reduced from nine grains to four grains a day. The treatment was administered as in the previous cases, two courses completing the cure, covering a period of twenty-one days.

CASE VI.—Mr. E. M. Morphine habit of eight years' duration. Daily amount eight grains internally. Condition fair. The regular course of treatment was followed and the drug reduced to two grains in twenty-four hours. Two courses of the treatment completed the cure, which has just been accomplished within the past few days.

124 EAST SIXTEENTH STREET.

## EXTRACTION OF CATARACT IN THE CAPSULE.\*

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If any one supposes that the writer accepted the invitation to present the following paper because he poses as an advocate of the extraction of cataract in the capsule as a routine practice, he wishes to correct the misapprehension at once. He never has done it, and doubts if he ever will, except in cases in which it was plainly indicated in the manner to be brought out below.

It is now thirty years since Pagenstecher advocated the extraction of cataract in the capsule in selected cases, and more recently Major Smith, of Jullundur, India, has done a similar operation as a routine procedure.

The technique of Pagenstecher's operation is as follows: Strict attention to asepsis is given and cocaine is employed. He syringes out the lachrymal canal with a sublimate solution, 1 in 5,000, before the operation, and, being ambidextrous, operates on the right eye with the right hand and on the left eye with the left, standing at the head of the patient.

who is lying in bed. The section is made upwards in the sclerocorneal margin, so that it lies wholly in corneal tissue, with more or less of a conjunctival flap. The position of the section in the cornea favors rapid healing, and the conjunctival flap tends to bring about early closing of the wound. As Pagenstecher says, however, it is of more importance that the section is made with a steady hand and a sharp knife, and that it shall not become infected than that its location is accurately adjusted.

The section should be large enough in each individual case to allow the easy extraction of the lens. When the lens is extracted in the capsule, the section, above all, must not be too small, yet it should never be larger than one third of the corneal circumference. (The writer generally makes the section two fifths of the corneal circumference.) Morgagnian cataracts, of course, slip out through smaller sections. Pagenstecher operates with a small knife, selecting one with the back not too thick. He thinks that a knife with too thick a back bruises the tissues at the points of puncture and counterpuncture, and that this may delay healing and predispose to infection. He uses a Weiss knife with double edge, but admits that it bends easily.

He always does an iridectomy, since the vision is practically the same whether or not there is a coloboma, and he would rather excise the iris than expose a single case to the danger of a prolapse. After freeing the pillars of the coloboma, an attempt is made to expel the lens by making pressure through the lower lid against the cornea below, while the scleral margin of the wound above is gently pressed backwards with the spoon. Sometimes this manoeuvre succeeds in expelling the lens. If it does not, he introduces the spoon rather steeply behind the upper border of the lens; the handle is then depressed and the spoon is gently advanced, but not beyond the posterior pole of the lens. The assistant now makes gentle pressure upon the lower corneal margin with a specially constructed glass spoon or pusher, sliding this upward over the cornea with light continuous pressure, thereby pushing the lens upward into the wound. In this manner the spoon in the operator's hands serves more the purpose of an inclined plane upon which the lens is pushed out, than of a traction instrument; at the same time it holds back the vitreous humor and prevents it from escaping. Only when the zonula is pretty firm and when the lens by moderate pressure from without cannot be entirely delivered should the operator push the spoon further to the lower border of the lens, seize the latter from behind, and extract the cataract, while the assistant makes gentle pressure upon the cornea.

Pagenstecher thinks that when correctly done, in a proper case, it is a more conservative operation than when the capsule is opened and pressure is made upon the globe, expelling the nucleus and removing the cortex.

He flushes the conjunctival sac with a sublimate solution, 1 in 5,000, before and after the operation, covers the eye with sublimate gauze, then with cotton wet in the sublimate solution, and finally with a bandage. When there is chronic conjunctivitis or a recently cured dacryocystitis, he employs a modified "open treatment." He covers the eye with

<sup>1</sup>Mr. M. has reported his own story to the society.  
\*Read, by request, in a Symposium on "Cataract Extraction" before the Section in Ophthalmology of the New York Academy of Medicine.

a moist sublimate compress, which is changed every two hours, or three times a day; at the same time he washes out the eye with the above mentioned solution. Most ophthalmologists have, of course, long since given up the use of sublimate solutions for irrigating the conjunctival sac before and after cataract extraction. I have used for a good many years a sterile normal salt solution.

He has been surprised at the very slight irritation which attends the healing in these cases. When the eye is bandaged he uses a form of coquille, as we do the mask, and as soon as the wound is closed he keeps on the coquille alone. (I myself have found in not a few cases that removal of the bandage within three or four days after the wound has closed, leaving the eye protected simply by the mask, has been followed by a more rapid clearing up of the redness of the eye.)

It may be instructive to bring out the indications for extraction in capsules by briefly referring to one or two cases which have come under my observation.

CASE I.—August 19, 1902, I operated at the New York Eye and Ear Infirmary upon an old lady who had an hypermature cataract in the right eye. Careful examination previously showed that there was no sign of luxation of the lens. When an attempt was made to do a capsulotomy, the cystotome merely pulled the lens bodily after it, but did not lacerate the capsule. At the same time, vitreous presented in the wound. An iridectomy was made, the spoon was introduced, and a large brown lens was extracted with the loss of scarcely any vitreous. The result was excellent, and the patient was discharged in ten days. I thought at the time that the reason for the complication was a dull cystotome, but the same accident happened to me again in a similar case when the cystotome was known to be in perfect order. It was evident that the lens was so hard, its capsule so adherent, and the zonula so atrophied, that the cystotome merely dug into the hard lens and pulled it along after it.

These lenses may not infrequently be removed in the capsule without the introduction of a cystotome or spoon into the eye, and a cautious attempt to do this should generally be made. In several cases I have succeeded in extracting the lens in this manner.

CASE II.—On June 23, 1905, I operated at the New York Eye and Ear Infirmary on the right eye of an adult male for shrunken cataract. After a small section, an unsuccessful attempt was made to express the cataract. I then endeavored to seize it with capsule forceps, but this attempt also failed. A small iridectomy was then done, and pressure and the forceps again failing, I cut through the zonula with a Graefe knife. The spoon was then introduced, and the cataract was extracted after one or two unsuccessful attempts, with the loss of a very little vitreous. The reaction was slight, and the patient was discharged in two weeks with a good result.

These two cases illustrate one of the indications for Pagenstecher's operation, viz., hypermature cataracts. Under hypermature cataracts belong, of course, Morgagnian cataracts, and those that are shrunken and chalky, as in Case II.

CASE III.—On June 30, 1904, I operated at the Infirmary on the left eye of a man. The patient had been suffering for a long time with a cataract which was gradually increasing without rupture. The vision had been long almost extinct. He was a man of middle age, and had been an electric bell without the bell. He would hold this up to his face so that the hammer would come in contact with the bell, when the current in the bell was turned on. This was the "trick sign," and a few competent demonstrators told me that it was quite painful. So far from curing the condition, it appeared to aggravate it in a surprisingly short time, for ten days before he had been able to attend to his business, but now had to be led

to my office. Both lenses were opaque and swollen; he saw fingers at five feet in one eye and at one foot in the other. In addition, the left lens was partially dislocated and there was a tremulous iris. It is easy to imagine the force with which this instrument "massaged" the eye.

Operation.—Left eye. After the section and iridectomy, vitreous presented. I then introduced a wire loop back of the lens and almost lifted it out, but it slipped back. This necessitated a second introduction of the loop, and this time the lens was extracted without the loss of vitreous. His vision with correction was finally 20/15, though on the fifth day I had to cauterize a portion of the wound. The anterior chamber was slow in closing.

This case illustrates another indication for extraction in the capsule, viz., dislocated cataracts, and presentation of vitreous after section or iridectomy. A further indication for the operation, according to Pagenstecher, is furnished by cataracts which have formed in eyes that have had chronic iridochoroiditis with occlusion of the pupil. I have recently, however, operated in such a case satisfactorily with capsulotomy and subsequent needling.

#### Contraindications:

1. Even when from its character a cataract is suitable for this operation, it is contraindicated if, after section and iridectomy, the tension of the vitreous is high or the patient is unruly.

2. In cataracts which have been ripened by Förster's method, it is best not to attempt to extract in the capsule, since the latter is very tightly stretched by the swelling of the lens masses and is apt to rupture if such an attempt is made.

3. Cataracts which have been ripe only a short time, and have ripened quickly, as in the course of a few months, should not be operated on after this method, as the capsule has not attained sufficient strength compared to that of the zonula. These cataracts are swollen, and are said to be in the *stage of imbibition*.

Pagenstecher says he regrets that he cannot operate on all cataracts in this manner, and that the only reason he does not is on account of his conviction that the majority of cases are not suitable for it, inasmuch as the capsule is apt to rupture and part of it remain behind in the eye.

#### Advantages of the Operation:

The vision secured in this manner is permanent, for there is no capsule left behind to subsequently wrinkle and cause deterioration of sight. The pupil is clean, the best possible vision is secured, and a secondary operation is not necessary.

#### Disadvantages:

There can be no doubt that loss of vitreous occurs by this method far more frequently than when the capsule is left behind. Pagenstecher operated on seventy-four cases in which the cataract in one eye was hypermature, and in the other eye simply mature. He extracted the first seventy-four with the capsule and the last seventy-four without the capsule.

In passing, it might be noted that of these seventy-four cases Pagenstecher operated fifty-six times on both eyes at one sitting, on practice with the wisdom of which opinions differ. I have never operated on both eyes at one sitting, and it has always seemed to me that Dr. Knapp's position in reference to this was correct. If we operate on both eyes at the same time, the conditions are alike, and

if there should happen to be a break in our chain of asepsis, and infection should take place, both eyes would be lost—an appalling calamity which every operator seeks to avoid. Moreover, during the treatment, we learn a great many peculiarities of the bodily and mental conditions of our patients, which it is of advantage to know at the second operation. If there are any particular circumstances making it desirable to have the two eyes operated on at about the same time, a good compromise is operate on the second eye a week or two after the successful operation on the first.)

Of the seventy-four cases extracted in the capsule there was loss of vitreous in thirty-nine, or in nearly 53 per cent.; while in the seventy-four cases extracted without the capsule this complication occurred in only five, or 6.5 per cent. While he prefers not to lose vitreous, his experience has led him to look upon such loss in extraction in the capsule as an unimportant complication, attended by no further danger to the eye, so long as strict asepsis is observed. There are few observers, however, who agree with Pagenstecher, that this accident is of such trifling significance.

Ray, of Louisville, read at Atlantic City, in 1907, before the Section in Ophthalmology of the American Medical Association, a paper on The Immediate and Remote Effect of Loss of Vitreous in the Operation for Extraction of Cataract. In this paper he has collated the views of a number of operators of skill and experience upon the question whether loss of vitreous at the time of extraction increases the danger of infection. Most operators consider that the vitreous is a perfect culture for microorganisms, and that the probability of infection is greater when the hyaloid is ruptured and vitreous is lost. Ray concludes that loss of vitreous at the time of extraction adds to the danger of primary infection, this danger being irrespective of the quantity of vitreous lost, but dependent largely on the care used in the preparation of the field of operation.

With this opinion the writer agrees in the main, and considers that it is of the utmost importance to observe the strictest aseptic precautions when vitreous is lost. I confess that I am much relieved when, on changing the dressing, I find everything in a satisfactory condition in a case in which I have lost vitreous.

While most operators consider that loss of vitreous predisposes to subsequent detachment of the retina, it must be admitted that Pagenstecher's results do not support such a view. Out of six hundred extractions in the capsule, done by himself and his brother, he met with only one case of detachment of the retina, and this in a myopic eye with extensive choroiditis and fluid vitreous—surely a most excellent showing, according to any method. Moreover, there is some force in what Pagenstecher says, viz., that, as so often happens, one here confounds cause and effect. If an operator happens to do an extraction with loss of vitreous in one or several eyes in which subsequent detachment occurs, he immediately concludes that the loss of vitreous is the cause of the complication, whereas the real cause lies in certain pathological changes in the eye with predispose to retinal detachment, and

this, together with the fluid vitreous or detachment of the vitreous present, at the same time, causes the loss of vitreous during the operation. Moreover, when this complication occurs, the pillars of the coloboma are much displaced and the coloboma thereby is widened. This does not improve either the cosmetic or visual results.

Another disadvantage attending extraction in the capsule is that the resulting astigmatism is greater.

Rupture of the capsule very seldom happens in the ordinary method of operating or when the extraction in the capsule is limited to those cases in which Pagenstecher considers that it is indicated. In one hundred seventeen cases operated on by him, rupture of the capsule occurred only four times.

#### *Management of Prolapse, or Loss of Vitreous:*

If merely a bulging of the vitreous occurs without any actual loss, Pagenstecher says that this usually returns under the pressure of the lids. Until quite recently my own experience agreed with this observation. Some weeks ago I extracted a hypermature cataract in the capsule with iridectomy. There was a small hernia of the vitreous, but no loss. I bandaged the eye, hoping that the vitreous would return, as I had seen it do before. On account of my own subsequent illness, I did not see the patient again for ten days. A condition had arisen which is well described by Czernak: "After the rupture of the zonula the hyaloid yields and the vitreous bulges forward and presses against the wound, causing it to gape. The iris is thus folded between the lips of the wound and incarcerated, whether or not there has been an iridectomy. The coloboma is thus made surprisingly broader and its pillars can be released only with the greatest difficulty, or not at all." This is exactly what had taken place in this case, and the condition was not at all satisfactory. The wound did not close for fully a month. So that if I had a similar case and still found bulging of the vitreous when I changed the dressing, I should excise it.

When there is actual loss of vitreous, Pagenstecher cuts it off close to the wound with scissors curved on the flat. My own observation has been that when vitreous is excised more follows, so that I have usually left the vitreous tags untouched, and generally at the first or second dressing I have found the wound closed.

Sometimes after the loss of fluid vitreous, sometimes when no vitreous has been lost, the eye collapses and presents what Knapp used to call a "squeezed lemon" appearance. In these cases it is always well to gently inject sterile normal salt solution, so as to restore the shape of the globe and thus bring the edges of the wound into apposition. Knapp reported (in his *Archives*, 1899, p. 308) cases treated in this manner, and Andrews also reported cases treated in a similar manner (Knapp's *Archives*, 1900, p. 50).

The writer has a great deal of respect for the conservatism of Czernak, and agrees with his conclusions as to the value of Pagenstecher's work. Czernak says: "In these cases an accurate diagnosis is of the first importance, as Becker has already emphasized in his work on *The Pathology of the Lens System*. But it is in just this direction



that the untiring work of Pagenstecher has accomplished so much. Where he has succeeded in establishing the diagnosis as to the nature of the cataract and its appendages to such a degree of accuracy that of 117 cases extracted with the capsule, the latter ruptured only four times, he has attained as high a degree of accuracy as one could desire. This much we must admit unhesitatingly."

With the operation of Major Smith (routine extraction of all cases in the capsule), the writer has no personal experience, and therefore will refer to it in only a few words. It should be said, however, that the visual result in Major Smith's cases is almost an unknown quantity, for in many instances the patients are discharged in a few days and lost sight of before any accurate visual tests are made. After doing ten of these operations, Cheney, of Boston, an exceptionally skillful operator and astute observer, concludes his report as follows: "While I am inclined to believe that a small per cent. of lenses may, with advantage to the patient, be extracted in the capsule, I shall do very little more pioneer work in attempting to determine the cases best adapted to this operation. There is one sentiment of Major Smith's, in his article in the *Archives of Ophthalmology*, that expresses so admirably my feeling on this subject that, although the application is a very different one, I will take the liberty of quoting it in concluding this paper: 'There is virtue in knowing when to quit and in letting 'well enough' alone.'

46 WEST FIFTY-THIRD STREET.

# REPORT OF A CASE OPERATED ON FOR ADVANCED ECTOPIC GESTATION ASSOCIATED WITH FIBROMYOMATA UTERI.\*

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Operation for the usual case of ectopic gestation offers no special difficulties for the experienced abdominal surgeon. When, however, the gestation develops beyond the third month and the sac becomes adherent to and receives a liberal blood supply from neighboring structures the operation is not only difficult but dangerous, and the patient may succumb before hæmorrhage can be controlled.

In operating on a case of advanced ectopic gestation the surgeon may carry out one of two procedures: 1. To open sac, remove the fœtus, suture the sac to the edge of the abdominal incision, and drain the cavity; or, 2, to make a complete enucleation. Should the surgeon doubt his ability to control the hæmorrhage an enucleation should not be undertaken. While the latter is the more complete surgical procedure, the former is no doubt the safer. In this case complete enucleation was carried out:

CASE. The history of the case is as follows: Mrs. W., aged thirty-seven years, nullipara; began to menstruate at the age of seventeen years. The menstrual periods occurred from twenty-nine to thirty-four days, lasted from five to seven days, and were always painful. On two occasions the intramenstrual period was six weeks, and at those times she supposed she was pregnant. During the last twelve years she had been confined to bed many times

with attacks of pelvic peritonitis. The last menstrual period prior to this illness was in September, 1907. The menstruation beginning on October 20th was scanty, and the period lasted about half the usual time. On the evening of December 20th, after being upon her feet a greater part of the day, she had discomfort in the pelvis and supposed she was about to develop another attack of peritonitis. She started to take a hot douche to relieve the discomfort, and almost immediately after the fluid began to run into the vagina she was seized with agonizing pain across the lower abdomen, became nauseated, and vomited. Two days later I saw the patient in consultation. At that time the pain was dull in character, and there was decided tenderness over the lower abdomen. Upon vaginal examination the pelvis was found filled with a hard conglomerate mass and nothing definite could be made out. Operation was recommended and refused. The following day the patient passed six or seven drops of blood from the vagina. The pain subsided gradually and the patient left her bed about three weeks after the beginning of the attack. From then on, although suffering with some discomfort in the left side of the pelvis, she was able to be up and about the house. In the early morning of March 1, 1908, she was seized with severe pain in the lower abdomen, after which she vomited and had diarrhoea. The following day the temperature was 101° F. and the pulse rate 120 per minute. After this attack of pain she consented to operation and was admitted to the Stetson Hospital the afternoon of March 3d.

Upon admission she had a temperature of 99° F. and a pulse rate of 80 per minute; the lower abdomen was tender, and there was a mass on the left side. Upon vaginal examination a mass was found which filled the pelvis and extended up the left side of the abdomen above the anterior superior spine of the ilium. The pelvic portion of the mass was hard, while the abdominal portion was soft. With the exception of a few drops of blood passed after the beginning of the attack in December, there had been no bleeding from the vagina; at times there was a slight, pinkish leucorrhœal discharge.

Operation was performed under ether anesthesia. When the abdomen was opened it was found that the gestation sac filled the left side of the pelvis and the lower portion of the abdomen, and was almost completely surrounded by adhesions. After placing gauze pads to protect the general peritoneal cavity, the hand was passed gently behind the sac to determine the anatomical relations. Scarcely had the sac been touched when the pelvic and lower abdominal cavities were flooded with blood. The sac was quickly enucleated and brought to the surface, and the portion attached to the left broad ligament clamped, cut, and removed. An attempt was made to temporarily control the bleeding by packing with gauze, but this was not successful until a large vessel, fully as large as any uterine artery I have ever seen, at the fundus of the bladder was ligated. By careful manipulation it was found that the uterus contained many fibroid tumors which were adherent in the bottom of the pelvis and could not be enucleated in the usual manner because the adhesions were very dense, and there was no room to work, as the pelvis was packed with gauze to control the bleeding. The bladder was then pushed down, the broad ligaments were clamped, the uterus was amputated at the internal os, and by making traction upwards on the uterus the fibroids were cut free by scissors and the bleeding points controlled by forceps from below upwards. After the uterus was removed, ligatures were applied and the forceps removed, and the toilet of the pelvis completed as after the ordinary hysterectomy. The bleeding from the omentum and along the edge of the bowel, which had been controlled by gauze pressure, was then controlled by ligatures. A few other bleeding points were then controlled, and the abdomen was closed without drainage.

Although this was a case of abdominal gestation, I believe it originated in the left Fallopian tube and was expelled through the side of the tube probably at the time the patient suffered with the first attack of pain, and that it continued to develop until the time of the operation. Whether the patient became pregnant after the normal menstrual period in September and the fœtus ceased to develop some days

\*Read before the Philadelphia Obstetrical Society, April 10, 1908.

before operation, or whether she became pregnant after the atypical menstruation in October it is impossible to say. It is probable that pregnancy followed the menstrual period in October and advanced until the time of operation. The time from the atypical menstrual period in October until the date of the operation was 137 days, or nearly twenty full weeks. One interesting feature about the specimen is that a portion of the placenta is entirely around the neck of the child.

The gestation sac in this case was attached to the distal end of the left Fallopian tube, the left broad ligament, the fundus of the uterus, and the bladder, the fibroid tumors adherent in the pelvis, the sigmoid and ileum and the great omentum. The of the bladder and from the ileum. An attempt was made to control the bleeding from the ileum by a continuous suture, but the hemorrhage was so profuse that it was necessary to clamp along the edge of the bowel for several inches and then to apply ligatures.

The patient, although badly shocked from the loss of blood, reacted promptly, and with the exception of a phlebitis in the left leg the convalescence was uneventful.

Such an experience teaches but one thing, and that is the value of early operation in all cases of ectopic gestation. The ideal time for operation is before rupture takes place. Unfortunately, the surgeon seldom sees these patients until after rupture has occurred. Had this patient submitted to operation when advised to do so by the family physician, the operation would have been a simple affair, and her life would not have been jeopardized.

1429 SPRUCE STREET.

#### THE BLADDER IN TABES.\*

By J. BENTLEY SQUIER, M. D.,  
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The importance of a thorough appreciation of the rôle which motor or sensory irregularities of the urinary vesical function play in the diagnosis, course, and termination of posterior spinal sclerosis cannot be overestimated. A certain percentage of tabetic patients have their attention directed to disturbances in their urinary function as the primary discomfort. The percentage is not particularly great, but it is sufficiently large to emphasize the fact that the possibility of tabes should be kept in mind in diagnosing any case of unusual functional disturbance of the bladder.

If in eighty per cent. (Starr) of tabetic patients bladder symptoms are present, and in thirty per cent. (Erb) of these they form the initial symptoms, the value of this statement is manifest. Tabes, like the acute infection which is probably its only origin, has been divided, for ease of description, into the stages of paræsthesiæ, of ataxia, and of paralysis. This division, as in dividing syphilis into primary, secondary, and tertiary stages, is misleading, because any symptom or train of symptoms may be the initial one. Thus it is not an uncommon experience for the genitourinary surgeon to have a case of tabes brought to him for diagnosis or treatment where

from the symptoms only an organic bladder or prostatic lesion has been suspected. The distinctive diagnosis being often difficult, this error is easily explained, the difficulty being that even though the patient has tabes he may also have a real local lesion which is in part or wholly responsible for the bladder symptoms and not the cord degeneration. Vice versa, if the cord lesion is present and its presence is not recognized one may inadvertently propose some radical surgical measure for the relief of the urinary symptoms, presumably due to local causes, which are in reality due to a central lesion, thus leaving the patient in a more distressing condition than he would have been if no operation had been performed.

I have recently seen a patient whose prostate was removed for the relief of complete retention of urine, there simply being some enlargement of the prostate present. As the result of the operation the patient was left with complete incontinence, requiring the constant wearing of a urinal, and it was only after operation and the development of other signs of tabes that the spinal cord disease was recognized and the utility of operation recognized.

Two cases which I have already reported (see *New York Medical Journal*, March 16, 1907) were considered to be tabetic until multiple calculi were diagnosed and removed from the bladder with an immediate cessation of the bladder symptoms and lightning pains in the legs, which had been the salient points upon which the diagnosis had been made.

To go further, tabes is not in itself fatal. It renders the patient a chronic invalid, but does not kill. He dies from some intercurrent disease, the most common of which, from the surgical standpoint, are complicating cystitis or pyelonephritis. To guard against these sequelæ makes the knowledge of how to deal with any urinary difficulties occurring in the course of tabes imperative.

Bladder symptoms when present usually present themselves as (a) varying degrees of retention of urine, or (b) varying degrees of incontinence of urine, in accordance with the degree of interference in reception of sensation to the mucous membrane or of the muscle of the bladder. For example, the vesical symptoms may be so slight as to escape the patient's notice, or the patient may have hesitancy in commencing micturition. When the desire to urinate occurs he may be unable to control it, and a few drops may escape before he can reach the toilet. In laughing, coughing, or in sleep there may be slight incontinence, or he may have absolute incontinence, or absolute retention. Any of these symptoms may be wholly due to the central lesion. On the other hand, if infection of the urinary tract takes place from septic instrumentation or autoinoculation, all the other symptoms of cystitis, prostatitis, vesical calculi, and pyelitis may be added. By autoinoculation is meant that condition ever present in tabes of trophic disturbances which renders the patient peculiarly susceptible to infection of the bladder or kidneys. A colon bacillus infection taking place through the lymphatics or from a direct extension through the rectal walls may be the cause of a fatal termination of the disease. This lack of resistance to bacterial invasion is forcibly shown in the fre-

\*Read before the Medical Association of Greater New York.

quency with which perforating ulcer of the foot follows a corn, a bunion, or a boil.

To illustrate I have selected a few cases of tabes which are at present under observation, each of which teaches an important lesson, and each shows different aspects of the manner in which the bladder involvement may present itself.

CASE I.—The first patient, a male, thirty-five years of age, developed his primary symptoms of tabes in August, 1907. The initial symptoms presented themselves in an attack of gastric crisis. After this, with considerable rapidity, stiffness of gait, dizziness when walking, lightning pains in legs, and other classical signs, subjective and objective, developed. He had acquired syphilis when twenty-five years of age. No bladder disturbances developed until a few days ago, when complete retention suddenly took place. At no time during the past eight months in which he had been under observation had there been any bladder disturbance.

CASE II.—The second case, a male, sixty-one years of age, consulted me September last, suffering from complete retention of urine of eight years' duration, requiring the constant use of the catheter. He had been a sufferer from tabes for fifteen years. The bladder symptoms in his case had been slow in their manifestation, commencing with increased difficulty in urination. This became gradually worse until complete inability to void urine took place. During this period of eight years he had had probably a dozen attacks of violent cystitis due to infection from his catheter. He had never been properly instructed in the care of the instrument.

CASE III.—Another patient who has been under observation for the past five years, whose tabes have been present for fifteen years, when first seen was suffering from symptoms due to a large vesical calculus in addition to bladder changes produced by his tabes. Removal of the calculus cleared up most of his bladder symptoms except a little hesitancy and at times a few ounces of residual urine. It has been this patient's custom for the past four or five years to take a number of courses of antisyphilitic treatment two or three times a year. During these periods of treatment he takes large doses of potassium iodide, and at these times his bladder symptoms are always aggravated. The congestion of the mucous membrane of the bladder and urethra caused by the iodide adds just enough extra obstruction so as to interfere with the act of urination, therefore during these courses of treatment he has to make use of the catheter frequently to relieve the hesitancy thus produced.

CASE IV.—The next case shows the symptom of incontinence as the most prominent urinary factor. The patient was attacked with tabes when thirty-six years of age, sixteen years after he had acquired syphilis. The initial symptoms were frequency of urination and ataxic gait. He was compelled to urinate ten to six times at night with more or less incontinence. During the day it was necessary for him to wear a nappy continually. The bladder always contained eight to ten ounces of residual urine.

These cases show the usual ways the bladder symptoms appear. Now the most important question arises, "What can be done for the relief of these distressing conditions?" Tabes is a disease the treatment of which is one of absolute attention to detail, and it is therefore necessary, if one expects any improvement whatsoever, to seek out every factor which may contribute any peripheral irritation to the already degenerated centres. I mean by this that it is not sufficient to simply teach the patient the use of the catheter to relieve the symptoms of retention or the incontinence of overdistention or intercalary incontinence, but it is necessary to go into the care of his urinary apparatus minutely. In examining the patient with tabes in which urinary symptoms are present, one should be absolutely certain that no local lesion of the urinary tract is overlooked. The congenital abnormally tight meatus if

present, should be divided, the possibility of stricture due to gonorrhoea should be considered, chronic congestion of the deep urethra or prostate, or any possible source of peripheral irritation should be inquired into and treated. This is necessary before one can tell how much of the patient's discomfort is due to tabes and how much to contributory irritation from outside sources.

Having eliminated all other pathological conditions which might be present in a tabetic bladder or annexa, the question of treatment resolves itself into a twofold proposition: First, and most vital, to keep the viscus in an absolutely sterile condition; second, to reestablish, by motor reeducation, its lost function. The first proposition is a surgical probability, the second an experimental possibility. In the motor training in ataxia we are often astonished by the amount of improvement which has taken place in many patients when we consider the amount of disturbance of the posterior sensory tracts which must be present. The reason need not concern us. Tabes is at present a necessarily symptomatically treated disease, and we have to be governed accordingly. Therefore, to take up the second possibility of treatment, as soon as the patient shows any hesitancy or incontinence the bladder instruction should begin, the technique of which is simple. After urination a catheter should be passed, the residual urine, if present, drawn, and a measured quantity of a mildly irritating fluid (silver nitrate, 1 in 1,000) injected into the bladder, and the patient required then to make efforts to void it. He should be taught the value of making his efforts of urination at stated times, and always to try to evacuate the bladder to the last drop. Sometimes a stronger solution of silver (grain I or II to the ounce) may be instilled into the prostatic urethra with beneficial results. It will excite a condition of mild vesical tenesmus, thereby stimulating the contractile power of the bladder. The vesical spasm of tabes is best relieved by the passage of a cold sound. If it becomes necessary to put the patient on catheter life no detail in his instruction in sterile catheterization should be overlooked, as upon this may depend the extent of his lease of life.

20 EAST FORTY-SIXTH STREET.

Neue Wege (Modern Ways). Baumbach, the well known German author, has written a drama in three acts, which is published by Friedrich Gutsch, of Karlsruhe. In the play the son, a young graduate of medicine, returns from the university to the home of his father, a well known physician, where he meets his early sweetheart. The young girl falls suddenly ill, and the elder physician, deciding to try a new remedy of his own discovery which he has not yet tested clinically, administers it to her, and she dies. At her death he is made aware for the first time that she was engaged to his son. The son is penetrated with grief over the death of his fiancée, and decides to leave his father's house and in bidding farewell to his father says: "Would you have treated Maria as you did, if you had known she was my affianced wife, your future daughter?"



## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXIV. How do you treat sunstroke? (Closed May 15, 1908.)

LXXV. How do you treat cholera infantum? (Answers due not later than June 15, 1908.)

LXXVI. How do you treat acute articular rheumatism? (Answers due not later than July 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXIII has been awarded to Passed Assistant Surgeon Charles S. Butler, United States Navy, whose article appears below.

### PRIZE QUESTION NO. LXXIII.

#### HOW DO YOU TREAT SEASICKNESS?

By CHARLES S. BUTLER, M. D.,  
United States Navy.

It may be stated at the start that there is no specific for seasickness. The psychic attitude toward a given drug influences so markedly its effect upon the patient in this particular complaint that we find the apparent paradox of a single drug seeming to intensify in one person those symptoms which it relieves in another. Thus it happens that almost every known drug has been tried and recommended in seasickness. Promiscuous drugging in seasickness is pernicious rather than beneficial.

I think that the effort of the physician should be to lead his patient up to the acquirement of an immunity—to use this term in its broad sense—rather than to be content with simply mitigating existing symptoms. No immunity begotten purely of drugs can long endure; it passes with the drug.

Immunity to seasickness is only relative. Under unusual stress of weather the hardiest sailor may fall victim to the complaint. But it should be the earnest desire of every one who goes to sea to acquire such a degree of immunity as will furnish a reasonable return in comfort during the ordinary conditions on the ocean.

Bromides, alcohol, or opium can never give this "something," which, like the knack of swimming, once acquired, lasts for life. What these drugs give is a temporary and imperfect imitation of the real thing. People who are not used to going to sea are wont to forget, amid the unusual surroundings aboard ship, the daily routine which, on shore, gives them the best returns in wellbeing. They lose sight of the fact that to sleep in a stuffy stateroom, to neglect the daily exercise or cold dip, will have exactly the same effect upon them as if they were on

shore. To offset seasickness they need all that well-being and hold on the will which a well regulated routine will give them. It would seem that the quickest way out of seasickness is not by the drug route, but by the immunity route, and to this end I may divide travelers into three classes:

1. Those who naturally have a comparative immunity to the complaint, suffering with slight nausea in the beginning of a sea voyage, which quickly passes off. This class requires no treatment.

2. Those showing more persistent symptoms, psychic (depression of spirits) and cerebral (headache and vertigo), as well as gastrointestinal (anorexia, nausea, vomiting, and constipation), but who, with proper care, ultimately acquire an immunity.

3. Those who can never become used to the oscillation of a ship, however long or often subjected to it.

It is the exception to find an individual who properly belongs in this last class, by far the majority of people falling into one of the first two classes.

It is only to this last class that the usual sedative treatment with bromides, or chloral, or atropine, should be applied, and then only after we are assured that the individual is one of those rare unfortunates. The only thing to do for him is to make him as comfortable as possible, and support his strength until the voyage is completed. How to do this is a matter to decide for each individual case, but generally speaking, a reclining or recumbent position (on deck, whenever possible), an easily digested diet taken at frequent intervals, as much reading as is consistent with pleasure, and the avoidance of sleep until night, will give the best results.

To these general measures special measures as required may be added. The sipping of a sparkling laxative water, well iced, is often beneficial, and, as a general rule, the application of a snug abdominal binder, from chest to hips, will prove of service. In women this, of course, should displace the corset, which does not give proper distribution of the pressure.

To return to the second class, which embraces the great majority: The pathology of seasickness has never been written. To this assertion the multiplicity of hypotheses to explain it attest. Not knowing its cause our treatment then becomes empirical, and hence not ideal. Disregarding personal handicaps, such, for instance, as an already existing gastritis, a naturally torpid liver or other complaint which may predispose one to seasickness, those individuals fare best whose secretions are most active, who early acquire the knack of orientation, and whose dispositions are most optimistic. To aid and encourage these three things in the patient offers the best chance for early acquiring the immunity of which I speak. To this end it is well to have the person, before sailing, if time permits, take a thorough course of catharsis. If the individual knows when he is to sail, it is well to have him take a cholagogue cathartic about a week beforehand, and then keep the bowels in an open condition with some saline cathartic. During this time the diet should be light and largely composed of vegetables. The meal immediately before sailing should be a full one. It is best to leave alcohol entirely alone.

Nothing will so surely precipitate seasickness as a little too much alcohol the night before. So, too, with coffee, tea, and tobacco. The two first named not only tend to constipate, but also disturb the rest and so produce a certain ennui, the very reverse of what should exist at the sailing time. With a good start the battle is half won. During the voyage it is well to avoid coffee, tea, and tobacco until one is assured he can take them without undue detriment. When indulged in they should be taken in the early part of the day, not toward evening. Plenty of sleep and an active condition of the bowels should be the rule throughout the voyage. Sleep during the day should be discouraged. It is calculated to make the regular sleeping hours less refreshing. To promote laxity of the bowels, three measures may be employed in case the individual is inclined to be constive, and such is usually the case with those who are seasick. At night, after turning in, and when drowsiness has come on, administer one of the stomachic and laxative pills containing aolin, strychnine, belladonna, and ipecac, a combination which most manufacturing pharmacists prepare. This usually acts well the following morning, and if administered as directed, is rarely vomited. Or before turning out in the morning have the patient take a glass of a purgative mineral water, and remain quiet for a time. In case these preferred measures should fail, then recourse should be had to enemata. Every traveler should be provided with one of the little soft rubber bulb syringes with a capacity of four to six ounces. By injecting cold water (five ounces) when one arises—a procedure requiring but half a minute—the desired effect will usually be attained by the time the patient is ready to go for his bath.

The next question after guarding the welfare of the gastrointestinal tract is that of orientation. When the novice starts on a voyage, his first pleasurable sensations at the slighter motions of the vessel soon give place to that disagreeable feeling which one experiences in a rapidly descending elevator. Of the several motions of a ship, the one on the thwart-ship's axis (the pitch) is by far the most effective in producing this sensation. This is attributed to the fact that we anticipate the roll, but not the pitch. It seems to me that there is something other than anticipation needed to explain this, for the seasoned sailor can no more anticipate it than the novice, and yet he is not affected by it. He has taught his equilibratory apparatus to disregard it. He goes with the ship and does not resist going where she goes. He is, in a certain sense, passive, whereas the novice keeps his equilibratory apparatus in a constant state of insult by trying to draw back, much as one imagines a man would who was being shoved over a precipice. It is this constant tendency to try and right the ship rather than to be a part of her which must be overcome, and I think when one has accomplished this he has gone far towards becoming a good sailor. To accomplish this is largely a matter of inhibition, and is accomplished by the will. Practice may be acquired in this inhibition by using vigorously one of the old time swings known to us as children. It may be aided by deep inspiration at the time of descent, repeated

regularly until this kind of respiration becomes a habit.

The third element making for immunity, the cheerfulness, is rather contributory than essential. It is difficult to further a determination to resist to the last when one feels that awful goneness at the pit of the stomach, but it is certain that the capacity for optimism aids the will at the time when it most needs it.

*Conclusion:* We may summarize the treatment of seasickness thus: 1. Avoid sources of depression, such as tea, coffee, alcohol, and tobacco.

2. Keep the secretions active.

3. Learn to be a part of the ship.

4. Cultivate a good daily routine as to meals, baths, exercise, etc.

5. Stay on deck and amidships as much as possible.

6. Never take sedatives until compelled to.

7. Cultivate cheerfulness.

*Dr. B. R. O'Reilly, of Toronto, Canada, remarks:*

There is no disease which will tax the "ship surgeon's" resources to such an extent as a severe case of *mal de mer*, for not only has he to deal with the physical manifestations, but added to these are those mental symptoms of apprehension, etc., from which frequently the patient suffers far more than from the nausea and vomiting itself.

Seasickness declares itself in several distinct ways. In my experience none can compare, from the patient's standpoint, with that nervous type showing itself in intense occipital headache, severe spinal neuralgic pains, mental trepidation, etc. (frequently unaccompanied by vomiting), and, although a certain amount of relief may be afforded, these patients can seldom be given any permanent degree of comfort. One can divide cases of *mal de mer* into two classes, for the purpose of laying down certain general rules as to their management, i. e., the "gastric" and "nervous." In the former group we meet with every degree of suffering from simple vomiting unaccompanied by nausea to uncontrollable emesis, with the serious problem, during a long voyage, of the maintenance of nutrition before us.

Prophylaxis may be of great service, especially in this form, and it is here that on the second night before embarking a full dose of calomel, followed the next morning by a saline draught, or large warm water enema, has its place; minor points, such as a cup of hot tea or coffee before rising, abstinence from the time honored tramp before breakfast, a somewhat hasty plain meal, and immediate recourse to a lounge chair on deck, should never be forgotten. Some individuals experience excellent results from a dose of effervescent saline on waking, or a full tumbler of sea water, in the latter case the induced emesis apparently acting as a gastric sedative, and this is the favorite method adopted by Chinese sailors in the Orient.

Occasionally a firm abdominal pad or binder, or a belladonna plaster over the epigastrium, will add not only to the patient's comfort, but in certain individuals may even ward off an expected attack.

The patient should be warmly and comfortably clad, nothing add more to the misery than ensa-

tions of cold. Encourage the sufferers to take a moderate amount of nourishment, the stomach being less impressionable during the process of digestion.

For the relief of nausea uncontrolled by simple remedies such as have been suggested, one must have recourse to more active measures, and foremost among these comes the application of sinapisms to the epigastrium; gastric lavage is often eminently successful, and this opportunity may be used for the introduction of such drugs as bismuth, carbonate, creosote, hydrocyanic acid, or cocaine (in doses of 1/8 grain), into the stomach; drachm doses of glycerin have also been recommended. These having failed, we have still several means at our disposal for relieving the depression, even if we cannot control the active emesis, and it is in these cases that the use of the hypodermatic syringe finds its place. In individuals who know by experience that severe nausea and vomiting are inevitable, a prophylactic injection of 1/100 grain of atropine sulphate combined with 1/50 grain of strychnine sulphate will do much to inhibit its onset. The drug on which I place greatest faith is nitroglycerin, in doses of 1/100 grain, the subjective symptoms of depression frequently being ameliorated, even though vomiting persists.

The use of champagne and the sucking of ice may be allowed, although it is doubtful if much value can be attached to their action, beyond the mental impression they produce, and in the same category I place the use of brown paper over the abdomen and many other similar expedients. Lastly, it may be necessary to relieve thirst with saline injections and employ nutrient enema to support nutrition.

Turning now to the nervous type of the malady, one's advice and procedure as to prophylaxis is similar, but following this a different course of treatment is usually found to be advantageous. Theoretically, the nausea and vomiting being ascribed to a central reflex disturbance (possibly due to an alteration in the normal conditions of the endolymph and perilymph of the semicircular canals), the ætiological factor being the same, one's treatment of the two forms should be similar.

Experience teaches us that it is here the sedatives are of greatest value, and probably none are more useful than the bromides (given in doses of 20 grains every six hours for at least two days before embarking, preferably the strontium salt), or chlorotone in 5 grain gelatin capsules or paraffin wafers, and repeated every four to six hours (it is officially known as trichlorotertiary butyl alcohol, is a crystalline salt, nearly insoluble in water, volatilizes at low temperatures, and should therefore be kept in glass stoppered bottles).

One may, especially in cases of headache and spinal pains, get marked relief from the "coal tar" products, and of these phenalgin (which contains ammonia) is the safest and least depressant, and in my experience is the most reliable. Hyoscine has been used extensively, but cases have been reported in which mania lasting for several days has been the outcome; lastly, and never to be used except in the most extreme forms, comes morphine.

In concluding let me emphasize the fact that, while seasickness is seldom in itself a menace to the life of the patient, it may, and not infrequently does,

precipitate serious complications, such as cerebral hæmorrhage or the rupture of a previously existing gastric ulcer, and that the treatment of even the apparently mild cases should receive more than a passing thought; finally, the future holds out to us the hope that in the "gyroscope" we may find an antidote which will displace entirely our present system of therapeutics, and that ultimately *mal de mer* will be a disease of the past.

Dr. Robert A. Bachmann, of the United States Navy, writes:

If possible the treatment of seasickness should be begun before the attack. A subject of the disease prior to embarking on a voyage should be prepared by dietary regulations and a thorough catharsis two days before. The former means simply a restriction in diet as to quantity, particularly in the reduction of meats and fats, eliminating everything but possibly a small amount of light meat once a day, and the latter is best accomplished by fractional doses of calomel (0.1 grain for ten doses as an average dosage), followed by a Seidlitz powder or magnesium citrate in the morning. Whether the *modus operandi* of the calomel is to increase peristalsis or stimulate the liver, the object—to get rid of as much bile as possible in the intestines—is accomplished.

The day before sailing, small doses of potassium bromide are useful in quieting the vomiting centre as well as the sensibility of the semicircular canals and lessening the irritability of the stomach. Ten grains three times a day are sufficient for this purpose.

The treatment on the ship demands two most important conditions—fresh air and the reclining position. Frequently these accomplish a cure without medication or diet. Senseless advice to "fight it off," not to "give up," but to spite your stomach and eat in the face of nausea or walk around when the semicircular canals should be at repose, is not only bereft of good reasoning, but positively plagues your patient.

With the beginning of rough weather inject atropine sulphate 0.01 grain, and hyoscine sulphate 0.005 grain, every three hours until two or three doses produce dryness of mouth, cessation of nausea, and a desire to sleep.

The patient is placed on deck amidships, where motion is least, in a steamer chair or cot, head on a soft pillow, and well blanketed. The absence of odors, especially of tobacco smoke, is greatly appreciated by your patient. If symptoms of seasickness develop in spite of the treatment, or in late cases, if they do not abate, I add a twenty grain dose of potassium bromide in fruit juice and aerated water, and follow it with ten grain doses every three hours. Women are often benefited by warm applications to the epigastrium and abdomen, and severe cases of retching and vomiting in either sex are improved by this as well as hot applications to the head.

The most delectable nourishments are fruits and fruit juices, light broths, crisp crackers, toast well baked, zwieback, and later the lighter meats, eggs, egg desserts, etc. Champagne, cracked ice, and aerated waters are the best drinks. The sucking of an orange or lemon is pleasant to some. Personal tastes must be considered.



After the patient has improved do not risk a relapse by letting him be too active. Keep him in the open air, reclining, and further his recovery by giving strychnine 1/20 grain three times daily, or five drop doses of tincture of nux vomica in water every three hours. The natural tendency most people have to become constipated at sea is best corrected by a morning dose of fluidextract of cascara sagrada.

The three main considerations to obtain are a normal digestive tract, fresh air, and the reclining position. With these to work on such medication as has been mentioned will hardly fail to give at least relief.

*Dr. Irving Wilson Voorhees, of New York, says:*

At the outset it should be thoroughly understood that this condition is dependent upon no single cause, but upon a variety of causes operating locally to influence the abdominal organs and constitutionally to disturb the equilibrium of the central nervous system. Without going into the alleged causes of *mal de mer* in detail there are two theories which are supported by an overwhelming amount of clinical evidence. The first of these argues that the abdominal organs are pulled in various directions by the swaying of the ship and thus set up a reflex irritation of the sympathetic ganglionic system, with its attendant results; the other avers that there is a disturbance of the pneumogastric nerve, either mechanical, thermal, psychic, or toxic, and that this is responsible for the distressing symptoms. That there is some (but not all) truth in each of these hypotheses is beyond question, but they do not cover the actual conditions in every case, as our therapeutic efforts prove.

Stomach washing and catharsis have proved to be of value in my experience. As soon as nausea begins the stomach is washed with water at 90° F. containing 10 minims of nux vomica, which is continued until the water comes away absolutely clear. Unless the bowels are already very active, physostigmine sulphate, grain 0.01, is given hypodermatically. I prefer this to the use of the internal cathartics, because it acts quickly and does not irritate the mucous coat of the gastrointestinal tract.

Ergot by mouth is useful in a limited number of cases, particularly those of a neurotic type, with congestion of the gastric mucosa. I give to adults 1/4 drachm in a little water every four hours.

The bromides have been in use for years, and are highly recommended by some writers. Personally they have given me poor satisfaction.

Hyoscine, atropine, strychnine. A combination of hyoscine hydrobromide, grain 1/100, atropine sulphate, grain 1/100; and strychnine sulphate, grain 1/60, by hypodermatic injections, not oftener than every four hours, is sometimes useful.

Morphine, atropine, caffeine citrate. This is the best method of controlling obstinate sickness, with which I am familiar. As soon as nausea begins the patient is given an 1/4 grain of morphine with a 1/100 of atropine in 15 drops of sterile water by hypo. If nausea is still present one hour later, give caffeine citrate, grain iv, in 25 drops of sterile water by hypodermatic injection. The atropine should not be repeated within four hours. Occa-

sionally atropine must be given on the following day if the sea is very rough.

*Essentials.*—The patient should make sure before sailing, in so far as possible, that his *nervous and gastrointestinal systems are in prime condition*. This is, of course, impossible with many patients who must sail at once, but the use of phosphoglycerates of lime and soda or the syrup of hypophosphites with strychnine is very helpful when given for one month before sailing.

The patient should be kept in the open air, preferably on deck, lying flat on his back in a swinging hammock. When the port holes are all closed and the patient is tossed about in his berth in a foul atmosphere and surrounded by the noises and odors of other sick people he is not in the best possible environment for an immediate recovery.

A broad belt, extending from nipples to pubes, tightly applied gives much relief. I have seen it help when all other measures accomplished very little.

It is best to abstain from all food and drink. Even water will sometimes start a new attack of vomiting, and if given at all it should be by teaspoon. If the patient is in immediate danger of starvation, one has recourse to rectal enemata.

*Dr. Frederic H. Wilson, of New York, observes:*

In dealing with the affection known as seasickness or *mal de mer*, it is necessary to take into consideration two things, namely, whether the sea trip is to be of long duration, as a transatlantic voyage, or merely a day's outing on a pleasure craft. In either case, prophylaxis is a most important factor in the treatment, but is seldom possible in the latter case. Most patients who anticipate a lengthy voyage are deluged by well meaning friends with various suggestions for eliminating the bugaboo of the trip, varying from sucking a lemon to an almost constant sojourn on deck. The writer uses two courses of treatment, both of which are successful in the majority of cases and which have stood the final test of any treatment by a physician, namely, using them on himself.

The patient who is going on a pleasure excursion, as a short yachting trip, and who comes to me for advice as to how to avoid being seasick, is given, on the evening before sailing, a hypodermatic injection of strychnine hydrochlorate, grain 1/60, and atropine sulphate, grain 1/150. The majority of those who ask for advice are ladies, who are somewhat dubious when the hypodermatic is suggested, and I therefore am frequently obliged to medicate by mouth. On the morning of the journey another dose is given, this time by mouth in all cases, using the strychnine in a dose of grain 1/30, and the atropine, grain 1/100. The patient is advised to refrain from rich food and copious drinking during the day, and freedom from the dreaded nausea is the result in almost all cases.

On the other hand, the treatment for a protracted long voyage is necessarily much more thorough and should cover a longer period of time. The patient is told to take every morning, for five days previous to embarking, a small dose of strychnine. On the afternoon of the day before sailing the patient is given a dose

mel, grain  $1\frac{1}{5}$ , for five doses, followed by another Seidlitz powder on the morning of departure. By this prophylaxis the entire intestinal tract is cleared and the liver put into good functioning condition. The absorption of toxic material from the lower bowel becomes greatly increased by the rolling of a vessel, and the described treatment eliminates a large part of the toxins arising from intestinal putrefaction.

The patient should occupy an "outside" stateroom and keep the window or porthole open as much as possible, especially at night. He should be particularly cautioned to spend as little time as possible in his stateroom or in the cabins. During the first days of the voyage only light meals should be eaten, whether seasick or not, as the appetite, stimulated by the sea air, will invariably cause a voyager to overtax his digestive organs unless strict care is maintained.

A very valuable point is the following: After the first few days the patient will find no inclination to seasickness except on arising. When this occurs he should dress as expeditiously as possible and immediately go on deck instead of to the dining saloon. While in the chair on deck he should have the deck steward serve to him an iced grapefruit, slightly sugared, which should be eaten, together with several pieces of the ice served with it. The lumps of ice should be swallowed whole. The bracing effect of the bitter (cinchona) of the grape fruit is immediately noticeable, and within a few minutes a hearty breakfast can be eaten in the saloon. I have known this routine of treatment to enable the most acute sufferer from *mal de mer* to pass through a nine day voyage, including a two day storm, with no more serious inconvenience than a slight nausea and giddiness on arising in the morning and lasting less than a half hour daily.

(To be concluded.)

## Correspondence.

### LETTER FROM OTTAWA.

*The Forty-first Annual Meeting of the Canadian Medical Association.—The Eighth Annual Meeting of the Canadian Medical Protective Association.—The Second Annual Meeting of the Association of Medical Officers of the Militia of Canada.*

OTTAWA, May 16, 1908.

The forty-first annual meeting of the Canadian Medical Association will be held in the Capitol, Ottawa, on the 9th, 10th, and 11th of June, under the presidency of Dr. F. Montizambert, of Ottawa, director general of public health. Dr. R. W. Powell, of Ottawa, is the chairman of the Committee of Arrangements. Delegates to this meeting will travel from every province in Canada on the standard certificate plan. During the course of the meeting, as usual, the annual meeting of the Canadian Medical Protective Association will take place, when the president of that lusty organization, Dr. R. W. Powell, of Ottawa, will have a splendid report to make. This organization came into existence at the Winnipeg meeting of the Canadian Medical Association in 1901. Every year it has prospered both in numbers and in finance. During that time it has defended a number of its members in suits for alleged malpractice,

and in no instance where it undertook a defense has it been other than successful. Indeed, its power and strength are becoming known to the extent that year by year there are fewer actions of this character all over Canada. The Military Surgeons this year, under the presidency of Dr. George Stirling Ryerson, of Toronto, meet as a section of the Canadian Medical Association. The social side of these meetings promises this year to be more than ordinarily interesting. There are to be a reception at the Ottawa Golf Club, an excursion to Caledonia Springs, an excursion to the Experimental Farm, and a smoking concert, besides numerous private functions. This is the first meeting under the new constitution, and the provincial societies are sending delegates to represent them on the business body of the association, the Executive Council.

The Presidential Address will be given by Dr. F. Montizambert, of Ottawa; the Address in Medicine by Dr. Risien Russell, of London, England; and the Address in Surgery, The Surgical Rights of the Public, by Dr. John C. Munro, of Boston, Mass.

## Therapeutical Notes.

**A Bath for Urticaria.**—In *La Clinique* for May 15th G. Bardet is credited with the following formula for a powder to be added to the bath water in the treatment of urticaria:

B	Potassium carbonate, .....	3iij.
	Sodium carbonate, .....	5ii.
	Sodium borate, .....	3i.
	Pulverized starch, .....	3iiss to 3vij.

M.

After the bath it is recommended to rub the skin lightly with glycerite of starch containing one per cent. of carbolic acid.

**Enema in Intestinal Tuberculosis.**—Soubeyran and Ardin Delteil (*Journal de médecine de Paris*, April 24th) use the following as an enema in the treatment of tuberculosis of the intestines:

B	Methylene blue, .....	gr. i to gr. ii.
	Distilled water, .....	3xvi to 3xxxii.

M.

Or,

B	Naphthol camphor, .....	3ss.
	Yolk of egg, .....	No. i.
	Distilled water, with milk .....	3x.
	Wine of opium, .....	gtt. vi.

M.

[Naphthol camphor consists of a mixture of beta-naphthol, 100 parts, and camphor, 150 parts.]

**Solution of Formaldehyde for the Destruction of Flies and Mosquitoes.**—In the *Archives de médecine et de pharmacie militaires* for April, 1908, M. Delamare, chief of the military wards of the hospital of Saint-Denis, describes a method of destroying flies and mosquitoes in apartments by the use of a ten per cent. solution of commercial formaldehyde. Saucers containing the solution are placed on the window sills and on tables in proximity to the places infested by the flies. The solution is said to be very effective, flies and mosquitoes being arrested and killed in their flight as they pass over the vessels containing it. Saucerfulls of the solu-

tion, placed at the heads of the beds in the hospital wards, protect the patients from attacks. The author had the curiosity to count the number of insects killed, and found that, during the period from August 1 to August 7 the daily average was 4,000 flies. The saucers should be emptied of dead flies and replenished with fresh solution once a day.

**Application for Toothache.**—After the cavity has been thoroughly cleansed and dried, J. O. Hart (*The Virginia Medical Semi-Monthly*, May 22d, 1908) applies the following on a pledget of cotton:

R Chloroform,  
Oil of cloves,  
Creosote, ..... 3i. 5ss.  
Morphine sulphate, ..... ʒi. gr. i.

M.

To reduce periosteal inflammation, the surrounding gums should be painted with equal parts of tincture of iodine and tincture of aconite.

**Injection for Fœtid Bronchitis.**—Rabé (*Journal de médecine de Paris*, April 24th) injects hypodermatically two to four cubic centimetres of the following preparation during the twenty-four hours:

R Guaiacol, ..... gr. lxxv;  
Iodoform, ..... ʒi. gr. xv;  
Sterilized oil, ..... ʒi. gr. i.  
Liquid petrolatum, ..... āā q. s. ad ʒiii.

M.

**Styptic Powder.**—The composition of a styptic powder used by Professor P. G. Unna is as follows:

R Tannic acid,  
Alum, } ..... āā gr. xv.  
Acacia, }  
Rosin, }

The ingredients, finely pulverized, are intimately mixed together.

**Metchnikoff's Mercurial Inunction.**—The ointment employed by Metchnikoff at the Institut Pasteur for the prevention of inoculation by syphilis is composed as follows:

R Calomel, ..... ʒi. gr. i.  
Petrolatum, ..... 10 parts;  
Anhydrous wool fat, ..... 67 parts.

M.

It is important in preparing this ointment to avoid the slightest contamination with water, and care should be taken to insure the use of perfectly anhydrous petrolatum and wool fat.

**Tonic and Reconstructive Cachet.**—The following combination, credited to Milian in *Journal de médecine de Paris*, is said to be useful in weakened conditions marked by alopecia:

R Sodium chloride, ..... gr. xxi.  
Quinine sulphate, ..... gr. iss;  
Calcium glycerophosphate, ..... ʒi. gr. i.

M. ft. cachet i.

Sig.: One cachet twice daily at meal time.

**Gout Treated with Hydrochloric Acid.**—Falkenstein, of Berlin, having observed that the majority of gouty patients suffered from hydrochlorhydria arrived at the conclusion that the gout was the result of trouble with the gastric mucus characterized by an insufficiency of hydrochloric acid, this poverty of the organism in hydrochloric acid preventing the formation of alkali chlorides, and, as a consequence, their elimination by the kidneys. When hydrochloric acid is lacking in the system the alkali enter into combination with the uric acid, and as

urates do not pass through the kidneys, they remain in the blood, where they cause all the troubles with which we are familiar. The internal administration of hydrochloric acid in doses of fifty drops a day favors the elimination of alkalies by the kidneys and so prevents the formation of deposits of urates in the joints. The treatment is said to be well tolerated, and there is reason to hope that recent cases of gout are curable by this method of treatment.

**Hiccough in Children.**—Teaspoonful doses of the following are given at intervals until the hiccough stops:

R Syrup of poppy, ..... 5v;  
Chloroform, ..... ʒi. gr. xx;  
Syrup of peppermint, ..... ʒi. gr. i;  
Oil of sweet almond, ..... ʒi. gr. i.

M.

*Bulletin général de thérapeutique*, April 8, 1908.

**Inhalation for Bronchitis in Children.**—The inhalation three or four times a day of the vapor from a teaspoonful of the following mixture added to a quart of water heated in a teapot or kettle is recommended for the treatment of bronchitis in children:

R Wood creosote, ..... ʒi. gr. i;  
Tincture of benzoin, ..... ʒi. gr. i;  
Oil of turpentine, ..... ʒi. gr. i.

M.

**Intravenous Injections in Infectious Diseases.**—Bacelli, of Rome (*Journal de médecine de Paris*, April 24th), has effected cures in malarial subjects by the intravenous injection of quinine hydrochloride dissolved in physiological salt solution, of the following strength:

R Quinine hydrochloride, ..... gr. x;  
Physiological salt solution, ..... ʒi. gr. xv.

M.

The injection is made preferably with a glass syringe, the part of the body selected being first made aseptic, and if the bend of the arm is chosen as the site of the injection, an elastic band is first applied. It is of the utmost importance to avoid the introduction of bubbles of air in making the injection. Twenty-four hours after fifteen grains of quinine are administered in this way the blood is found to be free from the malarial parasites.

In the treatment of syphilis he uses the following formula:

R Corrosive sublimate, ..... gr. xv;  
Sodium chloride, ..... ʒi. gr. i;  
Distilled water, ..... ʒi. gr. i.

M.

He begins by injecting fifteen minims of this solution, and increases the dose until he reaches a maximum of ten times this quantity as the daily dose. The injections are considered equally serviceable in the treatment of puerperal infection, cerebrospinal meningitis, acute articular rheumatism, and erysipelas.

**Ointment for Psoriasis.**—The following ointment, credited to Safford in *Journal de médecine de Paris*, is applied once a day, bathing being immediately during the treatment:

R Salicylic acid,  
Chrysarobin, ..... ʒi. gr. i;  
Green soap, ..... ʒi. gr. i;  
Petrolatum, ..... ʒi. gr. i.

M.



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NEW YORK, SATURDAY, MAY 30, 1908.

## THE CHAILLE JUBILEE.

"Our fair city of New Orleans has ever been rich in the genius and achievements of her medical faculty," said Dr. Beverley Warner; "Stanford E. Chaillé, doctor of medicine, doctor of laws, doctor—the degree is unknown, the power is acknowledged—doctor of men," said the same speaker; "I have never seen any one so impressive in the classroom or who imparted so much knowledge to his pupils as did Dr. Chaillé," said Dr. Lewis S. McMurtry, of Louisville—all in the course of remarks made in the celebration of Dr. Chaillé's completion of fifty years' service in the Medical Department of Tulane University, held in New Orleans on May 19th. Not one of these saying was vainglorious. New Orleans has indeed borne an exalted part in the progress of American medicine, with Dr. Chaillé as *magna pars*.

From the year 1858 up to the present time Dr. Chaillé has served the Medical Department of Tulane University continuously, one might say, for his absence on military duty, whether in the field or on hospital work, also reflected lustre on the university, and his service has been of the most distinguished order. Universities are getting to recognize more and more that their professors' achievements outside the collegiate precincts redound to their renown, and in centuries yet to come Tulane University will plant Chaillé's name higher and higher on its roll of those by whose benefactions it has profited.

It is eminently fitting that Dr. Chaillé's efforts in the service of Tulane University, in the sanitary interests of Louisiana, for the prestige of American

medicine, and for the glory of our profession all over the world, should be commemorated permanently, and it is the intention on the part of the alumni of the Medical Department and their friends that such a commemoration should take the form of a chair endowed in his name. It is to be hoped and confidently expected that this worthy ambition will speedily be realized. At the celebration Dr. McMurtry was introduced as "a distinguished son of Tulane," and we are sure that he could never wish for a more august denomination. The country waits loyally on the triumph of New Orleans, as shown in the general recognition of Dr. Chaillé's career. His declining years are sure to be devoted to the still further advance of medicine. May they also be hal-  
lowed by repose and by reports of continued high achievements by his successors.

THE MECHANICAL FACTORS IN  
LYMPHOCYTOSIS.

F. Peyton Rous (*Journal of Experimental Medicine*, March) contributes an interesting and important paper on the manner of production of lymphocytosis. He finds, from experiments on dogs, that the lymph of the thoracic duct furnishes a large proportion of the lymphocytes to the circulating blood. The number supplied to the peripheral blood through the thoracic duct in the healthy dog is practically constant from hour to hour, if the physiological conditions remain the same. Muscular activity is the most important altered physiological condition affecting the number of lymphocytes. It is accompanied by a prompt increase in the output of lymphocytes through the thoracic duct. This is shown by an increased number of cells in each cubic millimetre of lymph and by an increased amount of lymph voided through a fistula in the thoracic duct. The number of lymphocytes leaving the thoracic duct may be tripled or quadrupled during a long continued struggle, and following this struggle the output of lymphocytes is less for a short time than it was previous to the exertion.

A lymphagogue, such as glucose, also produces an increased flow of lymph and an increased output of lymphocytes through the thoracic duct. While the number of cells to the cubic millimetre of lymph is often low, the total number of cells transported is large. This fact supports the theory of Ehrlich, that a rapidly appearing lymphocytosis may be produced by the flushing effect of an increased flow of lymph. In comparing the lymphocytosis produced by muscular activity and that due to glucose, it is evident that there is some undetermined factor in addition to the increased flow of lymph to be considered in the former.

## THE EMMANUEL CHURCH MOVEMENT IN BOSTON.

The Emmanuel Church movement in Boston, which has resulted in establishing a clinic for the treatment of functional nervous and mental disorders, under the directorship of an able pastor, Dr. Worcester, has assumed such proportions and been so widely exploited that it behooves the medical profession to pause, take an account of stock, and make a careful survey of its objects and methods before concluding as to its worth. This is especially so as many of the leading physicians, both in Boston and elsewhere, have lent the weight of their influence to the movement, and the earnestness, energy, and convincingness of its founder bid fair to make many proselytes.

The rationale of this movement must be based upon the distinction between mind and body, for it is hardly to be supposed that even so great an enthusiast as Dr. Worcester would presume to deal therapeutically with bodily diseases. Even he would probably hesitate to treat a broken hip or a case of typhoid fever. Aside from the very obvious legal objections to such a course, he specifically disavows any intention of dealing with organic disorders, and the physicians who are associated with the movement carefully exclude such, sending him only the so called functional cases.

The priest-physician is not new; he dates back to the primitive social conditions when disease was supposed to emanate from the gods or from evil spirits, and its treatment was therefore closely wrapped up in the current theology. But for the past two thousand years and more the priest, on the one hand, and the physician, on the other, have been gradually differentiated from this early prototype, and by slow increments of change along the line of development of each have become, biologically speaking, distinct varieties. Incidentally, too, it must not be forgotten that the greatest good that has come to the mentally deranged during this time has come from considering them as sick persons, and not as possessed of evil spirits, that the great advances which have taken place in their care and treatment have taken place under the guidance of medicine and not of theology; although only the shortsighted will forget that it was under the influence of the Church that the large humanitarian movements which culminated in the hospitals for the mentally disordered were conceived and carried into execution.

But we are now confronted with another phase of this same type of humanitarian movement, much more restricted in its general scope than were similar movements in the past centuries. The hospitals for the treatment of the sick of body and mind

have passed over almost entirely into purely medical hands. But there are many sufferers from mild and severe functional derangements that need more than the comfort that religion has heretofore given; it must have a dash of science in it, in the form of psychotherapy. Once again, and largely, we believe, on economic grounds, the priest is called upon to enlarge the scope of his work and take upon himself certain attributes of the physician, thus far, without any preparation, save that natural endowment he possesses for influencing the minds of men through emotional agencies—a not to be derided power, let it be understood, particularly in the application of this special feature of the physician's work.

In this Emmanuel movement the clergy are seeking newer fields, and what more promising than the extension of a field in which they have worked for years, but solely as spiritual advisers and comforters? But the flock, becoming immune to the efforts so unceasingly practised, force their leaders to more practical issues, and they turn doctors. One is tempted to draw an analogy, somewhat distorted though it may be. If the water pipe were leaking, would an electrician be sent for to repair it? Perhaps the electrician might be one of those "handy men" who can do anything, and perhaps he would do a good job on the water pipe. But, on general principles, would it not have been the part of wisdom to send for a plumber? Perhaps Dr. Worcester is one of those "handy men," capable, broad gauged, deep of sympathy, who can turn their hands to any task, shoulder any responsibility. Assume that he is, and he really gives that impression, yet he is a priest, and the priest and the physician are as far apart as the aforementioned plumber and electrician. They are two different types of men, their outlook upon life is from different standpoints, their thoughts travel in different paths, their sympathies, ambitions, and aims are different. It is true that at times their paths may cross, that at points their fields of interest may touch, but the principle is not on that account changed.

And herein lies the crux of the situation. Dr. Worcester is not undertaking a strictly personal work, confined by the four walls of his study; he is at the head of a movement, the sponsor for a doctrine which he proclaims from city to city, and as he goes he invites others to take up the work. Is it inherently any more probable that the priests as a class will be any better able to take up the work of the physicians than the electricians as a class are able to do the work of the plumber? Perhaps Boston is seeking another *John* which, though sweet and innocent looking now, may

grow to be a terrible ogre, demanding its human sacrifice through the length and breadth of the land.

We regret that we already know of many attempts which are being made by clergymen, in different parts of this country, men who are no more able to carry out the ideas of Dr. Worcester, much less understand them, than a journeyman plumber can work out the complicated mathematical calculations of an hydraulic problem. The intricacies of the superior psychical mechanisms which constitute the thought processes are not for the untrained mind of the average clergyman as we now know him.

Whatever results may flow from this movement, one of them, it is to be hoped, will be that of arousing the medical profession to a fuller appreciation of its opportunities and responsibilities. The class of patients to whom the Emmanuel Church appeals want help. They have tried in several quarters to get it and failed. They have sought advice of many physicians to little avail. These people will go where help is offered. They had rather get it from legitimate sources, but if not from them, from such as can be obtained. Let the physician see that he himself is equipped to "deliver the goods." If he is not, he cannot complain if his patient goes elsewhere.

It often takes such side stepping from the conventional as this movement is to emphasize certain situations by providing a new setting. The lesson learned, the reason for the movement ceases, and matters move on again in their old accustomed way. For a time the credulous will be misled, but in the end, let us hope, good will result. The way to this result is, not by opposition—martyrdom is a stimulus to growth, bad as well as good—but by taking up the indicated task and by doing it well fulfilling the highest functions of our calling.

#### THE AMERICAN TETANUS ANTI-TOXINE UNIT.

*The Standardization of Tetanus Antitoxine* is the title of a pamphlet, by Surgeon Milton J. Rosenau and Passed Assistant Surgeon John F. Anderson, of the United States Public Health and Marine Hospital Service, recently issued by the bureau. Of the four methods of measuring the strength of tetanus antitoxine—the German, the French, the Italian, and the American—the authors describe the American as the most satisfactory and the simplest of execution. Its application by legal authorization insures identical antitoxic strength in the products of the five American producing establishments, a condition of prime importance in securing uniform-

ity of prophylactic and curative action. The pamphlet furnishes much interesting information concerning many points connected with tetanus, but a satisfactory abstract of it cannot well be given within the space now at our command. It is a very scholarly production, and we commend it to our readers.

#### THE MILK SUPPLY OF NEW YORK.

The New York City Board of Health has recently announced that hereafter only certain specified terms will be allowed to be used in the local milk traffic, and each term will have a definite meaning. Practically, three grades are recognized—certified, inspected, and ordinary milk. Instead of leaving the definition of the first two terms entirely to the milk commissions of the county medical societies, the board has—wisely, we think—laid down a minimum of requirements to be met. The use of the term "pasteurized" is also regulated by the board, and this, it is to be hoped, will do away with a lot of trading under false pretenses. It is notorious that a great deal of "pasteurized" milk is merely milk several days old heated to 150° F. for several seconds to prevent it from souring. Such milk, however, has frequently been put forward by dealers as something superior because "pasteurized."

The board has also legalized the sale of skimmed milk, but under restrictions. It is generally recognized that skimmed milk possesses considerable nutritive value, and the only objection to its sale is the ease with which deception can be practised, skimmed milk being sold for whole milk or being mixed with whole milk. Berlin recognizes whole milk, half milk, and skimmed milk. It is hard to say just how well this works, even in that city. Certainly the general quality of the Berlin milk is far below that of the milk sold in New York.

#### CHEYNE-STOKES RESPIRATION.

Since the time when Cheyne and Stokes described the peculiar phenomenon which has since gone by their combined names, from patients suffering with fatty degeneration of the heart, much physiological and pathological interest has been taken in this type of breathing, and a gradual modification of the significance to be attached to it has taken place. It is now well known that Cheyne-Stokes respiration is not necessarily a pathological type of breathing. Not only do cold blooded animals show it regularly as a physiological type, but there is present in many mammals under certain normal conditions a type of respiration which cannot be distinguished from the Cheyne-Stokes respiration known to the clinician.



This periodic type of breathing is seen in the winter sleep of the marmot, the hedgehog, and the dormouse, and in many mammals, when great diminution of nervous excitability takes place, typical Cheyne-Stokes breathing supervenes. In young and healthy sleeping infants a periodic type of breathing of a similar order is frequently observed, and even in many healthy adults Cheyne-Stokes respiration is present in deep sleep. In all these conditions a marked diminution in nervous excitability is naturally present.

The changes in the activity of the respiratory centres have been ascribed to the composition of the blood, and it is to a combination of these two conditions that modern physiologists have attributed the phenomenon. All the cases of Cheyne-Stokes respiration, physiological as well as pathological, are accompanied by a decrease in the excitability of the nervous system. The phenomenon in pathological cases is not characteristic of any particular disease, and it is not necessarily a fatal omen; it is a sign of diminished nervous excitability, and is very frequently associated with a defective supply of arterial blood to the brain. The different phases of Cheyne-Stokes respiration appear to arise in the following manner: The carbon dioxide accumulates and the oxygen diminishes until the depressed nerve cells are stimulated; the first respirations are shallow and inefficient, and, owing to the delay necessary for the renewal of the air in the lungs and the passage of blood from the lungs to the brain, the carbon dioxide still increases and the oxygen decreases. Thus arises the waxing respiration, which culminates in deep dyspnoic breathing; carbon dioxide is removed in great quantities from the blood, and sufficient oxygen is taken in; the stimulation becomes less and less and respiration wanes. Then follows apnoea, due apparently to the absence of sufficient carbon dioxide to excite the respiratory centre. On account of the latency already mentioned, the most arterial blood will reach the medulla at the end of the breathing period, and at the same time the blood pressure will have been raised by the pumping effect of the deep respiration.

### News Items.

**Changes of Address.**—Dr. Matthias Lanckton Foster, to 211 Centre Avenue, New Rochelle, N. Y.; Dr. Edward A. Schumann, to 348 South Fifteenth Street, Philadelphia; Dr. Collier L. Bower, to the Dardinelle, Broad and Locust Streets, Philadelphia.

**The Philadelphia Medical Club** will hold a reception at the Bellevue Stratford Hotel on the evening of June 10th. The guests of honor will be Dr. William L. Ewing of South Bethlehem, Pa., president of the Medical Society of the State of Pennsylvania, and Dr. Albert M. Freeman of Philadelphia, president of the Philadelphia County Medical Society.

**Vacancies in the Medical Corps of the Navy.**—There are fifty-four vacancies in the grade of assistant surgeon in the Navy and sixteen vacancies in the grade of acting assistant surgeon. The board will meet on June 1st for the examination of candidates.

**A Chair in Phthisiotherapy at the Postgraduate.**—A chair in phthisiotherapy has been created at the New York Postgraduate Medical School and Hospital, and Dr. S. Adolphus Knopf, of New York, has been appointed professor of phthisiotherapy to fill the chair.

**Medical Society of Otsego County, N. Y.**—The semi-annual meeting of this society will be held in Cooperstown on Tuesday, June 9th. The programme will include a "symposium" on adenoids and throat tumors, and a general discussion of hyosine, morphine, and cactin in surgery.

**The Lawrence, Mass., Medical Club** held its regular monthly meeting at the residence of Dr. Burnham on the evening of May 25th. The general subject for consideration was scarlet fever, and after the usual half hour talk on miscellaneous medical topics, the discussion was opened by the chairman, Dr. Allen. At the close of the meeting refreshments were served.

**Appointments at Albany Medical College.**—Dr. Andrew McFarlane has been appointed professor of physical diagnosis and medical jurisprudence at this college; Dr. Arthur G. Root has been appointed professor of diseases of throat and nose; and Dr. Leo H. Neumann has been appointed professor of gastroenteric diseases and clinical professor of the theory and practice of medicine.

**The Red Cross to be Taken from Ambulances.**—The Red Cross Society objects to the use of the red cross on city ambulances, on the ground that the society has the exclusive right to the use of the emblem, having copyrighted it in all civilized countries. Consequently the red cross will be removed from all the ambulances of the hospitals, and a green symbol will be used in its place.

**Richmond, Va., Academy of Medicine and Surgery.**—A regular meeting of this academy was held on Tuesday evening, May 26th. Dr. Edward McGuire read a paper on Prolapse of the Ovary, and Dr. J. Shelton Horsley read a paper entitled Technique of Operations on the Mouth and Neck. Dr. Ramon D. Garcin opened the discussion on Dr. McGuire's paper, and Dr. J. W. Henson opened the discussion on Dr. Horsley's paper.

**American Medical Editors' Association.**—The programme for the thirty-ninth annual meeting of this association, which is to be held at the Auditorium Hotel, Chicago, May 30th and June 1st, has just been received. It contains twenty-two papers by well known medical editors, and a list of subjects which will be announced for discussion if time permits. The annual banquet of the society will be held at the hotel on Monday evening, June 1st.

**Personal.**—Dr. John H. McCollum has been appointed professor of contagious diseases at the Harvard Medical School. Dr. McCollum was city physician for Boston for many years and superintendent of the contagious disease department of the Boston City Hospital.

Dr. J. C. Nicholls, of Braddock, Pa.; Dr. W. M. Jones, of Omaha, Neb., and Dr. Robert B. Knight, of Coudersport, Pa., are registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

**Vacancies in the Army Medical Corps.**—Examinations were recently held in various parts of the country of candidates for appointment as assistant surgeon to fill the sixty-eight vacancies now existing in the corps. Seventy-two candidates applied for the examination, sixteen failed to continue, and the papers of the remaining thirty-eight were being examined. Examinations will be held again in October for the same vacancies.

**Philadelphia County Medical Society.**—The Central Branch of this society held a meeting on the evening of Wednesday, May 27th. Mrs. I. B. Oakley presented a short communication on the plan of establishing "zones of quiet" in the neighborhood of hospitals, and among those who attended were Dr. W. M. Jones, superintendent of the Polyclinic Hospital, and Dr. W. M. Jones, superintendent of the Polyclinic Hospital. Dr. W. N. Bradley read a paper on Diphtheria, and Dr. W. N. Bradley read a paper on Diphtheria.

**A Department of Mechanicotherapeutics at Vanderbilt Clinic.**—As a memorial to her late husband, Mrs. Ray Matshak has given the money necessary to equip a department for surgical mechanicotherapeutics at the Vanderbilt Clinic of the College of Physicians and Surgeons. Columbia will be the first university in the United States to have such an equipment. Dr. Charles H. Jaeger, instructor in orthopaedic surgery at Columbia University, will have charge of the department.

**Officers of the American Neurological Association.**—At the annual meeting of this association, which was held in Philadelphia on May 21st, 22d, and 23d, the following officers were elected: President, Dr. S. Weir Mitchell, of Philadelphia; first vice president, Dr. Pierce Bailey, of New York; second vice president, Dr. F. W. Langdon, of Cincinnati; secretary and treasurer, Dr. Graeme Hammond, of New York; councilors, Dr. H. W. Thomas and Dr. Charles W. Burr, of Philadelphia.

**Alumni Association of Jefferson Medical College.**—The annual meeting of this association will be held in the college building at 12 o'clock on June 6th, and the annual banquet will be given in the ballroom of the Bellevue-Stratford Hotel in the evening of the same day. The balcony of the banquet room has been reserved for ladies. A grand rally of graduates of the college will be held in Chicago during the meeting of the American Medical Association on the evening of June 2d at the new Chicago Automobile Club.

**Samaritan Hospital, Philadelphia, Medical Society.**—At a meeting of this society, which will be held on Saturday evening, May 30th, at 9 p. m., the programme will include the following papers: Ocular Signs of Toxæmia in Diabetes, by Dr. Wendell Reber; The Theory and Application of Bier's Hyperæmic Treatment, by Dr. William A. Steel; A Study in Anæsthetics, and a Demonstration of the Surgical Pathology of the Gallbladder, by Dr. W. Wayne Babcock; Benign Strictures of the Rectum, by Dr. C. Howard Pratt; Report of the Work of the Genito-urinary Department of the Hospital, by Dr. H. G. Fretz; Report of a Year's Work by the Surgical Staff, by Dr. John Leedon.

**Vital Statistics of New York.**—During the week ending May 16, 1908, there were reported to the Department of Health 1,465 deaths from all causes, as compared with 1,471 for the corresponding period in 1907. Of the total number of deaths 762 were in Manhattan, 134 in the Bronx, 475 in Brooklyn, 66 in Queens, and 28 in Richmond. The annual death rate in 1,000 of population was 17.28 for the whole city, 17.62 for Manhattan, 19.47 for the Bronx, 18.12 for Brooklyn, 16.77 for Queens, and 19.37 for Richmond. The total infant mortality for the week was 384; under one year of age, 300; between one and two years of age, 84. There were 143 still births. There were 406 marriages recorded during the week and 2,287 births.

**Scientific Society Meetings in Philadelphia for the Week Ending June 6, 1908:**

**MONDAY, June 1st.**—Philadelphia Academy of Surgery; Biological and Microscopical Section, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society.

**WEDNESDAY, June 3d.**—College of Physicians; Association of Clinical Assistants, Wills Hospital.

**THURSDAY, June 4th.**—Obstetrical Society; Section Meeting, Franklin Institute; Germantown Branch, Philadelphia County Medical Society.

**FRIDAY, June 5th.**—Kensington Branch, Philadelphia County Medical Society.

**New York Academy of Medicine.**—At a stated meeting of the academy, which was held on Thursday evening, May 21st, the following papers were read: The Hospital and the Professional Anæsthetist, by Dr. A. T. Bristow; General Anæsthesia on the Basis of the Principle of Adapting the Boiling Point of the Anæsthetic to the Temperature of the Body, by Dr. Willy Meyer; The Anæsthetic at the Hospital for the Ruptured and Crippled, by Dr. Virgil P. Gibney; Anæsthesia at St. Luke's, by Dr. Robert Abbe; The Scope of Local Anæsthesia in General Surgery, by Dr. J. A. Bodine; The Administration of Anæsthetics at Mt. Sinai Hospital, by Dr. Howard Lilienthal; Rectal Anæsthesia at Roosevelt Hospital, by Dr. J. A. Blake and Dr. George E. Brewer; Anæsthesia at the Harlem Hospital, by Dr. William H. Luckett; Anæsthesia at Bellevue Hospital, by Dr. George Woolsey; Nitrous Oxide and

Oxygen as an Anæsthetic Agent, with Notes on the Value of Warming the Vapors of Ether and Chloroform, by Dr. James T. Gwathmey.

**The Mortality of Chicago.**—According to the weekly report of the Department of Health, during the week ending May 16, 1908, there were reported to the department 635 deaths from all causes, as compared with 531 for the preceding week, and 707 for the corresponding period in 1907. The annual death rate, in an estimated population of 2,166,055, was 15.29 in 1,000 of population. The principal causes of death were: Apoplexy, 23; Bright's disease, 42; bronchitis, 18; consumption, 63; cancer, 42; convulsions, 8; diphtheria, 3; heart diseases, 57; influenza, 5; intestinal diseases, acute, 35; measles, 5; nervous diseases, 10; pneumonia, 74; scarlet fever, 10; smallpox, 0; suicide, 8; typhoid fever, 11; violence (other than suicide), 46; whooping cough, 8; all other causes, 158.

**Secretaries of Sections of the Fifth Pan-American Medical Congress.**—Secretaries for the United States of the various sections of this congress, which is to be held in Guatemala City, Guatemala, on August 5th to 10th, inclusive, have been appointed as follows: General Medicine, Dr. Judson Daland, of Philadelphia; General Surgery, Dr. Emmett Rixford, of San Francisco; Hygiene, Demography, and Epidemiology, Dr. T. Darlington, of New York; Nervous and Mental Diseases, Dr. Charles Hughes, of St. Louis, Mo.; Tropical Medicine, Dr. John M. Swan, of Philadelphia; Military Sanitation, Dr. L. L. Seaman, of New York; Ophthalmology, Dr. Bert Ellis, of Los Angeles, Cal.; Nose, Throat, and Ear, Dr. W. S. Bryant, of New York; Pathology and Bacteriology, Dr. Walter Chase, of Boston; Gynecology, Abdominal Surgery, and Obstetrics, Dr. H. P. Newman, of Chicago; Children's Diseases, Dr. C. G. Kerley, of New York.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 23, 1908:*

	—May 16th— Cases.	Deaths.	—May 23— Cases.	Deaths.
Tuberculosis pulmonalis	413	158	420	201
Diphtheria	409	39	397	37
Measles	1,514	35	1,455	33
Scarlet fever	1,073	41	1,053	40
Smallpox	1	..	..	..
Varicella	134	..	144	..
Typhoid fever	25	6	32	6
Whooping cough	37	4	24	4
Cerebrospinal meningitis	13	11	12	9
Totals	3,768	291	3,637	328

**The Harvey Society.**—At the annual meeting of this society, which was held on Friday evening, May 15th, the following officers were elected: President, Dr. James Ewing; vice president, Dr. Simon Flexner; treasurer, Dr. Edward K. Dunham; secretary, Dr. F. C. Wood; council, Dr. Graham Lusk, Dr. S. J. Meltzer, and Dr. Adolph Meyer. The following resolution was adopted by the society:

*Resolved, That, in the desire of Dr. Graham Lusk not to undertake again the duties of president of the Harvey Society, its members express to him their cordial appreciation of the great value of his services to the medical sciences in this country in founding the society, in successfully administering its affairs during its early growth, and in placing it upon a substantial basis. The place now occupied by it abundantly demonstrates the wisdom of Dr. Lusk in organizing a medium of communication between the laboratory and the medical practitioners; and whatever the society shall accomplish in the future will be due in no small part to the worthy example which he has set.*

**International Congress on Tuberculosis.**—President Roosevelt has accepted the presidency of the International Congress on Tuberculosis, which is to be held in Washington, September 21st to October 12th. Dr. Edward L. Trudeau, of Saranac, N. Y., has been elected honorary president of the congress, and among those who have agreed to serve in the capacity of vice presidents are Vice President Fairbanks, Speaker Cannon, and the Governors of the States of California, Colorado, Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Vermont, Virginia, and West Virginia. The German committee of arrangements for the congress has a membership of over one hundred and fifty, and the names of some of the highest dignitaries in the Empire appear



**Queens-Nassau Medical Society.**—The annual meeting of this society was held in Jamaica, Long Island, on the evening of Saturday, May 23d. It was one of the most successful meetings ever held by the society. There were about eighty members in attendance, and the papers, which were all of a high order, were listened to with much interest. Dr. T. D. Crothers, of Hartford, Conn., read a paper entitled Home and Office Treatment of Spirit and Drug Takers, after which a "symposium" on midwifery was presented as follows: The Conduct of Normal Labor, by Dr. Charles Jewett, of Brooklyn; Eclampsia, by Dr. J. Clifton Edgar, of Manhattan; The Action of Forceps, by Dr. James D. Trask, of Highlands, N. J.; Version—When Shall We Prefer it to Forceps? by Dr. W. G. Frey, of Long Island City; The Art of Pelvimetry, by Dr. Sidney O. Polak, of Manhattan; Cesarean Section, by Dr. John O. Polak, of Brooklyn; Post Partum Plastic Repair, by Dr. Grant Baldwin, of Brooklyn; Morbidity and Mortality in Cases of Labor in Brooklyn, by Dr. J. C. Brainerd. A committee was appointed to receive applications for admittance, and for the coming year the following officers were elected as follows: President, Dr. C. M. Nichols; Vice-President, Dr. P. M. W. Jones; Secretary, Dr. James S. Calkins; Treasurer, Dr. Walter Landay; Librarian, Dr. J. C. Brainerd; Dr. W. G. Frey, of Long Island City; Dr. A. J. Blanchard, of Jamaica; Dr. A. W. Jones, of Brooklyn; Dr. J. T. Carr, of Rockville Centre; and Dr. C. F. Chapman, of Mineola.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

May 21, 1908.

1. Social Legislation in Germany and Its Relation to the Practice of Medicine, By FRIEDRICH MÜLLER.
2. Certain Common Disorders Frequently Misinterpreted, By GEORGE L. WALTON.
3. Medical Notes on Northern Alaska, By S. P. HOWE.
4. Varicose Veins of the Papilla of the Kidney. A Cause for Persistent Hæmaturia, By WILLIAM F. WHITNEY.

3. **Medical Notes on Northern Alaska.**—Howe has spent a year on the north coast of Alaska. He makes some interesting notes: The Eskimo race in Alaska has greatly diminished in numbers in the past twenty years, in a large part because of disease inevitably introduced by the whites. Whether the race will acquire sufficient immunity to withstand this sort of thing time alone will tell. He thinks the outlook for the Eskimo in his natural condition is better than that of the North American Indian, because the Eskimo is industrially valuable to the whites in the extreme north. The Eskimo, while useless for steady day labor, is docile and satisfactory as a hunter and trapper. He makes a good sailor on a whale ship, and is practically necessary to the men engaged in floe whaling. Tuberculosis is the great plague of the country. It was present, so he was told, when white men first came into the country. In summer the patients with pulmonary disease improve markedly while living out of doors, only to relapse again in winter. Venereal disease is less common now than formerly, as the natives come in somewhat less contact with the crews of the whale ships. Very soon after the settlement of Nome an epidemic of measles swept up the coast with frightful mortality. Many who recovered fell victims to pneumonia and phthisis. This epidemic carried off nearly half the inhabitants of some of the villages. A disease, similar to, if not identical with, influenza, is endemic at Point Barrow. Formerly, at the time of childbirth, a woman retired to a separate house or tent to have her child. No one entered the house or offered any assistance. Now, frequently, other women are present, and, if there is any trouble, the help of a white man is welcomed. When twins are born, if it seems feasible, both are raised, if not, one is exposed to die. The natives are sorry to do it, but take it calmly as a matter of course. A woman nurses her child as long as she is able, or till another child is born. This is rather necessary, as native food is not very satisfactory for weaning a young child. It is not an uncommon thing to see children three and four years old nursing. A large infant mortality, due to improper feeding, makes large families the exception. A child is allowed to eat anything its parents do. Abortion is occasionally practised, by means of violent abdominal massage, but is not common, as, generally speaking, children are desirable assets. The staple food of the coast Eskimo is seal meat, summer and winter, though whale, deer, bear, fish, and ducks are important in their seasons. Though the primitive Eskimo diet was almost entirely ani-

mal, at present most reasonably prosperous natives get considerable tea, flour, sugar, and tobacco. In fact, the children suffer considerably if deprived of flour and sugar now.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 25, 1908.

1. The Prevalence of Cancer in the Philippine Islands, By F. W. DUDLEY.
2. The Cause of Milksickness or Trembles, By EDWIN O. JORDAN and N. M. HARRIS.
3. Surgery of the Prostate. A Plea for Early Prostatectomy in Hypertrophy of the Prostate, By MILES F. PORTER.
4. Hypertrophy of the Synovial Fringes of the Knee Joint, By EDVILE GERHARDT ABBOTT.
5. Hip Joint Tuberculosis: Its Earlier Symptoms and Treatment, By WILLIAM THOMPSON BERRY.
6. Serum Treatment of Gonorrhœa, with Report of Cases, By ROBERT H. HERBST.
7. Spinal Sprain: Its Complications and Consequences, with Report of Cases, By PRESCOTT LE BRETON.
8. Are There Valid Objections to the Quinine Prophylaxis of Malaria? By E. R. STITT.
9. Psychic Treatment of Spirit and Drug Neuroses, By T. D. CROTHERS.
10. Pathological Results of Operations on the Turbinates, By FRANCIS R. PACKARD.

1. **The Prevalence of Cancer in the Philippine Islands.**—Dudley concludes from his observations that cancer is not confined to temperate climates. It is believed that cancer exists in the Philippine Islands to a greater extent than in the United States. The measures now being taken in other more enlightened countries to warn the people of the necessity of early diagnosis, and early radical surgical treatment in this disease, should be adopted in the Philippine Islands, where it is of sufficient importance to warrant an effort being made to obtain better statistics in the future.

2. **The Cause of Milksickness or Trembles.**—Jordan and Harris describe a peculiar disease, now all but forgotten both by physicians and the general public, which prevailed extensively in certain sections of the United States during the years of pioneer settlement. This disorder was known under a great variety of names, but was most commonly referred to as milksickness, from its apparent connection with the use of milk and milk products. A singular feature of the disease was its geographic limitation, the States of Ohio, Indiana, Illinois, Kentucky, and Tennessee covering the area chiefly affected. The medical journals of the western States, in the period of from 1840 to 1860, contain numerous articles on the disease, but coincident with the clearing and cultivation of the land milksickness has tended to disappear, and except for its sporadic appearance in certain localities, has become practically extinct in those States in which it was once a barrier to settlement. Cases, however, have occurred in Illinois as recently as 1904, and six deaths were reported from this cause in Macon County, Tennessee, in April and May, 1907. The chief symptoms of the disease are usually persistent nausea and vomiting, which led to the use of the name "sick stomach" in some localities. Obstinate constipation is an almost invariable accompaniment of the malady. A peculiar odor of the breath, usually described as "sweetish," is commonly noted and is regarded as highly characteristic by those having

most experience with the disease. Muscular weakness, abdominal pain, and other symptoms are more or less frequently reported. In the more severe cases great prostration occurs. As a rule, little or no fever is present, and the temperature is said sometimes to be subnormal. The authors discovered, in November, 1907, a new form of milksickness in the valley of the Pecos river, New Mexico; the death of cattle was generally attributed to alkali poisoning. The authors have made many observations and autopsies on cattle and received from local physicians the reports of thirty-eight cases in man. They found a bacillus in cattle which they designated *Bacillus lactimorbi*. It is a little smaller than the anthrax bacillus, larger and more slender than the colon bacillus, and stains unevenly with methylene blue; spore formation was seen, which was similar to the effect of the tetanus bacillus; the organism is motile, is possessed of ten or fifteen flagella, the flagellum measuring about five times the length of the bacillus itself. Some conjectures have been made as to aetiology, but nothing definite can be said.

**6. Serum Treatment in Gonorrhoea.**—Herbst thinks that the serum has absolutely no effect on acute gonorrhoeal infections, whether they exist in the lower urinary tract or in any other part of the body. Its value in subacute and chronic cases is very doubtful, although he found a few isolated cases in which the results were somewhat better than seen with local treatment, but its value in the treatment of chronic gonorrhoeal joints is without question. In the past, these painful joints accompanying and following gonorrhoea have been most resistant to treatment, both local and general, and he thinks that we now have a remedy which will give rapid and permanent relief. The antgonococcus sera used by Herbst were made according to the method described by Rogers and Torrey. Cultures are grown\* for from eighteen to twenty-four hours on large slants of ascitic agar. Culture tubes average one inch in diameter. It is essential to obtain a luxuriant growth. This is best accomplished by planting from an eighteen to twenty-four hour stock culture to medium of the following composition: Meat peptone 2 per cent. agar is prepared in the usual way and triturated 1.5 per cent. acid to phenolphthalein. One part of rich sterile ascetic fluid is then added to two parts of the agar. The full grown uncastrated male sheep (the ram) only is used. In immunizing these animals it has been found advantageous to pursue the following plan: The first inoculation may consist of the twenty-four hour surface growth, from eighteen square inches of solid culture medium, emulsified in about 30 c.c. of normal saline solution and heated for about one half hour at 65° C. In immunizing rabbits and goats, a potent serum was obtained, but it was found that the serum itself is decidedly toxic for some individuals and produced rather alarming reactions; hence, only rams are used. The immunization of the ram requires ten weeks, one injection being given weekly. The animal is bled to death from the carotid and the serum collected, filtered, and tested for sterility. The serum is polyvalent. The method of administration is by subcutaneous injection, the skin being

prepared as for other subcutaneous injections. The abdominal wall was used in all his cases, because the reaction which follows almost every injection is better tolerated in this part of the body. The amount given at each injection varied from 2 to 6 c.c. The injections were given from forty-eight hours to seven days apart, depending on the severity of the reaction. A reaction followed almost every injection, appearing sometimes in the form of a slight urticaria at the site of the injection, at other times in a more severe form accompanied by a dermatitis, enlargement of the inguinal glands, rising of temperature from one to two degrees, and an increase in the pulse rate. Most of these symptoms disappeared in from twenty-four to forty-eight hours. In one case, however, the urticaria and dermatitis extended over the entire body, with a high temperature and rapid pulse, and continued for nearly five days. The absorption of the serum was rapid; the tumor which followed the injection disappeared in about fifteen minutes.

**7. Spinal Sprain.**—Le Breton remarks that rest in bed, with counterirritation to the spine, is effectual in the severe types of sprain. A plaster jacket for several weeks is the most comfortable and rigid splint, to be followed by a removable leather or celluloid jacket. It is most strongly indicated where there is spasm, but also is often indicated where there is only pain on motion, or in cases where there is no pain but where cord symptoms are developing. In neurotic cases a light temporary support acts favorably. There is not the same danger of prolonged stiffness following, such as may result from fixation of a sprained ankle. Massage, exercises, and avoidance of lifting, bending, and riding in cars are in order later on. The support is left off at night, and a small pillow is placed under the small of the back to fix the lumbar curve. For spasm of the neck muscles, head traction in bed, followed by a jacket with a head support, brings prompt results. The injury that originates a true sprain of the spine is more often indirect than direct. In seventeen of his twenty-six cases the cause was a fall on the buttocks, a fall on the feet, prolonged lifting, or a violent wrench of the body, causing sudden flexion of the spine. In nine of the cases the cause was direct violence to the back itself. The site of trouble is more often at the lumbodorsal region than at that other movable section, the lower part of the neck. In nineteen of the cases the lumbar portion of the spine was affected, and in seven the lower cervical. Brush, in a collection of forty-three cases, found the condition located in the lumbar region in thirty-eight of them. The outlook for recovery is much better if the diagnosis is prompt and treatment is instituted early. When fixation by jacket is indicated by great pain or spasm, it is most unwise to defer it. Brush states that in fourteen cases in which the diagnosis was made at once and proper treatment begun, there were eight full recoveries. Whereas in twenty-nine cases with delayed diagnosis and treatment, there were but two recoveries. In general, it is much better to settle an annoying suit rather than to wait for trial, but settlement should be deferred until one can feel sure about the future condition of the patient.

## MEDICAL RECORD.

May 23, 1908.

1. A Clinical Study of a Case of Brain Tumor; Operation; Complete Recovery, By WILLIAM W. GRAVES.
2. Pneumothorax and Posture; the Importance of the Abdominal Posture in Operations on the Pleura and Lungs, By CHARLES A. ELSBERG.
3. A Report of Thirty-one Cases of Congenital Dislocation of the Hip Joint Reduced by Manipulation, By EDVILLE GERHARDT ABBOTT.
4. Sources of Error in Gastric Diagnosis, By CHARLES SUMNER FISCHER.
5. Prevention and Treatment of Cystitis, By PAUL PILCHER.

1. **A Clinical Study of a Case of Brain Tumor.**—Graves observes that brain tumor is usually localizable; therefore, an early and localizing diagnosis is always desirable if complete restoration is to be hoped for. If palliation alone is to be expected, precise localization is not absolutely necessary though always desirable. It may be stated, however, that tumor of the brain giving rise to symptoms indicating palliation will usually present unmistakable localizing symptoms. The presence of brain tumor, its location, its probable nature, and the surgical indications, whether extirpation or mere palliation, are problems the surgeon has a right to expect—the neurologist to attempt to solve. On the other hand, the neurologist expects, and the interest of the patient requires, the surgeon to be possessed of a degree of technical skill commensurate with the difficulties constantly met with in this field of work. The ideal would be a surgeon who is at the same time a neurologist. The difficulties encountered in surgery of the nervous system are so great that it is rapidly becoming, and justly so, a special department of surgery. He who would do this work should have had some special training—not only special technical training, but also in the physiology, anatomy, and pathology of the central nervous system—in other words, he should have given the whole subject his earnest consideration before invading the brain or spinal cord with the same degree of assurance that he would the abdominal cavity. The surgeon and the neurologist are indispensable to each other at the present time in surgery of the nervous system. It is a field wherein they should both work shoulder to shoulder, and when it is tilled with earnestness and mutual consideration, their joint labor can only have the result of saving or prolonging many lives.

2. **Pneumothorax and Posture.**—Elsberg says that the danger of the sudden entrance of air into the normal pleural cavity has, more than anything else, impeded the progress of the surgery of the lung and of the other intrathoracic viscera. There are other dangers, such as that of great susceptibility to infection, but the grave symptoms from acute pneumothorax are those that have to be most considered. Much careful experimental and clinical work has been done to overcome and guard against the dangerous respiratory embarrassment which is apt to ensue. He reports the experiments made by others and by himself. His results were then applied on patients. All of these patients upon whom operations were performed which required the opening of the pleura, were operated upon lying flat on the abdomen. Care was taken that the patients were deeply under the anæsthetic at the moment when

the pleura was opened. Operations on the lateral or posterior aspects of the thorax could be done with ease. The patient was laid flat on the belly with the head turned to one side or supported beyond the end of the operating table so that the anæsthesia could be given without trouble. The position did not interfere with the operator or assistants. In this posture he has operated upon a large number of patients with empyema, upon two patients with abscess of the liver, upon three with subphrenic abscess, and upon one with a bronchiectatic cavity in the left lung. In all of the last named patients the pleura had to be opened. The patients in whom a normal pleura had to be opened showed unusually few untoward symptoms when the opening was made and air was allowed to enter the pleural cavity. In the patients upon whom an operation for empyema was done, it was noted that with only one exception the coughing and interference with breathing, regularly observed when the opening in the pleura is made for this affection, were entirely absent. While these cases are too few to be conclusive, remarks the author, they seem to demonstrate that what is true for dogs is also true in this respect for the human being, and that there are decided advantages in operating upon these patients in the abdominal posture. He believes that those who try this simple procedure will soon appreciate its manifest advantages. It is a very simple method of safeguarding our patients a little more in our intrathoracic operations, and may be used in conjunction with other methods.

## BRITISH MEDICAL JOURNAL.

May 9, 1908.

1. The Diagnosis and Operative Treatment of Diseases of the Stomach, By B. DAWSON.
2. Gastroenterostomy and After, By B. G. A. MOYNIHAN.
3. Erythrocythæmia and Cyanosis, By W. P. HERRINGHAM.
4. The Recognition and Training of Congenital Mental Defectives, By W. A. POTTS.
5. An Outbreak of Beriberi on Board a Merchant Vessel, By S. ROACH.
6. Treatment of Bronchial Catarrh by Alkalies, By A. HAIG.
7. The Influence of Pregnancy upon Certain Medical Diseases and of Certain Medical Diseases upon Pregnancy (Goulstonian Lectures, II), By H. FRENCH.

1. **Surgery of the Stomach.**—Dawson discusses the diagnosis and surgical treatment of various affections of the stomach. In malignant disease of the œsophagus gastrostomy may prolong life, but will prolong misery also. Unless and until there is some definite urgent symptom like thirst calling for relief, the operation should be avoided. In most cases the body is able to obtain enough water and enough nourishment. The operative treatment of cancer of the stomach comprises excision and gastroenterostomy. Where the disease is discovered early enough, the results of excision are promising. Gastroenterostomy does palliate suffering where there is pyloric obstruction, but the immediate mortality is not less than twenty-five per cent., and in prolonging life the suffering is prolonged. Even where an exploratory operation has been done, gastroenterostomy should be advised against unless there is some definite object to be gained. But where the pylorus is obstructed by a hard, circum-



scribed growth, the advantage of providing an exit for the food outweighs the risk. But even then lavage often gives better results. Pain is often not a prominent early feature of cancer; in contrast to this, absence of actual pain in gastric ulcer is almost unknown, and if there is vomiting it follows this pain. Stomach discomfort in an adult over thirty who has previously had a good digestion, and without obvious cause, calls for further investigation, consisting of: (1) Inflation of the stomach with gas to see if it is enlarged or prolapsed; (2) passage of a tube eight hours after an ordinary meal to see if the stomach is empty; (3) analysis of the gastric contents after a test meal; and (4) microscopical examination of the fasting stomach contents. Acute perforation of a gastric ulcer calls for immediate operation. The operative treatment of subacute and chronic ulcer resolves itself into a study of the benefits to be expected from gastroenterostomy. These benefits are: (a) Diminished acidity when the stomach is quiet in the intervals of digestion; (b) the evils of pyloric spasm are eliminated; (c) the intra-gastric pressure is kept lower, and therefore the movements and tension of the stomach wall are less. The diagnosis of gastric ulcer is often made only with the greatest difficulty. Many cases, previously thought to be ulcer, are now recognised not to be ulcer at all. Such cases fall into two main groups. First, the cases of pain and vomiting after food, occurring exclusively in anemic young women. The symptoms improve rapidly when the patients are put to bed, and solid food and iron are tolerated from the first. Another group of cases is called by the writer "hæmorrhagic gastralgia." Here the clinical symptoms are identical with those of ulcer. As regards operation in cases of hæmatemesis, in order to ligate the bleeding points, the writer puts forward an emphatic negative. The operation is necessarily severe, involving traction on the stomach, and this at a time when the patient is exhausted by loss of blood. There may be and often are multiple points of hæmorrhage, and to place sutures around such points is almost futile. Finally, medical treatment of hæmatemesis is successful, and the mortality is but little more than three per cent. In cases of atonic or nonobstructive dilatation of the stomach, gastroenterostomy is rarely necessary or desirable; failure of motor power is usually responsible for non-success. In a few cases where there is marked gastroptosis, with almost kinking of the stomach, gastroenterostomy might conceivably be of service. But medical treatment is usually satisfactory. It should consist of careful dieting to make the work of the stomach as light as possible, of careful massage, of keeping the patient in as good condition as possible, of drugs like strychnine, and of periods of rest on a bed or couch the foot of which is elevated.

2. **Gastroenterostomy.**—Moxon's conclusions are as follows: 1. Gastroenterostomy is a short circuiting operation, and like all such procedures, acts best when a gross mechanical obstruction exists in the normal path of the intestinal contents. 2. Experiment shows that when the pylorus is normal, and there is no impediment to the passage of food through it, the opening made in the operation of gastroenterostomy does not allow of the escape

of any of the gastric contents into the intestine. 3. The operation therefore gives the best results in cases where there is organic disease in the prepyloric or pyloric regions of the stomach or duodenum, or when performed on the cardiac side of a stenosis in the body of the stomach. 4. When an ulcer is found on the lesser curvature toward the cardia it should be excised if possible; gastroenterostomy is not necessary, and if performed is either almost useless or entirely harmful. 5. When there is a suspicion of malignancy in an ulcer or ulcers in the pyloric region, Rodman's operation should be performed. 6. Under no circumstances, and in compliance with no persuasion, however insistent, is gastroenterostomy to be done in the absence of demonstrable organic disease. 7. Regurgitant vomiting, formerly the most troublesome of all complications, is dependent upon faults in the operation which result in some mechanical obstruction to the intestine. These faults are chiefly dependent upon the presence of a "loop" in the jejunum, but may also be caused by a twist in the intestine around its longitudinal axis at the time of its application to the stomach. 8. The posterior no loop operation with the vertical application of the bowel to the stomach is the best procedure.

## LANCET

May 9, 1908.

1. The Influence of Pregnancy upon Certain Medical Diseases and of Certain Medical Diseases upon Pregnancy (Goulstonian Lectures, II), By H. FRENCH.
2. The School and Its Part in the Prevention of Tuberculosis, By J. HAY.
3. The Experimental Production of Gastric Ulceration by Injection of Gastrotoxin, By C. BOLTON.
4. Leprosy: Some Notes on Its Causation, Symptoms, and Treatment, Based on an Experience of 152 Lepers in the Leper Jail of the United Provinces, India, By T. HUNTER.
5. Aortic Aneurysms; Sudden Deaths; The Capacity of the Pericardium, By H. A. SMITH.
6. The Precipitin Reaction in Hydatid Disease, By D. A. WELSH and H. G. CHAPMAN.
7. The Operative Surgery of Labyrinthitis, By C. E. WEST and S. SCOTT.
8. The Nursing Difficulty in France, By J. DARDEL.

1. **Pregnancy in its Relation to Diseases.**—French, in the second of his Goulstonian lectures, considers the influence of suppurative calculous and tuberculous affections of the kidney on pregnancy. He reports one case in which the sequence of events was renal calculi, hydronephroses, pregnancy, microbial infection of the kidneys, pyonephroses, suppurative pyelonephritis, cystitis, uræmia, and death. Tuberculosis of the kidney and pregnancy are practically never associated. As regards nonsuppurative renal affections, it is clear that pregnancy will have a deleterious effect upon the kidneys of women suffering from nephritis, and that such women should not marry. There are two groups of cases in which the renal disease is directly attributable to pregnancy, those in which renal œdema is developed in the middle months and those terminating with œdema. In most cases albumin and tube casts disappear from the urine soon after the pregnancy has terminated. The writer ranges himself with those authorities who regard these kidney changes as pregnancy as essentially similar in kind to those which may occur

in scarlet fever, and holds that there is no intrinsic difference, but only one of degree and acuteness, between the renal changes in eclampsia cases, and those in cases where renal oedema is a prominent symptom less late in the pregnancy. Albuminuric retinitis is more common in pregnancy kidney cases than in other forms of nephritis. The deleterious effect of twin pregnancy upon the kidneys is more marked in the eclampsia cases than in those of general oedema without eclampsia. All statistics show a high mortality amongst the children of nephritic mothers. The treatment of an eclamptic case lies mainly with the obstetrician. The nephritis of the earlier months, however, calls for obstetric measures in but few cases. Rest in bed, with suitable medication and diet, ameliorates the renal symptoms in many cases. Pregnancy seems to be one of the causes of tetany, differing in no essential way from adult tetany due to other causes. The affection develops during the later months of pregnancy, as a rule, but the spasms are rarely met with during labor. They may occur for the first time during lactation. Pregnancy does not predispose to a primary attack of appendicitis, but may light up another attack in a person who has previously suffered from the disease. This last it probably does by stretching or breaking down old inflammatory adhesions as the uterus enlarges and rises out of the pelvis. It is not at present possible to state whether the coexistence of pregnancy makes an attack of appendicitis more severe than the average. Yet pregnancy does increase the risks and dangers; even after drainage of the abscess a septic salpingitis or endometritis may be set up. The fœtus is born dead in ninety per cent. of the cases. On the whole, operative measures should be accelerated rather than postponed in cases of appendicitis complicated by pregnancy. It is in the last degree undesirable that obstetric measures for terminating the pregnancy artificially should be resorted to, for fear of breaking down adhesions that are helping to localize the inflammation. Early operation is the best chance of saving both the mother and the child.

**3. Experimental Gastric Ulceration.**—Bolton, by injecting rabbits with an emulsion of the stomach cells of guinea pigs, has succeeded in preparing a gastrotoxic serum active against the gastric cells of the guinea pig. Injection of the serum into another rabbit produces no effect, but in half an hour after intraperitoneal injection of the serum into a guinea pig the symptoms of intoxication are well marked, and death occurs within twenty-four hours. The post mortem lesions are limited to the stomach and always occur within the first twenty-four hours after injection. If the animal survive, no further symptoms or lesions occur. This limitation of the lesions to the stomach does not indicate that the serum is specific in its action; other tissues are also affected, as is shown by the symptoms and death of the animal. The lesions consist of patches of necrosis in the mucous membrane, stained black by altered blood pigment. They are usually multiple and often nearly the whole mucous membrane is affected. After from twenty-four to forty-eight hours the black tissue has completely disappeared, leaving perfectly clean and sharply punched out

ulcers. The ulcers heal in from fourteen to twenty-eight days, but may perforate on the third or fourth day, causing death or a local abscess. The gastrotoxicine itself is unable to produce necrosis and ulceration of the mucous membrane of the stomach; these are brought about by the gastric juice. If this be put out of action by alkalies, etc., no lesion can be found. The serum is capable of bringing about two well defined reactions in the test tube—it is hæmolytic and contains several precipitins. From the above observations it seems possible that not only certain endogenous but also certain exogenous poisons may be capable of initiating self digestion, through the blood stream, and that the production of such lesions may be facilitated not only by hyperacidity of the gastric juice, but also by other bodies introduced with the food. It is possible that the chronicity and refusal to heal of the human gastric ulcer may depend on a secondary bacterial infection of the ulcer largely owing to muscular insufficiency.

**6. Precipitins in Hydatid Disease.**—Welsh and Chapman's conclusions are as follows: 1. The interaction between selected hydatid fluids and a sufficiency of the serum of a patient affected with hydatid disease has, in their experience of nine cases, never failed to give a positive precipitin reaction when tested before operation. 2. Not all hydatid fluids are capable of eliciting this reaction, and their failure is not associated with any noticeable diminution of their protein content. 3. Persistence of a marked reaction some weeks after operation probably indicates the continued presence of the parasite, but the disappearance of the reaction does not necessarily indicate complete removal of the cysts. 4. A positive reaction is independent of the site of the hydatid cyst (hepatic, peritoneal, muscular) and independent also of the nature of its contents (clear, turbid, or purulent).

LA PRESSE MEDICALE.

April 22, 1908.

1. The Fiftieth Anniversary of Laryngology.  
By MARCEL LERMOYER.
2. Contribution to the Study of Muscular Atrophy of the Aran-Duchenne Type,  
By APOSTOLOS G. APOSTOLIDES, JR.

**2. Muscular Atrophy of the Aran-Duchenne Type.**—Apostolides reports a case of progressive spinal muscular atrophy of the Aran-Duchenne type met with in a man, thirty-eight years of age. The observations seem to have been made carefully and to form a valuable contribution to the literature on the subject.

April 25, 1908.

1. Applied Physiology. The Antibody in Experimental Practice. The Deviation of the Complement,  
By L. HALLION.
2. Cholera in Constantinople. The Search for the Vibrio of Cholera in Molluscs and in Sea Water,  
By FERID IBRAHIM.
3. Mikulicz's Disease,  
By R. ROMME.

**1. The Antibody in Experimental Practice.**—Hallion devotes considerable space to the definition of such terms as antibody, amboceptor, etc., and tries to make his definitions clear by means of schematic diagrams. He deals with the different classes of antibodies, the sensibilizers or amboceptors, and the alexin or complement, and then passes to the

reciprocal reactions of these upon each other, which he presents in mathematical form as five propositions. He then presents problems to be solved by means of the antibody, the mode of procuring each of the substances mentioned, the effects produced by the combination of the alexin with the antibody, and the solution of problems in practice.

2. **Cholera in Constantinople.**—Search for the vibrio of cholera in molluscs and sea water. Ibrahim reports failure to find the cholera vibrio in the molluscs examined or in the sea water.

#### LA SEMAINE MEDICALE.

April 20, 1908.

Apraxia of the Cephalic Muscles, By FELIX ROSE.

**Apraxia of the Cephalic Muscles.**—Rose presents a fair résumé of the literature on this subject.

#### BERLINER KLINISCHE WOCHENSCHRIFT

April 20, 1908.

- Contributions to the Normal Histology of the Cortex of the Suprarenal Capsule, By OSKAR STÖRCK.
- Primary Carcinoma of the Vermiform Appendix, By S. ISAAC.
- Concerning the Disinfection Value of the New Kresol Soap of the Ministerial Decree of October 19, 1907, By E. SELIGMANN.
- Myoma of the Uterus in Young People, By L. LANDAU.
- Concerning Narcosis by Suggestion, By BENNO HALLAUER.
- Concerning the Treatment of Bartholinitis with Bier's Hyperæmia, By THEODOR PLASS.
- The Idiopathic Gangrene of the Skin in Infancy, By PAUL HEIM.
- The Theory of the Action of Sulphur, By DIESING.
- The Oxidation of Sugar, By GEORG ROSENFELD.
- Ætiology of Tuberculosis, By MAZYCK P. RAVENEL.
- Urine Gelatin with the Addition of Bile, By ROBERT GUETERBOCK.
- The Important Part Played by Near Work in the Origin of Myopia, By WALTER THORNER.
- Electrolysis in Cicatricial Stricture of the Esophagus, By A. W. ZUBERBÜHLER.
- Blood Conditions by the North Sea, By HÄBERLIN.

1. **Normal Histology of the Cortex of the Suprarenal Capsules.**—Störck says that a number of recent writers in the description of tumors of the cortex of the suprarenal capsules have mentioned glandular tubes within the parenchyma of the tumors, but declares as the result of his observations on the suprarenal capsules of both men and animals that a true glandular tube formation is never present, either physiologically or pathologically, in the cortex of the suprarenal capsule.

2. **Primary Carcinoma of the Appendix.**—Isaac gives a full account of the findings at autopsy on a man twenty-five years of age, whose appendix was found to have been totally destroyed by a carcinoma. The principal other pathological conditions noted were an extra-peritoneal paravascular abscess, multiple abscesses of the liver, an ichorous abscess in the right lower lobe of the lungs, multiple purulent pulmonary emboli, multiple infarcts and abscesses of the lungs, purulent thrombus of the vena cava inferior, endocarditis of the tricuspid valve, empyema of the pleura on each side, thrombo-embolism of the spleen, abscess of the brain and fatty degeneration of the heart and of the liver.

4. **Myoma of the Uterus in Young People.**—Landau states that among the last four hundred

cases operated on by him for myoma of the uterus there were forty-two women between the ages of twenty and thirty.

5. **Narcosis by Suggestion.**—Hallauer advocates the practice of narcosis by suggestion in cases where slight operations are to be performed or for the purpose of making examinations.

7. **Idiopathic Gangrene of the Skin in Infancy.**—Heim reports three cases of this nature met with in children three weeks, six months, and nine months old. In each there was a circumscribed gangrene of the skin of the leg which did not appear to be due to traumatism. Very few such cases are on record.

10. **Ætiology of Tuberculosis.**—Ravenel is of the opinion that the digestive tract is a very frequent place of entrance for the tubercle bacillus; that the tubercle bacillus is able to penetrate the uninjured mucous membrane of the digestive canal without leaving a trace of its entrance, and does this most readily during the digestion of fat; that the bacilli pass with the chyle through the lymph vessels and the thoracic duct into the blood, which carries them to the lungs, where they are in great part caught in the tissue; that infection by way of the intestine is particularly frequent in children; that the milk of tuberculous cows is in many cases the source of the infection (the exact proportion cannot yet be determined, but it is probably great); that tuberculosis can be carried by kissing, by touching with soiled hands, by injuries during autopsies, by cleansing of vessels used by consumptives, but these forms of infection play a comparatively slight part in the spread of the disease.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

April 21, 1908.

- Concerning Pneumonia Caused by the Friedländer Bacillus, By APFEL.
- Concerning the Serum Therapy of Streptococcus Infections, By ZANGEMEISTER.
- Concerning Karell's Treatment of Serious Circulatory Disturbances and the Treatment of Obesity, By JACOB.
- Concerning the Demonstration of a Satiabile Toxine in the Urine and Stools of Infants, By CELLHORN.
- Concerning Biological Distinction of Milk, By BAUER.
- Concerning the Treatment of Acute and Chronic Gonorrhea by the Internal Administration of Arthrin, By KROGER.
- Contribution to the Ætiology of Congenital Asphyxia of the New Born, By VON THIERHOFF.
- Casuistics of Fibroma Molle, By DOBROWOLSKY.
- Suction Occlusion of the Urethra, By LOB.
- The Keating-Hart Method of Treatment of Cancer, By DRECHSEL.
- Intestinal and Anorectal Infection, By LOB.
- Compilations from the Field of Experimental Psychology and Pathophysiology, By HENNING.

1. **Pneumonia Caused by Friedländer's Bacillus.**—Apfel states that of seventy-seven cases of pneumonia bacteriologically investigated during 1907 he found in sixty the *Francisella pneumoniae*, in ten the *Streptococcus pneumoniae*, and in seven the *Diphtheria bacillus*. But of these seven last were cases of mixed infection with the *Francisella* and one with the *col.*, so that among the entire seventy-seven cases there were only two which were of pure Friedländer infection. His conclusions



are that there are pneumonias which are caused by the *Diplobacillus capsulatus*, discovered by Friedlaender in 1883, as: 1, Proved by the presence of this bacillus in the blood and also in the sputum during life, and in one reported case in the secretion from an open wound in a patient with pneumonia and the same bacillus in the sputum; 2, indicated by the agreement between the clinical picture of the cases, absence of herpes and chill, with a severe course, the macroscopic and microscopic characteristics of the sputum, and the pathological preparations made from these pneumonias; 3, the diagnosis of a Friedlaender pneumonia can be made from the mucous sputum microscopically rich in capsulated bacilli; 4, in regard to the prognosis, which is apt to be very bad, it is well to be guided by the result of the bacteriological examination of the blood; 5, treatment does not differ from that of the pneumonia due to the lanceolatus.

2. **Serum Treatment of Streptococcus Infections.**—Zangemeister asserts that his experiments show that the antistreptococcus sera obtained to-day from the horse are totally ineffective on monkeys, which renders it very probable that they are equally so for men; that monkeys can be passively immunized against streptococci, the same as other animals, as long as the serum of one of their own kind of animals is used; that antistreptococcus sera, so far as they cannot be tested directly on men, should be tried on monkeys; that, aside from the fact that horse immune serum is worthless, it may be directly injurious to monkeys, and cause the death of the animal experimented upon.

3. **Karell's Treatment.**—Jacob reports a number of cases of serious cardiac disease which he has treated with excellent results along the lines laid down in 1868 by a Russian physician named Karell, the patient to drink 200 c.c. of milk four times a day, the milk to be raw or scalded according to taste and at such a temperature as may be agreeable. Aside from this, the patients get neither solid nor liquid food during the first five or seven days, after that other food is gradually added; at first, one egg about 10 o'clock, and some zwieback about 6 o'clock, then two eggs, some black or white bread, then other additions are made until, some twelve days after the commencement of the treatment, the patient has returned to full mixed diet.

7. **Treatment of Gonorrhoea with Arhovin.**—Knauth speaks very highly of the internal administration of arhovin as a remedy for gonorrhoea in both the acute and chronic stages. In taking the place of the method of treatment by injections, it avoids the dangers of the latter, such as injuries of the urethra, and carrying the gonorrhoeal poison into the posterior part of the urethra with its undesirable consequences of provoking inflammation of the bladder or of the epididymis. During the past year he has thus treated eleven patients with acute, eleven patients with subacute or chronic gonorrhoea, and seven patients with epididymitis, giving from four to six capsules containing 0.25 gramme of arhovin by the mouth. In the most acute stage the diet is restricted mainly to milk, the patient is kept in bed, and ice applied locally. When the discharge assumes a more watery, mucous character the patient is allowed up and given his usual diet without alcoholic beverages.

## AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

May 1, 1908.

1. An Analysis of One Hundred and Forty Operations on the Kidneys and Uterus, By G. E. BREWER.
2. The Epidemiology of Acute Poliomyelitis. A Study of Thirty-five Epidemics, By L. E. HOLT and F. H. BARTLETT.
3. Suppurative Phlegmonous Gastritis, with the Report of a Successful Laparotomy (Probably the First) in the Treatment of a Case, By J. W. BOVÉE.
4. Gallop Rhythm of the Heart, By G. C. ROBINSON.
5. Toxæmia from the Standpoint of Perverted Metabolism, By R. W. WEBSTER.
6. The Relaxed Knee Joint, By A. H. FREIBERG.
7. Primary Colloid Carcinoma of the Vermiform Appendix, By E. H. WHITE.
8. The Management of Labor in Minor Degrees of Pelvic Contraction, with Special Reference to the Relative Indications for Abdominal Cæsarean Section. A Tabulated Report of Eighteen Cæsarean Sections, By H. D. FAY.
9. The Clinical and Pathological Aspects of Rodent Ulcer, By G. MCCONNELL.
10. Erysipiloid of Rosenbach. A Note on Its Occurrence in Laboratory Workers, By J. H. JORSON.
11. The Symptom Complex of Transverse Lesion of the Spinal Cord and Its Relation to Structural Changes, By A. R. ALLEN.

## 2. The Epidemiology of Acute Poliomyelitis.

—Holt and Bartlett draw the following conclusions: The occurrence of epidemics and the relation of certain groups of cases to one another in these epidemics place beyond question the statement that acute poliomyelitis is an infectious disease. Whether we can go farther and state that the disease is communicable is an open question. After carefully considering all the evidence brought together in this paper the authors cannot resist the conclusion that the disease is communicable, although only to a slight degree, one of the most striking facts being the development of the second cases within ten days after possible exposure. Positive statements must be deferred until the discovery of the infectious agent. A table is given collating the principal facts regarding the epidemics, together with the references to the literature.

3. **Suppurative Phlegmonous Gastritis.**—Bovée thinks it is evident that until the report of his case no case of phlegmonous gastritis had been operated on. In four cases, which are cited, there is a very strong relation to the suppurative form of the disease. It would seem, and particularly from these four cases, that opportunity for drainage by abdominal section and external drainage, with or without gastric incision, is necessary. Gastrostomy or gastroenterostomy seems to be strongly indicated, particularly as the pyloric end of the stomach is usually most involved. In the author's case the pylorus was completely obstructed. Gastroenterostomy would afford drainage of the stomach into the intestine, and incision into the submucous coat, with adequate technique, would afford exit for pus and relieve tension. Robson and Moynihan recommend in moderate terms gastrostomy or gastroenterostomy in acute phlegmonous gastritis, and in the circumscribed form they remark that opening and drainage of the abscess would be advisable.

4. **Gallop Rhythm of the Heart.**—Robinson believes this is a clinical phenomenon of considerable frequency and consists of three cardiac tones, none of them being murmurs, occurring under variable clinical conditions. The form which is heard

over the apex or the central part of the præcordium may be divided into presystolic, protodiastolic, and mesodiastolic types, as the extra tone falls at the end, beginning, or middle of the diastole. Each form is associated with a characteristic cardiogram and is produced by a combination of factors. The presystolic form may be heard in strongly acting hearts, the tone being caused by an hypertrophied auricle, and also in weak, rapid hearts at the height of acute febrile diseases, the extra tone being produced in the auricle rather than in the ventricle. The protodiastolic and mesodiastolic forms are caused by the production of an extra tone in the ventricles, the factors being an increase in the amount and velocity of the blood flow from the auricles to the empty ventricles, and a loss of tone of the heart muscle of the ventricles. The longer silent period with gallop rhythm is usually systolic.

**5. Toxæmia from the Standpoint of Perverted Metabolism.**—Webster defines toxæmia as a condition characterized by the overloading of the blood with normal or abnormal products of food or tissue metabolism. It is purely endogenous and distinct from toxæmia due to exogenous products or from toxæmic states arising in the course of infectious disease. Abnormal activity of any organ may result in the overloading of the blood with products which lead to various toxæmic symptoms or may so influence the activity of other organs that abnormal results will follow. Such may be the influence of the thyroid, the ovary, the testicle, the pancreas, the suprarenal, and the hypophysis on the general functions of the body. The author then discusses in succession intestinal, hepatic, renal, and thyroid toxæmias, and concludes that toxæmia, apart from that which follows acute or chronic bacterial processes, is always of metabolic origin. The toxæmias discussed are more the effects of a general metabolic perversion than of a direct organic disorder.

**6. The Relaxed Knee Joint.**—Freiberg summarizes his paper in the following propositions: 1. Many cases of so called functional knee symptoms are due to reflex atrophy of the quadriceps extensor muscle resulting from injury. 2. The term relaxed knee joint should be reserved for such cases. 3. The injury may be so slight that its ætiological relation may be overlooked. 4. The atrophy following in many cases cannot be explained as a consequence of inactivity. 5. A cure in this condition will be accomplished only when the quadriceps extensor muscle is restored to its normal volume and strength. 6. Recovery is so protracted in some of the cases as to suggest serious injury to the central nervous system. 7. Though the treatment of the prolonged cases is necessarily limited to the periphery, they will ultimately recover with persevering and well directed efforts.

**1. A Case of Meningeal Tumor Compressing the Cerebellum.**—Baldwin reports a case of slowly growing brain tumor. The first symptom of the disease appeared ten years before death. The tumor grew to such a size that it would seem that it must have given characteristic symptoms, yet optic neuritis never developed, there were only a few attacks of vomiting throughout the illness, and these were evidently due to acute indigestion, and, while headaches occurred for short periods daily in the early years of the disease, during the three years before the patient's death they did not recur. During the course of the illness the symptoms so closely simulated those of Parkinson's disease, of arteriosclerosis of the vessels in the cerebrum and cerebellum, and of cyst of the cerebellum, that, while the question of brain tumor was always considered, the symptoms at no time seemed to justify an exploratory operation. In reviewing the history of this case, says the author, it will be seen that, while the symptoms of brain tumor were not distinctive, those due to cerebellar involvement were marked throughout the course of the disease. These include the attacks of suboccipital headaches, the cerebellar ataxia, the cerebellar seizures—sudden relaxation and falling with no vertigo or unconsciousness—and the tendency when sitting to drop the head toward the left shoulder. The symptoms of involvement of cranial nerves also pointed to a localization of the disease at the base of the brain—the nerve deafness in the right ear, dysphagia, and anæsthesia of the tongue. But, while the involvement of the cerebellum was evident, the lesion seemed to be one of degeneration rather than of compression from an extracerebellar growth.

**2. Melancholia with Delusions of Negation: Three Cases with Autopsy.**—Mitchell and Southard describe the history of three such cases, the anatomical side of which present several common aspects, but little which promises to explain the disease. Arteriosclerosis, when confined to the large branches of the circle of Willis, can scarcely be invoked as underlying symptoms of such specialized character as those under consideration. Just as the patients showed strikingly little in alterations of reflexes, so the brains showed strikingly little in the shape of gross or focal alterations. Moreover, the brains gave little evidence of general or focal atrophy. No striking alterations in cortical topography and arrangement of layers could be detected on microscopical examination. Pigment bearing cells in perivascular spaces were constantly found; and, in default of any suspicious localization of these, they should be attributed rather to the results of advancing years than to a special factor. Neuroglia cell pigmentation was also quite constantly found; but this was not so universal in distribution as was the case with the perivascular cell pigmentation. Common to all three cases was a neuroglia cell pigmentation in the intermediate areas of the areas of cortex examined. The relation of the neuroglia cell pigmentation to cortical activity could not be made out. Satellite cell pigmentation was not constant. Nerve cell pigmentation was constantly found in the elements of moderate size in all parts of the cortex examined. This pigmentation was strikingly brought out by the use of iron hematoxylin.

#### THE JOURNAL OF NERVOUS AND MENTAL DISEASE

May, 1908.

1. A Case of Meningeal Tumor Compressing the Cerebellum. By FRANK BALDWIN.
2. Melancholia with Delusions of Negation: Three Cases with Autopsy. By H. W. MITCHELL and F. E. SOUTHARD.
3. Spinal Cord Tumor and Trauma, A Report of Two Cases. By PEARCE BATELY.

## Proceedings of Societies.

### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of February 17, 1908.

The President, Dr. THOMAS E. SATTERTHWAITE, in the  
Chair.

(Concluded from page 910.)

**Metaplasia of the Appendix Vermiformis and a New Diagnostic Point.**—This was the title of the address made by the president-elect, Dr. ROBERT T. MORRIS. The time had now come, he said, to classify appendicitis cases under four separate and distinct kinds: 1, Normal involution, beginning with a metaplasia of the lymphoid and submucous coat and ending with connective tissue replacement of all coats. During a part of the involution process the patient suffered from local and reflex disturbances, and this class of cases included probably the larger proportion of all patients affected with disease of the appendix. Although this was by far the most common variety of appendicitis, it was the one most seldom recognized. 2, Infective appendicitis, the form most often recognized. 3, Congestive appendicitis, accompanying, for instance, ascites or pressure from a floating kidney. 4, Appendicitis secondary to some external affection, like cancer or tuberculosis, of slow development. If it was asked, Do these four types merge one into another? he would answer, Not often, in his opinion. Much confusion had existed in his own mind in regard to this subject until recently, but now he believed that some, at least, of the perplexities with which it was attended had been cleared away. The reason why we did not have normal involution merging into infective appendicitis was because, as a result of the involution, there was a disappearance of those elements in the appendix which were most necessary to an infectious process. The third and fourth types, in consequence of the slow character of the swelling, seemed to call out the elements of protection against infection. It was his belief that the chief cause for the disasters in appendicitis was to be found in rapid swelling. The tension produced by this gave rise to compression anæmia, and in this way the tissues were rendered vulnerable to bacterial invasion.

In normal involution the metaplasia might go on for years. The patient very rarely had to take to his bed. In exceptional instances, however, the occurrence of spasm of the intestine at times might necessitate this. But such patients suffered not a little from intestinal dyspepsia, and it was undoubtedly true that metaplasia of the appendix occasioned more intestinal dyspepsia than any other one cause. Defective metabolism was a result, and the patients suffered from a long train of secondary effects, including, in many instances, various local neuralgias due to irritation of nerve filaments entrapped in the new connective tissue. This form of appendicitis was not likely to explode; the chief mischief resulting from it was the discomfort and nagging described, lasting for years. In it, therefore, it was not necessary to remove the appendix, on account of existing or threatened danger, but re-

moval was often highly desirable for the comfort of the patient. Dr. Morris here presented three specimens showing the process of involution in different stages. In the third and most advanced specimen there was nothing left but peritonæum. It was worthy of note, he said, that throughout the process, however, the nerve fibres remained.

As an aid to the diagnosis, he had found a certain point of value. This was in the course of the line drawn from the right anterior spinous process of the ilium to the umbilicus, upon which McBurney's point was located; but, while the latter was an inch and a half from the spinous process, the new point was situated an inch and a half from the umbilicus. This point had reference to tenderness, elicited by finger pressure, of the right lumbar ganglia of the sympathetic system, and in cases of normal involution of the appendix there was persistent tenderness at the point. In irritations of pelvic origin, both right and left lumbar ganglia were tender. In making differential diagnoses, therefore, this was a point of great value. For instance, if, in a case in which the appendix and the right Falloppian tube were bound together by adhesions, we wished to decide whether certain symptoms proceeded from the appendix or from the oviduct, the point described would alone be tender if the symptoms came from the appendix, while, if they came from the tube, both right and left lumbar ganglia would be tender.

Dr. ROBERT F. WEIR said that Dr. Morris had originated many new ideas, and, while he was not invariably right, it had often proved the case that the surgeons had come to adopt them. He could not see how the process described prohibited infectious invasion. The smaller the lumen of the appendix, the less chance there would be of such invasion, but unless there was complete obliteration, it seemed to him that there was always the possibility of this taking place. Nor could he see exactly how the line between the two forms of appendicitis could be drawn so finely as the speaker would have us believe. If, however, the experience of other observers confirmed the position taken, it would certainly be a great point gained. It would be on a par with the achievement of McBurney in appendicitis. While many surgeons were now disposed to attach less significance to McBurney's point than formerly, he personally still regarded it as of the greatest significance, provided proper methods are employed in the examination. His own experience with finger point pressure in the location indicated by Dr. Morris had been very limited, but in two cases of the character described, which he had recently examined, there had been no pain elicited at this point. Since this new proposition had been brought to his attention he had made a study of the anatomical relations of the parts involved, and from this it appeared to him that the pain would naturally emanate from the lower dorsal, rather than the lumbar, ganglia. It had then occurred to him that the condition might possibly be due to an infection by means of the lymphatics. Perhaps a larger experience would bring all observers into full accord as to the points at issue.

Dr. ALGERNON T. BRISTOW, of Brooklyn, said that the normal involution of an organ was not measured by the life of any man. It was a matter



of a very long period, even thousands of years. As illustrating this, he referred to the development of the intestinal canal in successive generations of animals, requiring many centuries for its completion. He strongly objected to having chronic appendicitis designated as a normal involution. It was no more this than cirrhosis of the kidney was a normal involution. In the latter there was a strangulation of the glandular structure of the organ, and the process in the appendix was entirely analogous. The relatively poor blood supply of the appendix was one of the factors which favored inflammation; another was the poor drainage of the organ. If, now, infective material was added, we had the triad which was necessary for the production of appendicitis. Although the first two of these were constantly present, without the addition of the third factor, infection, there could be no appendicitis. With the exception of the use of terms, the speaker said that he was, in the main, in accord with Dr. Morris, though he would go further than the latter in regard to some points. The condition in the cases described was not one simply of discomfort, but amounted to really one of chronic ill health. He would not say that this kind of cases never exploded, for he had found that they did occasionally explode. As a rule, however, the operations in such cases were not life saving operations, like those in acute appendicitis. The happiest results generally followed the operation, so that patients who before were suffering a miserable existence were completely restored to health.

Dr. ALEXANDER B. JOHNSON said that only a few years ago a surgeon would have been laughed at if he maintained that an inch and a half for the incision and a week and a half's confinement were all that were required for an appendectomy. Yet in interval operations these were now quite sufficient. He thought that we should not form too hasty opinions in regard to Dr. Morris's contentions. The matter should be thoroughly sifted by surgeons generally, and he for one would be glad to give the new diagnostic sign a thorough practical test. The term normal involution seemed to him a proper one. Evolution and involution went on in the individual, just as they did in the race. It was possible to have an appendix which in one part was undergoing involution, while another part was the seat of infection. In exceptional instances, he had also seen rupture in cases of tuberculosis of the appendix, and even of cancer. In the class of cases described by Dr. Morris it was advisable to operate when the symptoms became sufficiently troublesome, and in a fairly large proportion of such cases, in his experience, the appendix appeared to be undergoing normal involution. He was much interested in the question of whether it was possible in certain instances to distinguish between disease in the appendix and in the right Falloppian tube, and if the Morris sign enabled us to determine this point it would prove exceedingly useful.

Dr. EUGENE LORINC said that for a number of years he had observed that a tender point was apt to be found in the location indicated by Dr. Morris. He could not, however, subscribe to the opinion that it was present only in normal involution, as he had certainly met with it in ordinary cases of appendicitis. It would not do to be too exact in placing the

position of the point of tenderness, since it might be a little more or a little less than an inch and a half from the umbilicus. The distance between the latter and the anterior superior spinous process of the ilium was usually set down as seven or eight inches, but he had repeatedly seen instances in which this line measured only four inches. In such cases the McBurney point and the Morris point would be very close together, and it was conceivable, with the variations in the seat of tenderness which must be taken into consideration, that the two points might even be identical. On the whole, it seemed that the exact point might be a little difficult to find. In one young lady whose ovaries and tubes were normal he had elicited pain on pressure at Morris's point, and yet this could not have been due to appendicitis, because he had removed the appendix four years before.

Dr. JOHN B. WALKER said that, like Dr. Johnson, he had seen a number of cases in which a large part of the appendix had become obliterated, and yet in which abscess was associated with the condition.

Dr. CHARLES H. PECK said that several times he had been much puzzled in trying to distinguish between disease of the appendix and of the right Falloppian tube, and he argued with Dr. Johnson that, if the Morris sign could be well established, it would prove of special value in such cases. He had found it difficult also to distinguish between obliterative appendicitis and the milder attacks of inflammatory appendicitis, and thought it very desirable that the distinction between the two should be more clearly defined.

Dr. ALBERT A. BERG said that at times the meaning of pain located in the lower right quadrant of the abdomen was very difficult to determine. If the appendix alone was in this situation there would be no trouble about the matter; but there were also many other structures here which might be the seat of disease, the recognition of which was most important. It was the experience of all hospital surgeons that without any inflammation of the appendix whatever there might be localized pain in this quadrant. Thus, it might be due to stone in the right ureter or other abnormal condition in the ureter, or to a colitis. To make a diagnosis only on pain seemed to him a step backward. Still, in the way of corroborative evidence, the Morris sign, if substantiated, would be of great assistance. As to the liability to explosion in appendices which were somewhat obliterated, he thought there was little danger of this if the normal involution was taking place regularly. In some instances, however, stricture formation was met with, and in these he believed there was greater liability to infection (in consequence of the presence of stricture) than in the normal appendix in which no involution had occurred.

Dr. MORRIS said that he had devoted much careful study to the subject before making known the conclusions at which he had arrived, and he was much pleased to have had such a full and intelligent discussion of the points at issue. He would endeavor to reply to the various criticisms and inquiries in turn. In cases where we had intercurrent appendicitis and also the presence of hyperplastic connective tissue, we had a history of active attacks

of acute appendicitis. Wherever we had scar tissue from previous infective appendicitis, such attacks were apt to be met with; but in such cases we did not meet with the persistent discomfort and repeated attacks of a few hours' duration which were characteristic of normal involution. As to Dr. Weir's anatomical studies, the lymphatic connection between the appendix and the lumbar ganglia was not direct, and the condition was not one secondary to an infection carried by the lymphatics. Dr. Bristow thought the nomenclature wrong. He (Dr. Morris) had found much difficulty in getting a proper nomenclature, and he was by no means satisfied with the results thus far attained in this direction. For want of a better term, he had suggested "metaplasia." He believed that in rare instances we did have inflammatory processes associated with normal involution, but such an occurrence was accidental, rather than a natural sequence. He entirely agreed with Dr. Bristow as to the happy results usually following an operation. We not infrequently heard of appendices which, after being taken out, were found to be normal. While they might appear to be normal, he did not believe they were so, for if they are examined microscopically it would be seen that they were in process of involution. Dr. Johnson was correct in asserting that perforation might occur in tuberculous or cancerous cases, but when this was the case it was not an acute phenomenon. The matter of the oviduct and the appendix was one which he had worked out very carefully. In reply to Dr. Torek, he would say that the measurement of an inch and a half was not meant to be absolute; this distance was rather a bull's eye at which to aim, and which it would be well to keep in mind. As to the existence of pain at the inch and a half point in the case in which the appendix had been removed, he believed that this was due to the presence of adhesions at the site of the removed appendix. Coming to the remarks of Dr. Berg, Dr. Morris said that he himself had seen a number of instances of inflamed ureter which might possibly have been mistaken for appendicitis, but in making the diagnosis of these he had depended rather on the collateral symptoms and the clinical history. The localized point of tenderness which he had described was a sign characteristic of normal involution, but not peculiar to it. He would never think of operating unless the corroborative evidence afforded by palpation was present. As to the stricture formation referred to, even here he had felt that potetion from infection was called out by the leucocytosis developed.

### Letters to the Editors.

#### THE WORD "PALLIATIVE."

53 EAST FIFTY-EIGHTH STREET,  
NEW YORK, May 11, 1908.

#### To the Editors:

I have read the criticism by Dr. A. Rose of my use of the term "palliative" in the title of my paper, which was published in the *Journal* of April 18th, and have noted the fact that Dr. Rose asserts that my interpretation of this term was erroneous. Had

this criticism been made by one less scholarly than Dr. Rose, I should have felt impelled to ignore it; under the circumstances, however, I feel compelled to answer.

My justification for the use of the word "palliative," in the sense in which I employed it, rests upon authority which is good enough for me. If the doctor will turn to Foster's *Medical Dictionary* he will find the adjective palliative upon page 2508, as follows: "Palliative, adj. Lat., palliatus. Fr., palliatif. Ger., lindernd (adj.). Palliativ (n.). Tending to moderate a morbid condition without curing it; as a n., a p. agent." If the doctor will carefully read the article in question, he will find that its entire sense is exactly in the spirit of this definition, i. e., the moderating of a morbid condition without curing it. Nowhere in the article is there any claim made to curing prostatic hypertrophy by these measures, but simply the amelioration of the symptoms dependent upon or resulting from the disease of the gland. In view of the measures advocated, I should not have been justified in using the term "nonoperative," since I have frequently referred to the use of the catheter and cystoscope, which, in the eyes of surgeons, is an operative procedure.

Dr. Rose, in his communication, states: "Palliative, from Latin palliatus, a, um, means covered with a cloak; in medicine palliativum, or palliative remedy or treatment, is a remedy or treatment which is employed to ameliorate symptoms, to do for a while, until a radical remedy (not necessarily operative) can be applied or in case a radical cure is out of the question." The entire article is in the sense of the doctor's definition of the term "palliative," as quoted above, which must become clear at once to any one carefully reading it.

In view of these facts—that is, my justification for the use of the term in the sense in which it was employed, first by Foster's *Dictionary* and, secondly, by the definition given by Dr. Rose himself—I must insist that my use of the word was correct.

F. BIERHOFF.

#### ABOUT DR. PALIER'S ARTICLE ON PYLORIC INSUFFICIENCY.

616 MADISON AVENUE,  
NEW YORK, May 13, 1908.

#### To the Editors:

Glancing over the table of contents of the last issue, for May 16th, I noticed the heading of Dr. E. Palier's article, A Case of Chronic Diarrhœa Accompanied by Pyloric Insufficiency. I confess that I felt quite pleasantly over the fact of having gained another convert to my teachings. At least I thought so after glancing over the title. In looking over the article I read with delight the history of the case and the method by which Dr. Palier made the diagnosis. Very properly does Dr. Palier deny the possibility of dealing with hypermotility of the stomach, instead of with insufficiency of the pylorus. Very properly also does Dr. Palier assert that the passage of undigested food probably acted as an irritant on the intestines. But how painful did I feel when at the end of his article I saw no mention of my name at all! Had

Dr. Palier abstained entirely from quoting any one—well, it would have been different. But he did mention Seré and Ebstein, whom (the latter one only) I also mentioned in my first monograph. In this article, *Insufficiencia Pylori, a Sequela of Chronic Gastritis, with Reports of Fourteen Cases Successfully Treated* (*Philadelphia Medical Journal*, May 24, 1902), he will find, right after my quoting an abstract from Ebstein, one sentence reads thus: "Why must hypertony of the stomach be accepted to explain the absence of food in the stomach at too early a time?" In this article, as in the subsequent ones, the symptom, diarrhoea, is mentioned quite prominently, besides explaining its cause and effectual treatment. If Dr. Palier wishes to consult my works on this subject, I will give him here a partial list of additional publications in which he can read of insufficiency of the pylorus:

Further Remarks on Insufficiencia Pylori, *New York Medical Journal*, October 4, 1902; *Journal of the American Medical Association*, April 16, 1904; *Medical Record*, April 30, 1904; *Transactions of the Medical Society of the State of New York*, 1904; A Few Remarks on the Prospect of the Chronic Dyspeptic, *New Albany Medical Herald*, January, 1906; The Outlook for the Chronic Dyspeptic, *American Medicine*, March 10, 1906. I have referred to and made short mention of this very frequent disease in many other articles, but I think these will suffice for reference. I wish to bring out here these facts: That insufficiency of the pylorus, not a very occasional and nervous phenomenon, but as the usual and natural sequel of chronic pyloritis, was first described by me in May, 1902; that insufficiency of the pylorus is a very frequent condition—I have seen, treated, and cured dozens of cases; that insufficiency of the pylorus is the true condition, and not achylia gastrica, so mistakenly, as I believe, taught by Einhorn; that the method of diagnosing it is the repeated giving of test meals and aspirating them at intervals of less than one hour after the Ewald's test breakfast; that one of the symptoms of insufficiency is chronic diarrhoea, which can be checked in from two to three days, and absolutely cured in about as many weeks. I have reported the cure of chronic diarrhoeas which had persisted for from five to nine years. Boardman Reed, in his book, *Diseases of the Stomach and Intestines* (1904), has this to say on page 868: "When pyloric incontinence exists, in the absence of any mechanical cause for it, the more plausible explanation seems to be the one championed by Knapp," and on the following page he says: "Knapp insists that insufficiency of the pylorus is quite frequent, and that it is the natural result of a prolonged condition of hypertonicity of the part, the overtaxed muscle finally becoming exhausted and weak. He maintains that a too rapid emptying of the stomach is evidence rather of an exhausted and relaxed pylorus than of hypermotility of the gastric walls, . . . and it would follow further that . . . diarrhoea may be produced . . . by pyloric incontinence."

It is rather strange, although perfectly possible, that Dr. Palier came to the same results and followed the same channels of reasoning apparently as I did six years ago, without knowing anything of my many contributions on this highly interesting subject which have appeared since my first article. But the fact is that I have been teaching the existence of that disease and the method of diagnosing and curing it for the last six years, besides taking part in discussions in societies. Knowing Dr. Palier quite well, I am sure that this letter will cause him to hunt up the literature and that at his earliest opportunity he will hasten to rectify the omission after convincing himself of the truth of the purport of this letter. I am glad, however, that there is another believer in insufficiency of the pylorus, and that possibly in the near future we may be able to demonstrate by concerted action the utter fallibility and the inherent fallacy of Einhorn's teaching about "achylia gastrica." Let me pray, for the betterment of mankind, that we may soon succeed in unmasking that diabolical disease "achylia gastrica," even if we have to throw overboard all of the cherished teachings of Einhorn.

MARK I. KNAPP.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Thomographia Dermatologica*. . . . . Tabulae selectae . . . . . editae a ALBERT NEISSER, Breslau, Eduard Jacobi, Freiburg i. Br. Fasc. iii. Berlin and Vienna: Urban & Schwarzenberg; Paris: Masson & Cie; New York: Rebman Company; London: Rebman Limited. Pp. (text) 79 to 125; plates 20 to 32.

This fasciculus of Neisser and Jacobi's *Atlas of New and Rare Skin Diseases* (one of the subtitles of the work) quite maintains the degree of excellence shown in the preceding fasciculi in both text and illustrations. The atlas as a whole cannot fail to be exceedingly useful to the general practitioner as well as to the specialist in dermatology.

*The Functional Inertia of Living Matter. A Contribution to the Physiological Theory of Life.* By DAVID FRASER HARRIS, M. B., M. D., B. Sc., F. R. S. E., Lecturer on Physiology and Normal Histology in the University of St. Andrews, etc. London: J. & A. Churchill, 1908. (Through P. Blakiston's Son & Co., Philadelphia.) Pp. 136. (Price, \$2.)

Two hundred and thirty years ago Francis Glisson, M. D., of Cambridge, gave to the science of his day the conception of the irritability of living matter. The astonishing growth of biology witnessed since that time is due in an exceptional degree to the potentiality for advancement conferred by the recognition of this property of affectibility in living matter. But the ultimate processes underlying what is called life can scarcely be conceived of as wholly made up of irritability, or affectibility, as some prefer to call it. To rest here would be tantamount to an admission that life is but uninterrupted response, ceaseless activity, endless unrest. This is contrary to what we know of the capacity and physiological wants of the human organism or, indeed, of any organism. Nowhere among living things is affectibility, continuous, unrestricted, and unimpeded, to be met with. Consequently, if we would conform theory to the exactness of biological fact, we are obliged to ascribe a further quality to protoplasm, that of insensibility. As Dr. Harris observes, the results of the



possession of this second attribute have been, to a certain extent, appreciated by philosophical biologists; but, so far as he is aware, no one has till now "formally asserted that livingness consists in the simultaneous possession by protoplasm of two physiologically opposed properties—*affectibility* and *insusceptibility*—or, as I prefer to call the latter, *functional inertia*."

These, then, are the essential or fundamental properties of protoplasm as Dr. Harris conceives of them. From his point of view, however, irritability (*affectibility*) is not of the same order as movement, secretion, etc. On the contrary, it is more fundamental—"a property of living matter, in fact, while the other things are *results of its existence*." Of "functional inertia" he observes that it is that "property of protoplasm whereby the living matter contrives to remain in a functional *status quo ante*, notwithstanding that it has received a stimulus, or, having responded to the stimulus, it continues to exhibit its functional activity for a certain time after the stimulus as a form of energy has ceased to exist."

Assimilation, certain aspects of metabolism, movement, secretion, and reproduction the author would regard as vital manifestations or results of *affectibility*; while from functional inertia he would derive automatic molecular changes and certain other aspects of metabolism, e. g., reproduction and rhythmic movements. As to the physiological significance of functional inertia, Harris is inclined to believe that, in many cases, it is destined to preserve the protoplasm from excessive activity (pages 126-127).

Finally, while the *results* of the possession by protoplasm of such a property as functional inertia had been perceived with clarity more or less by Hobbes and Faraday, and in our own day by Adams, Cattell, Guyau, Mercier, Mosso, Robertson, Woller, Ribot, Sharkey, Sherrington, Strotton, and Schaeffer—while even the term inertia was used by some or all of them—Harris found that, to adequately explain certain phenomena, he was obliged to ascribe to protoplasm a certain real or *positive property*, functional inertia, mere diminution or absence of *affectibility* being inadequate rationally to account for the occurrences. Functional inertia, in this sense, Harris attributes to the biogens, or living molecular constituents of protoplasm.

This, if we have read him aright, is a brief but true statement of the author's position with regard to one of the most complex questions in the whole range of biological science—a question which he has treated at every point with lucidity and logical acumen. Our author, in truth, is not one of those wizard prophets of Lilliput, who, mounting upon a stilt scaffolding of many syllables, would win to a fictitious altitude in the world of thought. His is no mumbojumbo of contorted eloquence. Rarely, indeed, have we met, in a work at once so abstruse and highly technical, with such a store of simple, sturdy English. It is hard to predict, perhaps we never can predict, the ultimate fate of such a biological subtlety as that which constitutes the burden of this writing. Only a churlish captiousness, however, could withhold commendation, in view of an argument so obviously sincere, of an imagination

working as far as may be under the guidance of experiment; of a judgment buttressed always by a strict observance of the laws of inference—a judgment finding, moreover, in elegance and simplicity its most congenial and convincing utterance.

*Immune Sera.* A Concise Exposition of our Present Knowledge concerning the Constitution and Mode of Action of Antitoxines, Agglutinins, Hæmolysins, Bacteriolysins, Precipitins, Cytotoxines, and Oponins. By Dr. CHARLES FREDERICK BOLDUAN, Bacteriologist, Research Laboratory, Department of Health, City of New York. Second Edition, Rewritten, First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1907. Pp. viii-154. (Price, \$1.50.)

The cordial reception given immediately by the profession to the first edition of this book of Dr. Bolduan's is to be ascribed in great measure, we think, to his happy faculty of treating of difficult matters in language readily understood by the reader. The same felicity of expression will be found in the material added in the second edition, including short accounts of snake venoms and their antisera, agglutinins, opsonins, and serum sickness. The practical character of the book is well shown in the following passage from the chapter on opsonins (page 134): "There is little doubt that the opsonic indices do measure a certain fraction or phase of the immunity reaction; we do not believe that they replace clinical observations in measuring the effect of immunizing injections." We have nothing but commendation for this handsome little book.

*La Lutte contre les microbes.* Cancer, tuberculose, maladie du sommeil, tétanos, entérite et microbes intestinaux, variole et vaccine: L'Œuvre de Jenner. Par Dr. ETIENNE BURNET, de l'Institut Pasteur, chef du service de la vaccination de la Ville de Paris. Paris: Armand Colin, 1908. Pp. 318.

We have here an entertaining volume by an assistant and disciple of Metchnikoff, who discusses in a popular and discursive fashion numerous problems relating to various infectious diseases, including cancer, tuberculous disease, African sleeping sickness, tetanus, and intestinal putrefaction. There is also an historical retrospect and study of vaccination and the work of Jenner. The use of uncooked fruits and vegetables, especially those growing near the ground, is condemned as a probable source of many cases of obscure infection. Cultures of the Bulgarian lactic acid bacillus are recommended as an efficient means of combating pathogenic microorganisms in the intestine. In his essay on cancer the author commits himself more fully to the parasitic theory than, in our opinion, is justifiable in the present state of our knowledge.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

The Opsonic Method of Treatment. A Short Compendium for General Practitioners, Students, and Others. By R. W. Allen, M. B., B. S. (London), Pathologist to the Royal Eye Hospital, London, S. E., etc. Philadelphia: P. Blakiston's Son & Co., 1908. Pp. 138. (Price, \$1.50.)

The Development of Ophthalmology in America. 1800 to 1870. A Contribution to Ophthalmological History and Biography. An address delivered in Abstract before the Section in Ophthalmology of the American Medical Association, June 4, 1907. Revised and Enlarged. Illustrated by Selected Portraits and Cuts. By Alvin A. Hubbell, M. D., Ph. D., Professor of Clinical Ophthalmology in the University of Buffalo, etc. Chicago: W. T. Keener & Co., 1908. Pp. 107. (Price, \$1.75.)

An Index of Treatment. By Various Writers. Edited by Robert Hutchison, M. D., F. R. C. P., Physician to the

London Hospital, etc., and H. Stansfield Collier, F.R.C.S., Surgeon to St. Mary's Hospital, etc. Revised to Conform with American Usage by Warren Coleman, M. D., Professor of Clinical Medicine and Instructor in Therapeutics in Cornell University Medical College, etc. New York: William Wood & Co., 1908. Pp. 888.

A Textbook of the Practice of Medicine. For Students and Practitioners. By James Magoffin French, A. M., M. D., Formerly Lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Third, Revised Edition. Illustrated by One Hundred and Ten Engravings in the Text and Twenty-five Full Page Plates in Tints and Colors. New York: William Wood & Co., 1907. Pp. xxii-1253.

Abdominal Tuberculosis. By A. Ernest Maylard, M. B., B. S. (Lond.), Surgeon to the Victoria Infirmary, Glasgow, etc. Philadelphia: P. Blakiston's Son & Co., 1908. Pp. xvi-360. (Price, \$4.)

The Principles and Practice of Hydrotherapy. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By Simon Baruch, M. D., Professor of Hydrotherapy in Columbia University (College of Physicians and Surgeons), New York, etc. Third Edition, Revised and Enlarged. With Numerous Illustrations. New York: William Wood & Co., 1908. Pp. 544.

Cancer. Relief of Pain and Possible Cure. By Skene Keith, M. B., F. R. C. S. (Ed.), Author of *Introduction to the Treatment of Disease by Galvanism*, etc., and George F. Keith, M. B., C. M., Author of *Textbook of Abdominal Surgery* with Mr. Skene Keith. London: Adam and Charles Black, 1908. Pp. 155.

Scientific Nutrition Simplified. A Condensed Statement and Explanation for Everybody of the Discoveries of Chittenden, Fletcher, and Others. By Goodwin Brown, A. M. New York: Frederick A. Stokes Company, 1908. Pp. 200.

Taschenbuch der Physiologie. Von Prof. Dr. med. H. Bornatun in Berlin. Heft 1 und Heft 2. Leipzig: Dr. Werner Klinkhardt, 1908. Pp. 243.

La Diathèse urique. Par Henri Labbé, chef de laboratoire à la Faculté de médecine de Paris. Paris: J. B. Baillière et Fils, 1908. Pp. 95.

Lehrbuch der Ohrenheilkunde. Für Studierende und Aerzte. Von Dr. Georg Boenninghaus, Priv. Doz. für Ohrenheilkunde, Ohrenarzt am St. Georgs-Krankenhaus zu Breslau. Mit 139 Textabbildungen und 1 Tafel farbiger Trommelfelbilder. Berlin: S. Karger, 1908. Pp. viii-376. (Price, M. 9.80.)

Beiträge zur allgemeinen Kolloidchemie. Von Dr. B. Sztidlar, Paris. Dresden: Theodor Steinkopff, 1908. Pp. 41. (Price, M. 1.50.)

Untersuchungen zur Kenntnis der psychomotorischen Bewegungstörungen bei Geisteskranken. Von Dr. Karl Kleist, Assistenzarzt der Klinik für Nerven- und Geisteskrankheiten zu Halle a. S. Leipzig: Dr. Werner Klinkhardt, 1908. Pp. viii-171. (Price, M. 6.)

Traité de l'alimentation et de la nutrition à l'état normal et pathologique. Par le Dr. E. Maurel, médecin principal de Réserve de la Marine, professeur à Faculté de médecine de Toulouse. Deuxième volume. Les rations à l'état normal. Ration moyenne d'entretien de l'adulte. Ration de croissance et après l'âge adulte. Paris: O. Doin, 1908. Pp. xv-666.

Die nervösen Erkrankungen des Geschmackes und Geruches. Von Prof. Dr. L. v. Frankl-Hochwart. Zweite, gänzlich umgearbeitete Auflage. Mit 14 Abbildungen. Wien und Leipzig: Alfred Holder, 1908. Pp. 196.

Die Lehre von der Intubation. Von Prof. Dr. J. von Bokay, Direktor des St. Anne Kinderspitals in Budapest, etc. Mit 113 Abbildungen und 2 Tabellen im Text. Leipzig: F. M. V. Vogel, 1908. Pp. 250. (Price, M. 10.)

Fourth Annual Message of John Weaver, Mayor of the City of Philadelphia. With the Annual Reports of the Director of the Department of Public Health and Charities, and Superintendent of the Bureau of Charities. For the Year ending December 31, 1907. Issued by the City of Philadelphia, 1907.

A Manual of Fever Nursing. By Reynolds Webb Wilson, M. A., M. D., LL. D., Professor of Medicine at the New York Postgraduate Medical School and Hospital, etc. Second Edition, Revised, Illustrated. Philadelphia: P. Blakiston's Son & Co., 1908. Pp. 299. (Price, \$1.)

Transactions of the Obstetrical Society of London. Volume xlix. For the Year 1907. With a List of Officers, Fellows, etc., and General Index to Vols. i to xlix. Part

III. For June and July. Edited by Herbert B. Spencer, M. D., and Robert Boxall, M. D., Senior Secretary. London: Published by the Society, 1907.

Forty-third Annual Report of the Trustees of the Boston City Hospital, Including the Report of the Superintendent.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending May 22, 1908:

Places.	Date.	Cases.	Deaths.
Alabama—Mobile.	May 9-16.	6	0
California—Los Angeles.	April 23-May 2.	1	0
California—San Diego and vicinity.	May 1-8.	1	0
California—San Francisco.	April 25-May 2.	5	0
District of Columbia—Washington.	May 2-9.	5	0
Illinois—Chicago.	May 2-9.	4	0
Illinois—Danville.	May 3-10.	2	0
Illinois—Jacksonville.	May 2-9.	1	0
Illinois—Springfield.	April 30-May 7.	3	0
Indiana—Fort Wayne.	May 2-9.	1	0
Indiana—Indianapolis.	May 3-10.	2	0
Indiana—La Fayette.	May 3-10.	2	0
Iowa—Albia.	May 2-9.	1	0
Iowa—Ottumwa.	May 2-9.	1	0
Kansas—Kansas City.	May 2-9.	5	0
Kansas—Topeka.	May 2-9.	9	0
Kentucky—Covington.	May 2-9.	1	0
Louisiana—New Orleans.	May 2-9.	5	3 cases imported.
Michigan—Grand Rapids.	May 2-9.	1	0
Michigan—Kalamazoo.	May 2-9.	2	0
Michigan—Saginaw.	May 2-9.	4	0
Missouri—St. Joseph.	March 29-May 9.	93	1
Missouri—St. Louis.	May 2-9.	1	1
Nebraska—South Omaha.	May 2-9.	2	0
North Carolina—Charlotte.	May 1-8.	1	0
Ohio—Cincinnati.	May 2-9.	10	0
Ohio—Toledo.	April 25-May 2.	3	0
Tennessee—Nashville.	May 2-9.	1	0
Texas—Galveston.	May 1-8.	1	0
Utah—Salt Lake City.	May 2-9.	1	0
Washington—Spokane.	April 25-May 2.	9	0
Washington—Tacoma.	May 2-9.	2	0
Wisconsin—La Crosse.	April 25-May 2.	1	0
Summary—Europe.			
Philippine Islands—Manila.	March 27-April 28.	7	3
Summary—Foreign.			
Austria—Trieste.	April 18-April 25.	1	0
Belgium—Antwerp.	April 18-April 25.	1	0
Brazil—Rio de Janeiro.	March 30-April 12.	249	1
China—Yokohama.	April 1-8.	1	0
China—Hongkong.	March 14-April 2.	53	1
China—Shanghai.	April 1-8.	1	0
Egypt—Cairo.	April 8-22.	8	7
France—Paris.	April 18-April 25.	2	0
India—Bombay.	April 18-April 25.	2	0
India—Calcutta.	March 28-April 4.	35	1
India—Rangoon.	March 30-April 4.	1	0
Italy—Genoa.	April 18-April 25.	1	0
Italy—Cattania.	April 18-April 25.	1	0
Japan—Kobe.	April 18-April 25.	1	0
Japan—Osaka.	March 28-April 4.	1	0
Mexico—Veracruz.	April 18-April 25.	1	0
Russia—Odesa.	April 18-April 25.	1	0
Russia—St. Petersburg.	April 18-April 25.	1	0
Spain—Barra.	April 18-April 25.	1	0
Spain—Valencia.	April 18-April 25.	1	0
Switzerland—Zürich.	April 18-April 25.	1	0
Sweden—Stockholm.	April 18-April 25.	1	0
Sweden—Lund.	April 18-April 25.	1	0
Sweden—Åbo.	April 18-April 25.	1	0
Turkey—Constantinople.	April 18-April 25.	1	0
Turkey—Istanbul.	April 18-April 25.	1	0
Summary—United States.			
Barbadoes—Bridgetown and vicinity.	April 18-April 25.	1	0
Cuba—Cienfuegos.	April 18-April 25.	1	0
Cuba—Havana.	April 18-April 25.	1	0
Cuba—Santiago.	April 18-April 25.	1	0
Summary—Caribbean.			
19th-century—Port of Spain.	March 27-April 28.	7	3
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Summary—Caribbean.			
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19th-century—Port of Spain.	March 27-Apr		

China—Hongkong.....	March 14-28.....	8	7
India—Bombay.....	April 7-14.....	193	
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India—Rangoon.....	March 28-April 4.....	3	
Straits Settlements—Singapore.....	March 21-28.....	2	

### Public Health and Marine Hospital Service:

*Official list of changes of stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the seven days ending May 20, 1908:*

- ASHFORD, F. A., Assistant Surgeon. Granted leave of absence for four days, from April 12, 1908, on account of sickness.
- BOWIE, R. I., Sanitary Inspector. Granted leave of absence for thirty days, from July 1, 1908, and extension of leave without pay for fourteen days, from August 1, 1908.
- BURKHALTER, J. T., Passed Assistant Surgeon. Granted leave of absence for one month, from June 3, 1908.
- CARRINGTON, P. M., Surgeon. Granted leave of absence for five days, from May 19, 1908, under paragraph 189, Service Regulations.
- FROST, W. H., Assistant Surgeon. Granted leave of absence for two days, May 2 and 3, 1908, under paragraph 210, Service Regulations.
- LANZA, A. J., Assistant Surgeon. Relieved from duty on the revenue cutter *Manning*, and directed to proceed to Port Townsend, Wash., reporting to the commanding officer of the revenue cutter *Rush* for duty.
- MASON, W. C., Acting Assistant Surgeon. Granted leave of absence for two days, from May 28, 1908.
- McLARTY, A. A., Acting Assistant Surgeon. Granted leave of absence for fourteen days, from May 15, 1908.
- ROSELLO, M. M., Acting Assistant Surgeon. Granted leave of absence for four days, from April 25, 1908.
- VOGEL, C. W., Passed Assistant Surgeon. Relieved from special temporary duty at San Francisco, Cal., and directed to proceed to San Juan and other quarantine stations in the island of Porto Rico, and also to certain places in Venezuela, for special temporary duty.
- WARREN, B. S., Passed Assistant Surgeon. Granted leave of absence for two months, from June 5, 1908.
- YOUNG, G. B., Surgeon. Detailed to represent the Service at the meeting of the American Medical Association, Chicago, Ill., June 2 to 6, 1908.

### Boards Convened.

A board of medical officers was convened to meet in New Orleans, La., for the purpose of making a physical examination of Passed Assistant Surgeon T. D. Berry, in accordance with paragraph 50 of the Service Regulations. Detail for the board: Surgeon J. H. White, chairman; Passed Assistant Surgeon H. W. Wickes; Assistant Surgeon C. M. Fauntleroy, recorder.

A board of medical officers was convened to meet in Chicago, Ill., May 22, 1908, for the purpose of examining applicants for the position of cadetship in the Revenue Cutter Service. Detail for the board: Surgeon G. B. Young, chairman; Assistant Surgeon C. E. Wood, recorder.

A board of medical officers was convened to meet in St. Louis, Mo., May 23, 1908, for the purpose of examining an applicant for the position of cadetship in the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon B. S. Warren, chairman; Acting Assistant Surgeon H. C. Wakefield, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers of the medical corps of the United States Army for the week ending May 23, 1908:*

- COLE, C. L., First Lieutenant. Ordered from Ft. Thomas, Ky., to Ft. Benjamin Harrison, Ind., for duty.
- DUTCHER, B. H., Major. Relieved from duty in the Philippine Division in time to sail for the United States about July 15th; granted two months' leave of absence.
- EMERT, R. G., Major. Arrived at San Francisco from tour of the Philippine Service.
- IRELAND, M. W., Major. Detailed to represent the Medical Department of the United States Army at the meeting of American Medical Association, at Chicago, June 2 to 5, 1908.
- LYNCH, CHARLES, Major. Granted leave of absence to June 30, 1908.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers of the medical corps of the United States Navy for the week ending May 16, 1908:*

- BAKER, M. C., Assistant Surgeon. Detached from the navy yard, Mare Island, Cal., June 1st, and ordered to the *Ohio*.
- BAKER, M. W., Passed Assistant Surgeon. Detached from the *Colorado* and ordered to the *Nebraska*.
- CATHER, D. C., Assistant Surgeon. Detached from the *Lancaster* and ordered to the naval recruiting station, Kansas City, Mo.
- DUNN, H. A., Passed Assistant Surgeon. Detached from the *Nebraska* and ordered to the *Colorado*.
- FARENHOLT, A., Surgeon. Detached from the *Independence* and ordered to the *Maryland*.
- GARRISON, H. A., Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, June 20th, and ordered to the naval station.
- KENNEDY, J. T., Surgeon. Detached from the naval recruiting station, Dallas, Tex., and ordered to the *Independence*.
- MAYERS, G. M., Passed Assistant Surgeon. Ordered to the navy yard, Mare Island, Cal.
- MORAN, C. L., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the naval recruiting station, Dallas, Tex.
- SHIPP, E. M., Surgeon. Detached from the *Illinois* and ordered to the *Pennsylvania*.
- URIE, J. F., Surgeon. Detached from the *Pennsylvania* and ordered to the *Illinois*.

### Births, Marriages, and Deaths.

#### Married.

- ASTLEY—CASSELLBERRY.—In Philadelphia, on Sunday, May 17th, Dr. George Mason Astley and Dr. Clara Melvia Casselberry.
- COLLINS—HENDERSHOT.—In Platteville, Wisconsin, on Thursday, May 14th, Dr. W. P. Collins and Miss Mae Hendershot.
- DOWD—GROTE.—In Indianapolis, Indiana, on Tuesday, May 12th, Dr. Francis Tobias Dowd and Miss Nannette Grote.
- HUGGINS—COLLADAY.—In Washington, D. C., on Thursday, May 14th, Dr. John B. Huggins, Medical Corps, United States Army, and Mrs. Rose Loretto Colladay.

#### Died.

- ALLING.—In Dunkirk, New York, on Friday, May 8th, Dr. Charles P. Alling, aged seventy years.
- BEACH.—In Hartford, Connecticut, on Friday, May 15th, Dr. Oliver J. Beach, aged thirty-five years.
- BEHM.—In Chicago, on Saturday, May 16th, Dr. Charles E. Behm, aged thirty-eight years.
- CARRINGTON.—In Farmington, Connecticut, on Wednesday, May 20th, Charles Carrington, aged sixty-nine years.
- CUDDY.—In Baltimore, Maryland, on Thursday, May 14th, Dr. J. W. C. Cuddy.
- HARMAN.—In Wakefield, Nebraska, on Tuesday, May 12th, Dr. B. T. Harman, aged sixty-five years.
- LONG.—In Somerville, New Jersey, on Wednesday, May 20th, Dr. William H. Long.
- MARCOUR.—In New Orleans, Louisiana, on Sunday, May 17th, Dr. Raphael O. Marcour, aged thirty-four years.
- PEARSON.—In Toronto, Canada, on Sunday, May 17th, Dr. B. F. Pearson, aged sixty-eight years.
- PETPIS.—In West Branch, Michigan, on Monday, May 18th, Dr. A. J. Petpis, aged thirty-eight years.
- SALESMAN.—In New York City, New Jersey, on Monday, May 18th, Dr. E. A. G. Salesman.
- STILLMAN.—In New London, Connecticut, on Thursday, May 21st, Dr. Martha Rose Stillman, of Plainfield, New Jersey.
- STRUTHERS.—In Sudbury, Canada, on Thursday, May 14th, Dr. R. B. Struthers, aged forty-nine years.
- TWEEDY.—In Buffalo, New York, on Wednesday, May 13th, Dr. Edward H. Tweedy, aged forty-three years.



# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

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NEW YORK, JUNE 6, 1908.

WHOLE No. 1540.

### Original Communications.

#### EXPERT TESTIMONY.\*

By JUDGE RUFUS B. COWING,  
New York.

Some days ago I was invited by the worthy president of the New York Academy of Medicine to attend this meeting and make some remarks on the value of medical expert testimony, based upon my experience and observation on the criminal bench of this county. It can hardly be expected that I shall be able before such a body of medical scientists to present many new ideas, for my subject has frequently been a matter of discussion between physicians and lawyers. It may be said, however, that I am here to-night as a sort of expert to address you on the value of medical expert testimony, as during my twenty-eight years on the bench in the court of general sessions of this county I presided over many criminal trials where medical experts were called upon to give their opinions.

The safeguards provided by the criminal law to protect the innocent are many, and after a long experience and much observation I have come to the conclusion that it is practically impossible to convict an innocent person of crime when all these safeguards are invoked and observed in a criminal prosecution against him.

Every person charged with the commission of a crime: 1. Is presumed to be innocent until he is proved guilty. 2. Has the right to be defended by his own counsel, and to call witnesses in his defense. 3. Has the right to assist in selecting his own jury. 4. Has the right to challenge, with or without cause, any jurymen whom, for any reason, he considers unfavorable to him. 5. Has the right to see and examine the indictment against him, and make such objection to it as his counsel may suggest. 6. Has the right to face his accusers in an open and public court. 7. Has the right, through his counsel, to thoroughly and rigidly cross examine the witnesses against him in order to determine the truthfulness of their testimony. 8. Has the right to object to the admission or exclusion of any evidence which his counsel may think is unfavorable or favorable to his side of the case. 9. Has the right to object to anything said or done during the progress of the trial which he considers prejudicial to him or his case. 10. Cannot be convicted upon a preponderance of evidence, but can only be convicted upon such evidence as satisfies the consciences of twelve men,

whom he has himself assisted in selecting, beyond all reasonable doubt. 11. Has the right of appeal, either with or without exceptions, if the verdict is against him, so that practically his whole case may be retried by an appellate court, and a new trial granted him if the appellate court, after a review of the whole case, comes to the conclusion that justice demands it. 12. Has the right to take the witness stand in his own behalf, if he elects to do so; and if he refuses to do so the jury have no right on that account to draw any unfavorable inferences against him.

All these safeguards and many others are undoubtedly provided for the protection of the innocent, and not of the guilty, and, as I said before, make it practically impossible to convict an innocent person of a crime.

When a person kills another under such circumstances that the only possible defense is that he was insane at the time of the killing, he calls as witnesses all persons acquainted with his past life, who narrate to the jury all the strange, odd, and eccentric things which he has ever done or said, and, if possible, testify that one or more of his lineal ancestors were insane, and that the defendant has suffered from diseases which would be likely to disturb his equilibrium. The people controvert the defense by putting in all attainable evidence to show that the defendant at the time of the killing was not only sane, but criminally liable.

Both sides then produce medical experts to sustain their respective contentions, and it is a remarkable fact that both sides can generally obtain as many experts as they are willing to pay for.

Both sides then proceed to draw up a long hypothetical question, based, as a rule, not upon the whole evidence, but only upon so much of it as seems to sustain their theory, and from their respective experts obtain answers so contradictory that the jury is often obliged to discard the whole of it and decide the case upon the evidence and its own unaided judgment.

I have never heard of a case in which the sole defense was insanity, where the defendant was put upon the witness stand, and I have often wondered what the result would be if he should be called as a witness in his own behalf, and on cross examination be asked a few relevant and material questions, such as:

Are you in the habit of carrying a revolver loaded with powder and ball? Do you remember the time when and the place where you shot and killed the deceased? Did you know at the time you shot the deceased that if you shot him in the heart or any vital part of his body it would probably kill him?

\*Read before a meeting of the New York Academy of Medicine. The other line alluded to in the foregoing case.

Did you know that in shooting the deceased you were doing an unlawful act? And other similar questions which might be put to him by a skilled cross examiner.

Legal evidence is that which is properly submitted to a competent tribunal as a means of ascertaining the truth of any alleged matter of fact under investigation before it. Tersely put, it is a means to an end, the end being the ascertainment of the truth. While opinions of experts are not facts, yet under certain circumstances they are admitted in evidence as aids to the court and jury in the ascertainment of facts.

Our present judicial procedure, instituted for the purpose of administering the civil and criminal justice in our courts, is constantly undergoing change, and it cannot justly be claimed that the same is in all respects perfect.

It is believed by many that our present jury system very inadequately answers the purpose for which it was instituted, and that trial by jury should be superseded by some other more certain and reliable method for the ascertainment of the truth. While I don't think that our present method is perfect, I do think that it is the best system which has yet been suggested or devised, and from my experience and observation I believe that the jury generally arrive at a just conclusion on the facts in any given case and commit less errors than some judges in determining questions of law in the same case.

It is a fundamental principle of the criminal law that every sane person who has arrived at the age of discretion is conclusively presumed to know the law. I only know of one exception where this rule does not apply, and that is to our able judges, and for that reason the State provides appellate courts to review their decisions and correct their mistakes of law.

From my observation and experience I am of the opinion that a competent, honest, and impartial medical expert may and often does aid a jury materially in determining the facts in a case on trial, but I am also of the opinion that the practice now in vogue in reference to medical expert testimony must be radically changed before it will receive from courts, juries, and the general public that consideration to which it is justly entitled.

A medical expert is a doctor of medicine or surgery who, by special study and experience, has acquired skill and a peculiar knowledge upon certain subjects pertaining to his profession, which qualify him as an expert and render him competent to give his opinion in a judicial proceeding upon such subjects.

The opinions of experts are not, however, admissible upon matters of common knowledge. As these are within common observation and experience the jurors are deemed qualified to judge without expert aid.

Besides being an expert it must not be forgotten that he is also a witness, and, in fact, is only distinguishable from a nonexpert or lay witness in that he is permitted to give his opinion in answer to a hypothetical question based upon assumed facts in evidence which are not within his own personal

knowledge, while a nonexpert or lay witness can only base his opinion upon facts within his own personal knowledge, which have first been disclosed to the jury by him.

Neither the opinion of the expert or nonexpert witness is conclusive upon the jury, who are the sole judges of the facts, but is to be weighed like all other evidence, and the jury should always consider quality as well as quantity; in fact, the jury may come to a conclusion against the greater number of opinions and in favor of the lesser.

The opinion of one competent expert may, on account of his greater knowledge and experience of the subject, or from his giving a fuller detail of the facts or more probable reasons, be of greater value to the jury than the opposite opinions of several.

We sometimes hear lawyers seriously argue to the jury that quantity should have as much weight with them as quality. I call to mind a case which was tried before me in which the lawyer for the defendant, after the close of the people's case, informed his client that he must be on hand the next morning at the opening of court with at least seven witnesses, he having ascertained after counting up that the people had called six.

In propounding a hypothetical question to a medical expert, as the law now stands, the counsel has the right to assume, within the limits of the evidence, any state of facts which he thinks the evidence justifies, and ask the witness to give his opinion upon the facts thus assumed, which facts are assumed only for the purpose of the question, and for no other purpose. If the jury find that the facts stated in the hypothetical question are not proved, the opinion goes for nothing. The counsel may embrace in his hypothetical question such facts as he may deem established by the evidence, and if the opposing counsel does not think that all of the relevant facts in evidence are contained in such question, he may include them in a question propounded by him on cross examination.

The principal defects in medical expert testimony are as follows: 1, Its partisan character. 2, The insufficiency of the present standard of qualification. 3, The excessive number of experts examined. 4, The right given to experts to give their opinions based upon facts or alleged facts not within their own personal knowledge.

1. Very much of the just and harsh criticism which has from time to time been made by our courts against expert testimony and which has brought such testimony into disrespect and disrepute among the public generally is its partisan character, which is invariably shown from the fact that an expert always gives his opinion in the interest of the party by whom he is called and paid, and the further fact that he very frequently participates in the trial in the double capacity of witness and adviser to counsel trying the case. How to overcome these objections so as to make experts more fair and impartial is one of the questions to be determined. I will later discuss this phase of the question more in detail.

2. In a criminal case where the insanity of the defendant is the defense, besides the usual questions put to the proposed expert witness as to the extent of his study of medicine and surgery, and

his experience in treating diseases of the mind, he should be asked whether he has made a special study of psychology, and whether he is familiar with the law's definition of insanity, and whether he believes that law just and right.

A medical expert should be versed in psychology as well as physiology, particularly in these days, when it is being recognized more and more that both form a part of the science of healing.

In the colloquy between Macbeth and his wife's physician, Shakespeare showed that in his day the medical profession was not as far advanced in this respect as in our time.

MACBETH: How does your patient, doctor?

DOCTOR: Not so sick, my lord, as she is troubled with thick coming fancies  
That keep her from her rest.

MACBETH: Cure her of that.

Canst thou not minister to a mind diseased?  
Pluck from the memory a rooted sorrow,  
Raze out the written trouble of the brain,  
And with some sweet oblivious antidote  
Cleanse the stuff'd bosom of that perilous grief  
Which weighs upon the heart?

DOCTOR: Therein the patient must minister unto himself.

MACBETH: Throw physic to the dogs; I'll none of it.

The mere fact that a witness is a practising physician should in no case render him a competent expert witness in cases where insanity is the issue. He may be a competent expert in diseases of the eye, the ear, the heart, the kidneys, or any other part of the human anatomy, but an incompetent expert witness in diseases of the mind.

I have heard medical experts say that they did not believe that the law's definition of insanity is either just or right. By the law of this State a person is not excused from criminal liability as an insane person except upon proof that at the time of committing the alleged criminal act he was laboring under such a defect of reason as either not to know the nature and quality of the act he was doing, or did not know the act was wrong. It is very readily seen that every degree of insanity will not excuse a criminal act, but only such degree as comes within the law's definition. A person, to establish his defense of insanity as an excuse for an otherwise criminal act, must be able to show that his mind was so diseased at the time of committing the act that he did not have sufficient mental capacity to form a criminal intent, and that he did not know the nature and quality of his act or that the act was wrong.

3. With reference to the number of experts to be called by the respective sides, it should never be left to the discretion of counsel, but to the discretion of the court, and, as a rule, never more than two for each side should be allowed. This would compel the respective parties to produce the best experts obtainable, and would save time and much confusion to the jury, which often results from a multiplicity of experts.

4. In my judgment the practice of allowing a medical expert to give his opinion upon a hypothetical question based upon assumed facts not within his personal knowledge should be done away with.

Every witness who is permitted to give an opinion should be compelled to first give the facts within his own personal knowledge and observation upon

which his opinion is predicated, which would enable the jury to determine whether the disclosed facts justify his conclusion.

These long drawn out hypothetical questions, which are based only upon a portion of the evidence and usually upon that portion only which is most favorable to the party asking the question, which sometimes contain two or three thousand words and require an hour or more to read, and which as a rule are unfair and misleading, in my opinion, instead of aiding the jury in coming to a correct conclusion, mystify and confuse them to such an extent as sometimes to cause a miscarriage of justice.

It must be remembered that in criminal cases the defense of insanity is often manufactured and is the only conceivable defense which can be made.

An expert who is not possessed of sufficient ability to personally examine the defendant and ascertain for himself the facts upon which he predicates his opinion should not be allowed to give it.

The rule regulating the admissibility of the opinions of nonexpert or lay witnesses upon questions affecting the mental condition of a person should be applied to expert witnesses. We find the rule laid down in the case of "People vs. Conroy," decided in the Court of Appeals in 1884, as follows:

"When a layman is examined as to facts within his own knowledge and observation tending to show the soundness or unsoundness of the defendant's mind, he may characterize as rational or irrational the acts and declarations to which he testifies. But to render his opinion admissible even to this extent, it must be limited to his conclusion from the specific facts he discloses."

To revert to the question of allowing medical experts to act in the dual capacity of counsel and witness. There has grown up a practice in the courts of calling medical experts to aid the respective counsel in conducting the trial by suggesting questions to be put to medical expert witnesses, thus making them practically counsel in the case, and afterwards calling them as witnesses to sustain the side of the case for which they have been acting in the capacity of counsel. All this is done in the presence and hearing of the jury, and has the effect of convincing them that experts are not fair and impartial witnesses, but are prejudiced in favor of the party calling and paying them.

This practice has had much to do in bringing medical expert testimony into disrepute, and should be done away with.

There can be no valid objection for either side in a criminal case to employ able medical experts to assist counsel in conducting the trial, but having so acted they should never be permitted to go upon the witness stand as experts. In other words, they should never act in the double capacity of witness and counsel.

Various means have been suggested by lawyers and doctors for minimizing the evil which attends the reception of medical expert testimony at the present time.

Among such remedies are: 1. The appointment by some competent power of medical expert witnesses, who must qualify themselves to give opinion evidence in the case without consultation with the litigants or their counsel, and whose services are free.



be paid for by the county in which the trial takes place. 2, A statutory prohibition against receiving any expert evidence from a witness who has been paid or expects to be paid anything by either party, which is practically going back to the old rule of evidence, which disqualified a witness who had any pecuniary interest in the result of the trial. 3, The appointment of a commission of experts in insanity cases to examine the person alleged to be insane before trial and make a report to be read at the trial, where all the members of the commission must attend to be examined and cross examined, as either party may desire, without compensation except a fee to be fixed and paid by the State.

For many years the law of England and this State made any one who had a pecuniary interest in the result of a lawsuit an incompetent witness to testify in such suit.

While this rule of evidence has been relaxed so that pecuniary interest no longer disqualifies, yet juries and courts have a right and should consider such interest in determining the credibility of the witness.

The reason of the old rule rendering such a witness incompetent was that his testimony was considered to be so prejudiced as to render it unreliable for the jury to consider in coming to a conclusion, and it seems to me that the reason of this old rule applies with great force to medical experts, and how to change the present system of obtaining and paying such experts, so as to render their testimony less liable to be discredited, is the question which the medical and legal professions are now trying to determine.

The proposed plan of having some disinterested power select and pay such experts is not unattended with difficulties, but one thing is certain: This society and other similar bodies can formulate wise rules of medical ethics, which shall bind all their members and materially aid in solving the question.

## THE RESTORATION OF THE NORMAL BALANCE OF THE FOOT.

### III.

*Third Paper. Operative Measures in Weak or Flat Foot Upon the Tendons of Those Muscles Which Normally Control the Arch Movements, for the Purpose of Correcting the Deformity.*

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The use of a mechanical support alone for the cure of weak or flat foot is ineffective, as stated in the preceding paper (see *Journal*, p. 976), since it tends to weaken the already overstretched structures which, when in a normal condition, hold the foot in a correct position.

The use of a support simply as a means of relief is objectionable, as patients are not only averse to wearing such a cumbersome apparatus over a long period, but the expense and trouble are factors to be considered. The orthopaedic surgeon also realizes that the result obtained is only palliative, as the gait is never normal, although the plate may be an excellent fit, and there is a prompt return of the deformity as soon as its use is discontinued.

In order, then, to effect a cure with the use of a support it is necessary to supplement it with a long

continued course in muscular exercises, as the arch can be maintained in a normal position, if unsupported, by muscular development only.

The restoration to a normal condition as a result from this combined method of treatment need not



FIG. 33.—Showing hypertrophy of anterior and posterior tibial tendons in weak foot.

be expected in all cases, even under the direction of the most skilled surgeon and with the assistance of the patient, as conditions are such in many instances that the parts at fault fail to respond to the treatment, and the result too often is a foot which remains in a normal position only so long as the support is used.

There are a large number of patients for whom it is useless to prescribe muscular exercises for any considerable period, as many are so busily engaged that they neglect them, many are too indolent, while



FIG. 34.—Showing shortened peroneal tendons which prevent the arch from being raised to a normal position.

a greater number are so ignorant and poor that they cannot be kept under the necessary observation during such a course of treatment.

In consideration of the foregoing it would seem best, if possible, that some method should be adopted for the treatment of these cases which would be effective, would be adapted to the conditions met

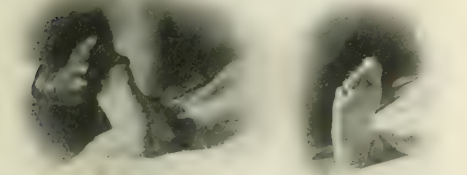


FIG. 35.—3. Arch flattened and held by person. 36.—4. Arch in normal position as soon as tendons are divided.

in the majority of patients, would not involve the expenditure of a considerable length of time, and would insure a larger percentage of cures than that obtained under our present plan of treatment.

A review of the literature upon conservative measures shows that almost all conceivable methods and agents have been utilized, either alone or in combination, with about the same results, and the question naturally arises, is not the operative plan of treatment the only one which offers a solution of the difficulties which are so apparent?

Several operations for the relief of this deformity have been devised which have been more or less successful in a certain class of cases, but none has been generally adopted, and at the present time there does not seem to be any surgical procedure which will successfully overcome the condition met with in a majority of these patients.

A brief reference to the description in the preceding paper of the structural changes which have taken place in a weak foot, and a consideration of

analysis of its structures should begin with the foot in a state where it is freely movable in all directions, i. e., as far as interjoint motion is concerned. The only abnormal condition then would be the patient's inability to maintain unaided the foot in a normal position, and this disability would be due either to weakness and overstretching of those structures that support a normal arch, which would prevent the foot from being held in the correct position, or, together with this, to shortening of those muscles which depress the arch, which would make it impossible to even bring the foot into a correct position.

The foot is found to be everted, the bones are displaced and often misshapen, the ligaments are stretched and attenuated, and some muscles are lengthened, although they usually show marked hypertrophy of their tendons (Fig. 33), while others are often shortened (Fig. 34).

From our present knowledge it would seem, from the before mentioned examination, that the only



FIG. 37.—5. Foot in position before dividing tendons.

part which would admit of any surgical interference would be the muscles, since the bones cannot be changed in shape by operative measures, as it would destroy the joint surfaces, and the ligaments are so situated and are so numerous that any attempt to alter them in this manner would be futile. The only change, then, that could be made surgically to better this condition, with a reasonable hope for a return to the normal as a result, would be in the muscles or their tendons, and this change can be brought about only by shortening those which normally maintain the arch and lengthening those which prevent it from assuming the normal position.

The preliminary paper on this subject (see *Journal*, p. 875) showed, in the experiments described, that the anterior and posterior tibials are the muscles which hold the arch in place, and that the peronei muscles and the *psoas* *Adiffis* prevent it from being



FIG. 36a.—6. Arch flattened and held by person. 36b.—7. Arch in normal position as soon as tendons are divided.

what might be done in the way of operative work to bring the foot to a normal condition, will help us in determining whether such measures would be feasible.

As already stated, the complications in weak feet must be overcome before curative measures of any kind can be successfully carried out; therefore, the

brought into a normal position readily if they are shortened. It also showed that it requires only a small amount of power, in comparison with that necessary to lift the weight of the body, upon the anterior and posterior tibial muscles to hold the arch

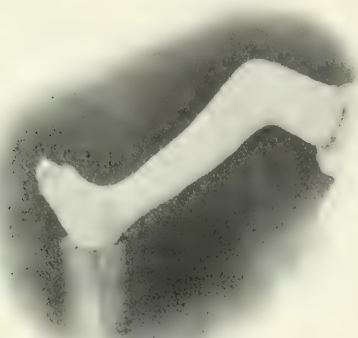


FIG. 38.—Position of limb in plaster of Paris after operation.

in place, when the patient bears his whole weight upon the foot, provided that the peronei tendons and the tendo Achillis are divided, so that, when the experiment is made, the arch can be brought into a normal position.

It would not seem unreasonable, then, to suppose that this deformity may be corrected by a division of those structures which resist the restoring of the arch to a normal position, and a shortening of those which normally maintain it in place.

It was from conclusions drawn from such an analysis of these experiments that the following briefly described operation was undertaken, and the results so far obtained have given the operators reason to believe that the work justifies further consideration.

After the usual preparation, the foot is grasped by the operator, with an assistant holding the leg, and inverted with a moderate degree of force. With the foot in this position the peronei tendons, which are upon the stretch, are severed subcutaneously at a point about half way between the external malleolus and the sole. This procedure allows the foot to be inverted to its fullest extent by the surgeon, and the arch assumes the highest position possible (Fig. 35). The tendo Achillis is now divided, so that the foot is hyperflexed when force in this direction is brought to bear upon it (Fig. 36). By this means the calcaneum is permitted to slide forward upon the astragalus, thus elevating its anterior extremity, relaxing the plantar ligament, and bringing the tubercles to their normal position of weight bearing. A short oblique incision is made over the tendon of the anterior tibial muscle, just in front of the internal malleolus, at a point where it commences to turn over the internal border of the foot. The sheath of the tendon is opened, and a grooved director—or, better, an instrument devised for picking up tendon—is passed beneath the tendon, and it is lifted above the surrounding tissues. The

grooved director or tendon elevator supporting the tendon is twisted in a circular manner until the desired amount of shortening is made (Fig. 37), when the contiguous parts of the proximal and distal ends of the tendon are securely fastened together by means of a linen suture. By this method just the proper amount of tension upon the tendon can be made, and the difficulty usually experienced in trying to hold the cut ends in place while a suture is passed and tied is avoided. The loop of the tendon is severed, and the free ends are trimmed to a suitable length and sutured to the tendon. The sheath is carefully stitched together, and the skin preferably closed by buried sutures. The tendon of the posterior tibial is treated in a manner similar to the one described, the incision being at a point where it passes beneath the inner malleolus. The foot is held in the position of flexion and extreme inversion, the leg is flexed, and the limb enveloped in plaster of Paris, including the foot, leg, and lower part of the thigh (Fig. 38). The plaster dressing remains in place for four weeks; then it is removed, and massage and passive motion commenced. A week later the patient is allowed to walk with the arch supported until the tendons are firmly united, and the muscles sufficiently developed to hold the foot in the corrected position.

The most important step of the operation is the division of the peronei tendons and the heel cord, for the arch in a large number of cases undoubtedly would return to a normal position without any further surgical interference, since there is a strong tendency for the foot to assume the correct position, in most instances, as soon as these structures are divided, for the opposing muscles no longer exert any force, and without this opposing force the muscles which hold up the arch would in a brief time shorten to their normal length.

The question which naturally confronts one at this point is, Will these shortened tendons remain so and hold the arch in a normal position when



FIG. 39.—Case immediately before operation

they are subjected to strain, or will they stretch and allow the foot to flatten again? If the conditions after the operation are the same as before the deformity occurred, and the same factors which caused it in the first place are present, it would



seem that a recurrence would take place, as the tendons are no stronger, and the ligaments weaker. From observations made thus far, however, this reasoning does not seem to be verified clinically, and might be explained by these facts: First, that those



FIG. 40.—Same case as in Fig. 39, three weeks after operation.

factors which primarily caused the deformity are eliminated, in that proper attention is given to the foot wear, and the patient is instructed as to the care of the feet, so that improper postures are guarded against, and muscular exercises are encouraged; second, that, although the condition after the operation is similar, it is not the same as when the deformity commenced, since the normal balance has been restored, therefore the arch is easily maintained in a normal position, as the muscles act to a better advantage, in that the leverage is improved, and in consequence of this the required muscular power is much lessened.

It is not uncommon to find deformities in which the condition at a certain stage is nearly analogous to that found in the foot after this operation, which will illustrate the point in question. For instance, in acquired clubfoot, when the deformity first begins, it is due to the shortening of the anterior and posterior tibial muscles, which are not only able to



FIG. 41.—Same case as in Fig. 40, nine months after operation, the patient having walked for nine months.

increase the arch and invert the foot, but will turn it bottom side up in a comparatively short time. To those who have had experience in correcting this deformity of clubfoot, even in those cases just beginning, it is very apparent that these two muscles

are well able to maintain the arch of the foot in place, if they can work to an advantage.

It does not seem unreasonable to believe, then, that these muscles (tibialis anticus and posticus) will not only hold the arch in position, but will continue to shorten after the operation until they are sufficiently opposed by the lengthened peronei muscles, since the normal balance in any segment of the body is maintained only in this manner.

From the results so far obtained in this operation there does not appear to be any tendency toward a return of the deformity, but, instead, the improvement has been constant, and it seems possible to correct this distortion by this method. At this time, however, there has not been a sufficient number of cases operated in, nor has there been sufficient time since the operations to warrant positive statements as to the final outcome (Figs. 39, 40, 41).

In all patients who have submitted to the operation there has been a marked change for the better, and in those cases where the result has not fully met the expectations of a complete restoration of a normal arch, the fault was an error in judgment as to just how much of the tendon should be removed, rather than any defect in the operation as a whole.

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## THE SPECIFIC ACTION OF MERCURY IN SYPHILIS.

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For several years Roux and Metchnikoff have carried on a series of experiments at the Pasteur Institute in the attempt to inoculate the anthropoid apes and some of the lesser members of the simian family with syphilis. In these experiments they have obtained positive results. The ultimate aim of these researches was to find, if possible, some means whereby the effects of the inoculation could be prevented before the virus gained entrance to the general system. In this way they have apparently succeeded by the application of a mercurial ointment composed of one part of calomel and two parts of

lanolin. This should be applied within twelve or eighteen hours of the time of inoculation, and when properly carried out general infection does not occur. In other words, the mercury applied locally destroys the spirochætae.

During the progress of the investigation notices thereof have appeared in *Annales de l'Institut Pasteur*, and the general results have been embodied in a *Thèse* by Paul Maissonneuve. This has been translated by de Verteuil under the title, *The Experimental Prophylaxis of Syphilis*. From this little work I quote a number of paragraphs:

"The use of mercury applied locally in syphilis has been advocated by eminent authorities on syphilis, such as Deday, and more recently by Fournier."

Concerning mercury, Roux and Metchnikoff quote Hallopeau (1906) as saying: "I systematically employ this local treatment in every syphilitic lesion accessible to its influence. . . . Unless I am mistaken, this systematic use of local mercurial treatment, which I have already advocated on several occasions, should not be looked upon as being of little importance. I personally consider it to be of great practical value" (p. 36).

Speaking for themselves, Roux and Metchnikoff declare that "Mercury is even a greater specific against the local disease than against the general disease" (p. 55).

Concerning the relation of potassium iodide to the treatment of syphilis, I quote the following (p. 29): "It is, however, a matter of common knowledge that it has no influence on the chancre and on secondary lesions; it has never been considered as an antimicrobial agent. We must not, therefore, expect to find in this drug an antidote against the poison of syphilis."

While these views as to the local action of mercury and of the influence of the iodide in the treatment of syphilis will be new to many, they are not altogether novel, as will be seen by reference to my own writings of more than thirty years ago (*An Elementary Treatise on Diseases of the Skin*, 1876), from which I quote the following:

"How does mercury cure the syphilides? Is it by some alteration of the constitution of the blood, and the consequent induction of nutritional changes, or is it by direct local action of the drug upon the lesion itself? The former is the more prevalent belief, but the latter, I think, is nearer the truth. Mercury cures the lesions by the particles being brought in direct contact with them, and *ceteris paribus*, the larger the quantity of mercury that can be made thus to act, the sooner the cure, provided the remedy be used in such a way as not to exhibit its own peculiar effects" (p. 69).

In a later writing (*Cutaneous and Venereal Memoranda*, 1877), I again referred to the local effects of mercury as follows: "If there be mucous patches or other lesions about the mouth, the trituration (of mercury) "is to be preferred to the pill, inasmuch as the finely divided drug is thus brought into immediate contact with the lesions themselves, and by its local action hastens their removal." Still later (*Practical Treatise on Diseases of the Skin*, 1891), I wrote concerning mercury as follows: "My own practice is to use this agent both internally and externally, believing as I do that the drug acts by

virtue of its particles being brought into direct contact with the lesions, externally by means of lotions, salves, or other applications; internally, through the medium of the blood and circulation" (p. 56).

Concerning the iodide, I wrote (1876) as follows: "Let us now consider the uses of the iodide in connection with the treatment of syphilis. Mercury removes symptoms and cures the disease, but sometimes does so slowly. The iodide does not cure the disease, but may remove certain symptoms with wonderful promptness" (p. 73).

It is certainly gratifying to know that the views as to the action of these drugs, presented more than thirty years ago as the result of observation and ratiocination, have been so amply confirmed by the recent experimental laboratory work of the Pasteur Institute.

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### INTUSSUSCEPTION OF THE SIGMOID.\*

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Intussusception of the sigmoid is a condition which is much more frequent than we are aware, and has such an important relation to constipation, autointoxication, hæmorrhoids, mucous and membranous colitis, that a short paper on the subject, with a brief review of cases, may be of interest. By the sigmoid I mean that portion of the intestine between the bifurcation of the common iliac artery and the peritoneal reflection of the cul-de-sac of the rectum. In other words, the *iliac S* of the French.

**Ætiology.**—When the mesentery of this organ is abnormally long, it may be congenital or acquired. As the sigmoid is the storehouse, or faecal retainer, we can readily see how a long mesentery will, if the calls of nature are not promptly heeded, cause embarrassment to the sigmoid. Inflammation, infection, and ulceration are very apt to follow under pressure of hard fecal matter on the mucous membrane, when it is allowed to accumulate for any length of time. In order to evacuate the bowels drastic cathartics are given, and, when these fail to give relief, enemas in abnormal quantities are resorted to; as a result, straining at stool occurs, bringing the abdominal muscles and diaphragm into play, which, owing to the pressure from above and the relaxed state of the organ, eventually brings on intussusception.

It is naturally trivial at first; but when once started the difficulty of expulsion and the demands on the abdominal muscles and diaphragm for extra force are increased. The mesentery may become elongated from constant dragging, due to displacement of the surrounding organs, following childbirth, or from inflammation. Acute diarrheal conditions, due to constitutional disease or infection, following amebic dysentery, are etiological factors to be considered. Also growths, like polypi, by causing straining and a frequent desire to evacuate the bowels, are contributory factors.

**Pathology.**—Byron Robinson tells us that in these conditions the submesosigmoidal tissues, vessels, and veins are elongated and attenuated. Interference with the circulation causes disturbed secretion and peristalsis. There is an increase in the number of goblet cells, infiltration with round cells, infection, ulceration; also, a thickening of the mucosa and submucosa. When these conditions have existed for any length of time, very extensive ulceration of the sigmoid occurs, and sigmoiditis or perisigmoiditis is the result.

**Symptoms.**—A feeling of unfinished stool, following a movement of the bowels, aching pain in the sacrum, a passage of mucus or membrane, a dragging sensation in the left iliac region, with a feeling of heat across the lower portion of the abdomen and back, periodical attacks of hæmorrhage from the bowels, colicky pains before the bowels move, pain on sitting or standing for any length of time, headache, vertigo, nausea, vomiting, frequent and painful urination, pain down the back of the legs. The symptoms vary with the degree of intussusception,



Intussusception of lower portion of sigmoid colon (Hutchins).

length of time it has existed, and the involvement of other organs.

The feeling of unfinished stool, following a movement of the bowels, is the most constant and typical symptom, and when present should lead to digital and proctoscopic examination of the rectum. It is described as a feeling of something in the rectum that should come away. In a short time after the movement there is a desire to go to the toilet again, when very little is accomplished, unless an enema is taken. Assuming the knee chest posture will very often give relief.

Aching pain in the sacrum and pain down the back of the legs are other symptoms which are present in all cases, and are no doubt due to congestion, pulling on the mesentery, and pressure in the sacroplexus.

The feeling of heat in the ileopubic region and in the sacrum is not present in all cases, but when it manifests itself it causes a great deal of distress. This symptom is due to congestion, the same patients

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as a rule, feel relief after a hæmorrhage from the bowels.

Passage of mucus or membrane depends a good deal on the degree of intussusception; if this is marked, membrane is passed; if not, only mucus.

Periodical attacks of hæmorrhage usually occur in cases in which the intussusception is severe, and in which either constipation or diarrhoea are marked features. It is due, I presume, to the intense congestion caused by the obstruction to the return circulation. It also occurs when ulceration exists, and I have seen ulceration of the entire circumference of the bowel in these cases.

Colicky pains, before the bowels move, are due to an effort on the part of nature to get rid of the accumulated gas and faecal matter; the pulling of the intestine on its mesentery in an effort to straighten itself. Adhesions of the sigmoid, or some other neighboring organ, may also cause it.

Pain, on sitting or standing, only occurs in a small percentage of cases; this is due to pressure and congestion in the anal region.

Frequent and painful urination is no doubt a reflex symptom, due to the sympathy existing between the urinary and rectal sphincters.

*Treatment.*—The treatment may be divided into palliative and operative.

Palliative treatment is indicated in those cases where, owing to age or some constitutional disease, operative treatment is contraindicated. The general constitutional condition of the patient must always be considered and a suitable diet prescribed; the bowels moved every day with a mild laxative, and an enema of olive oil or saline solution employed to wash the lower bowel and prevent straining. When the condition is exaggerated, the patient should be instructed to move the bowels when lying either on the side or back, and a bed pan used. If there is discomfort and pain after the movement, rest should be advised, with the hips slightly elevated for an hour or two. The patient can be taught how to replace the intestine by passing a No. 3 Wales bougie, to the end of which is attached an inflating bulb; when the bougie meets with any resistance, a little air is introduced, and in this manner the bowel is gradually replaced. After this four ounces of oil, or some medicated solution, is introduced through the bougie in position, and the patient directed to rest for an hour, with hips elevated.

Office treatment, once or twice a week, is indicated in most of these cases, for by this means we are able to see if ulcerations exist, and, if so, to treat them locally; also, the act of passing the tube and the massage incident to the air pressure seems to have a decidedly beneficial effect. If this procedure is followed, impaction never takes place. And as we cannot always depend on the patient to carry out the treatment intelligently at home, it is well to keep him under our supervision until we are satisfied that there is material improvement.

*Operative Treatment.*—The patient is prepared in the usual way, as for any laparotomy. Beginning about two and a half inches above the pubis an incision some three inches long is made on the outer side of the left rectus muscle. The sigmoid is easily reached through this incision, and brought into

view. Three or four Pegenstecher sutures are now passed through the inverted transvalis fascia, on one side, through the muscular wall of the intestine, and again through the inverted edge of the transvalis fascia on the other side. In this way the intestine is suspended from the fascia, instead of from the peritonæum. (This point should be borne in mind, because if the sigmoid is suspended from the peritonæum, instead of from the transvalis fascia, it gradually relapses, with the result that a suspensatory ligament is formed, and a return of the old condition inevitable.) The fascia is then closed by means of interrupted sutures, and the skin with a continuous plain catgut. The patient should be confined to his bed for at least two weeks, and the bowels moved about the fourth or fifth day.

CASE I.—C. D., age twenty-three; occupation laborer.

Family history: Father and mother both living and well. Personal history: Has always suffered from constipation.

Present illness: About two or three years ago, he began to have pain before the bowels moved; the movements were never satisfactory, and he had a feeling as if there was something more to come away. He passed mucus and blood occasionally, and suffered from severe pain in his back and left iliac region, which was so severe at times as to prevent his working. He felt better when he rested awhile, but was hardly ever free from backache. Appetite was poor, and he suffered from indigestion. He had lost about ten pounds in the last six months.

The examination showed a normal heart and lungs. Abdomen was flaccid; there was slight tenderness over descending colon and sigmoid; and patient complained of occasional pain over splenic flexure. Digital examination revealed a protrusion into the rectum which felt like an os uteri, and was surrounded by sulcus. Proctoscopic examination showed hypertrophic catarrh of rectum; some mucus, and faecal matter; sigmoidal mucous membrane was congested; bled easily, and was covered by a mucus resembling the white of an egg.

Diagnosis: Prolapse of sigmoid.

CASE II.—E. F., twenty-four years, nurse.

Family history: Mother had typhoid fever several years ago, which was followed by colitis and constipation. Father died of pneumonia.

Personal history: Several years ago patient had cellulitis of the right leg; diphtheria; mastoiditis; and typhoid fever. She had suffered occasionally from muscular rheumatism, and had had a pain in the rectum and left side since she was thirteen years old. Pain was worse when she was constipated.

Present illness: About two years ago she had a severe diarrhoea which lasted four months; following this, she suffered from constipation up to the time she was operated upon for appendicitis; after this, her stools were fairly regular for a time. She suffered occasionally from diarrhoea; had had two attacks last week, and since then had been constipated. Had distress and eructations an hour and a half after eating. About once in one or two weeks she had attacks of severe gripping or twisting pains, which lasted anywhere from twelve to fourteen hours, and were followed by the passage of large quantities of mucus and membrane. She never had a satisfactory movement of the bowels; always the feeling of unfinished business; but was relieved when she took an enema.

Diagnosis: Extensive adhesions between omentum and caecum; the omentum was also adherent to the descending colon or sigmoid. Cystic ovary about the size of an egg adherent to the sigmoid, which was prolapsed. Mass could be felt through the anterior wall of the rectum.

CASE III.—Mrs. C., thirty-two years, widow, appearance healthy.

Family history: Patient had menstruated at the age of fifteen, and had always been regular. Was thirty years old when she gave birth to a child, and at that time was badly lacerated. It was necessary to perform upon her a perineorrhaphy and trachelorrhaphy. She had always had trouble with her bowels; gripping pains all her life; never, as long as she could remember, had she had a satisfactory movement; troubled with gas and cramps in the lower part of the abdomen and a feeling as though there were a lump

in the rectum. Since her child was born all her trouble had increased, and she had a feeling of heat across the lower part of the abdomen, and a dull aching pain in the back. When walking or going up stairs she had a pain in the left inguinal region. Had flashes of different colors before the eyes; and had a feeling as if the top of her head were being lifted off. Soreness all over the abdomen. About two hours after eating, had acid eructations, sometimes very bitter. She suffered from nausea, and vomited occasionally. Had a floating kidney on the right side, and movable on the left. Had about three movements daily.

Diagnosis: Prolapse of the sigmoid.

36 WEST THIRTY-FIFTH STREET.

### OSTEOMYELITIS.\*

By FRED H. ALBEE, M. D.,  
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Acute infectious osteomyelitis is a pyogenic infection of bone, occurring most frequently in early life. Trendelenburg, from an analysis of 1,058 cases at Brun's clinic, states that it is most common from the thirteenth to the seventeenth year. In one half the cases the femur was involved, in one third the tibia. Others state that 50 per cent. of cases occur during these years. It is due generally to the *Staphylococcus aureus*. However, other organisms, such as streptococci, pneumococci, and typhoid bacilli, are sometimes the cause. Certain factors also predispose to this disease, such as exposure to cold, trauma, fatigue, acute infectious diseases, and typhoid fever.

In most cases complicating the infectious diseases, it is a secondary infection, but occasionally it is said to be primary, as typhoid osteomyelitis. In a certain number of fractures the ends of the bones become infected and a traumatic variety results. Here the process is almost invariably confined to the immediate locality of the fracture.

The usual location of acute osteomyelitis is either at a point of injury or in the extremities of shafts of long bones, near the epiphyseal cartilage, and beyond which line it rarely extends because of the marked resistance cartilage bears to infection and the different blood supply of the epiphysis. In some cases, especially in adults, in whom the epiphyseal cartilage has ossified and no longer persists as a bearer, the infection may extend through the epiphyseal line and involve the epiphysis and joint. The beginning focus is always in the marrow, the trabeculae and cortex being attacked secondarily. Its location is an important point clinically, because tuberculosis practically always begins in the epiphysis. Now since the marrow cells communicate very freely with each other the toxic material, retained in this dense shell, spreads rapidly, and large areas may become necrosed before infiltration with exudate is even marked. The process may extend along these spaces and the entire marrow of the shaft be involved in a very short time. The extent to which cortical necrosis occurs depends upon two things. On the extent of destruction of the endosteum and the amount of separation of the periosteum (Nichols). Since these two factors vary

greatly in individuals, it is easily understood that the amount of necrosis of the cortex must vary within wide limits. If the endosteum remains viable, the internal layer of the cortical bone will retain its vitality. If the periosteum is intact, the



outer layer retains its vitality. The marrow has considerable power of repair. Dense cortical bone has practically no reparative power.

The overlying soft tissues, in some cases, may

\*Read before the West Side Clinical Society, March 20, 1918.

come infiltrated, and in certain instances an abscess connecting with the bony focus forms. The periosteum is often separated from the cortex and elevated from the bone over a large area. In this event the space is filled with a purulent exudate. Finally such an abscess may perforate the skin through one or more openings, leaving sinuses which lead down to bare necrotic bone.

*Symptoms.*—The disease commonly begins with a sharp onset and the symptoms are definitely localized pain and sensitiveness, as well as all the constitutional symptoms of an acute infection, with the absorption of infectious material. The temperature is usually elevated to about  $103^{\circ}$  to  $104^{\circ}$  F. and the pulse is usually greatly accelerated. The tongue is dry and coated. The face is often drawn and flushed. The leucocyte count is usually very high—



FIG. 2.—Localized osteomyelitis of the great trochanter. The symptoms in this case simulated very closely those of tuberculosis of the hip joint. After the removal of the sequestrum, which appears in the skiagraph, the convalescence was rapid.

20,000 or 30,000. The course of the disease varies with the virulence of the organism and the extent and the situation of the process. The pain is usually intense, and if the bone is superficial, swelling can usually be detected early. The skin may become red or livid. In a few days either pitting on pressure or fluctuation appears. When the bone is more deeply situated, or when the process has not extended beyond the medullary cavity the swelling and redness may not appear until late.

In young children, who are usually not apt to localize pain well, it may be only after very careful study that the particular bone affected is found, especially when the patient is in a state of stupor. However, pain is usually elicited by pressure over the focus or by jarring the sensitive bone, such as tapping on the foot in a case of involvement of the

tibia or femur. The diagnosis of early cases in older children is sometimes difficult even to experienced men who have the lesion in mind. The pain is frequently referred to a neighboring joint, in which no evidence of involvement can be made out, or the swelling of such a joint may come on so early as to distract attention from the disease in the bone until an abscess appears. In severe cases the symptoms may be very grave, and the patient may die in a few days of septicæmia, while in other instances the patient may survive the local disease, but subsequently die of pyæmia, ulcerative endocarditis, exhaustion, etc.

If suppurative arthritis occurs in the neighboring joint the case is a very grave one. The prognosis, however, depends to a great extent on early and vigorous treatment, so much so that even the gravest cases may be saved. Under any circumstances, the prognosis should be very guarded as to immediate and remote results, the certainty being that at best the illness will be long, and that the neighboring joint may be involved, or that a deficiency in growth, with its resulting deformity, may follow.

The diseases which are most liable to be confounded with this disease are tuberculous arthritis, gonorrhœal arthritis, typhoid fever, acute rheumatism, and abscess of soft parts. Tuberculosis of the joints nearly always begins in the epiphysis of the long bones, while osteomyelitis, as stated before, almost always begins in the diaphysis. In cases of epiphyseal osteomyelitis, the sudden onset, intense pain, early involvement of joint, marked leucocytosis, in contrast with its absence in tuberculosis, and the presence of constitutional symptoms, should allow a diagnosis.

Acute articular rheumatism generally affects more than one joint and the symptoms are much milder. The constitutional disturbance, the leucocyte count, and the temperature, are all very much less. The reaction to salicylates may help. The pain and symptoms in osteomyelitis are in the bone and not in the joint.

Gonorrhœal rheumatism may affect but one joint, and in some cases the early symptoms are severe. The history of a previous attack of gonorrhœa can usually be elicited and the bone tenderness is wanting. The constitutional symptoms are much less severe. The detection of gonococci in the joint fluid would be conclusive evidence.

The high leucocytosis, the pain and local symptoms, sudden onset, and absence of Widal reaction, usually permit a distinctive diagnosis from typhoid fever. Any severe pain in bone, with or without swelling, should always recall the possibility of acute osteomyelitis.

*Treatment.*—The treatment of acute osteomyelitis consists of two operative steps, the first for drainage, the second for removal of dead bone. The first operation consists in cutting down to and turning aside the periosteum, and then in trephining or chiselling away enough cortex to thoroughly expose the whole extent of the disease. In cases where the whole diaphysis is affected it may be preferable to make several openings in the bone and to scrape out as much of the medullary cavity as is filled with purulent material, between them, rather than to make one large gutter the whole length of



shaft. It is extremely desirable to leave all the marrow possible, even if it is somewhat infiltrated, because the curetting of the marrow causes a destruction and removal of the endosteum upon which the integrity of the internal layer of the cortex depends. As a large part of the bone will die anyway in the severe cases, there is no harm in removing a considerable amount of bone for thorough drainage.

The medullary cavity should then be carefully cleaned out with the curette as far as the diseased marrow extends, and the cavity sponged with crude carbolic acid, followed by alcohol. A large drainage tube with gauze packing about it should be then packed into the cavity thus left and the limb placed in a splint.

If, in exceptional cases, at the end of three or four days the process seems to have been well localized, the necrotic bone to have been entirely removed, and the wound appears aseptic, then the gauze and tubes may be left out and only one small drainage tube retained at the ends of the wound, which can be drawn together in its centre, or the bone cavity may be dried and filled with iodoform bone plugging material of the late Mosetig-Moorhof, of Vienna. This mixture consists of iodoform, 60 parts; spermaceti, 40 parts, and oil of sesame, 40 parts. This is heated until it becomes fluid, and is then poured into the bony cavity, which it hermetically seals by hardening at the body temperature. In this event the skin may be entirely closed by suture.

In rare instances, cases brought to the surgeon early may be operated on before the destruction of the endosteum or cortex takes place, and the marrow will regenerate from the endosteum. Complete regeneration of the bone will then take place, with no formation of a sequestrum, and the wound will heal by granulation.

Where joint symptoms do not subside after thorough drainage of the diseased bone, it is well to aspirate the joint for the purpose of a bacteriological examination. If infection is found, then the joint should be treated as a case of infectious arthritis, irrespective of the associated lesion.

In all instances where the whole or part of the diaphysis is dead and becomes separated at the epiphyseal line the operative treatment should be in two steps. First, continued thorough drainage should be maintained, after the operation described before, until the sequestrum separates well and the periosteum thickens about the dead diaphysis sufficiently (*i. e.*, to about one sixteenth to one tenth inch thick). This is the so called involucrum. The time required will be between eight and twelve weeks, providing an accessory bone is present which may act as a splint and maintain the length of the limb during the process of bone regeneration, *e. g.*, the fibula may act as a splint bone during the regeneration of the tibia. In cases where there is only one bone in a limb, as the humerus, in the arm, the danger of deformity from muscular contraction is great if the necrotic shaft is removed before the periosteum becomes rigid. However, if we wait too long the periosteal shell will begin to ossify and will have no power to proliferate cen-

trally and fill up the cavity left by the removal of the sequestrum. At the end of about fourteen weeks the involucrum, although it is quite rigid and capable of acting as a splint, still retains much of its power of central growth. At this time it is about one half the diameter of the normal humeral shaft.

The second part of the operative treatment consists in incising the involucrum both ways to the extreme ends of the sequestrum, in separating it by



FIG. 1. Incision extending along the middle line of the tibia in a child of seven years. The wound is closed in three days after the removal of the sequestrum.

blunt dissection from the underlying dead bone, and in shelling the latter out, as a banana from its peel. In order to do this, healthy bone, which may overlie the sequestrum, often has to be chiselled away before the dead bone can be reached or entirely removed. It is best to extract the sequestrum in toto if practical, thus insuring its entire removal.

In all instances the epiphyseal cartilage should be interfered with as little as possible. The gutter left should then be thoroughly scraped and cleaned, being ever mindful also not to injure the involucrum upon which we are so dependent for the new bone formation. The cavity may then be packed with gauze and drainage tubes as described before, or it may be filled with iodoform bone plugging material, and the skin brought together and sutured over it. The latter procedure is feasible only where the infection has well subsided.

In cases where a part only of the circumference of the cortex dies and the sequestrum lies deep,

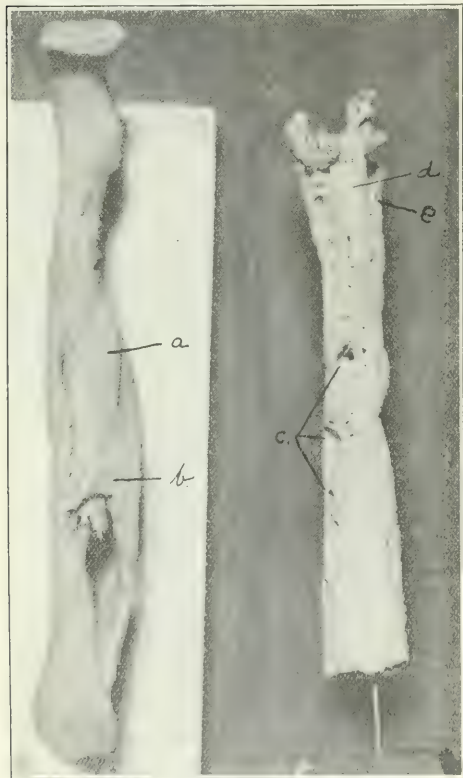


FIG. 4. Specimens of osteomyelitis from the pathological museum of Columbia University. The bone to the left is a specimen of osteomyelitis of the lower end of the femur.

The sequestrum (b), three inches long, was never removed and the involucrum (c) formed about it; the bone to the right is a specimen of osteomyelitis of the lower end of the tibia (the bone is reversed); (c) holes in the involucrum which nature has left for the drainage of the sequestrum pocket beneath; (d) sequestrum (dead shaft) in situ; (e) involucrum.

and approximately one half of the healthy cortex remains viable, the involucrum with the attached skin and soft tissues may be turned into cavity and nailed to remaining plate of cortex with sterile tacks (Neuber). In this way the whole wound may be closed. This procedure is likewise possible in cases of mild infection, and only when it is fairly

certain that all infective material has been removed.

The limb should in all cases be firmly held either in a plaster of Paris splint with a large window for dressings, or by a wire splint. And, in either case, some splint should be retained until sufficient bone foundation has taken place to give a weight bearing stability. If bone in an adequate amount does not develop, bone grafting should be subsequently employed. However, it should be understood that it may require many months for complete ossification to take place.

In a recent case where two thirds of the lower part of the tibia was removed by the writer, it was fourteen months before the brace could be discarded. The appearance of osteoid tissue of about the consistency of an early external fracture callus is usually rapid, but its transformation into bone is much slower.

In addition to the acute forms of inflammation of bone there exists a more chronic type which is more apt to be multiple in its manifestations. The amount of bone involved is often very extensive, and therefore furnishes very difficult operative problems. The sequestra lie in large bone cavities whose walls are very dense. If the process is of very long duration the periosteum will be much thickened. Fortunately this type of case often quiets down from careful rest, hygienic, and brace treatment. The operative indications are the same as those of the more acute variety.

A third type is a definitely circumscribed process to which the names of bone furuncle or Brodie's abscess have been applied. The pyogenic cocci are usually the infective agent. It is occasionally chronic in its course, and gives little clinical evidence of its presence. Frequently the process is located near a joint or even at the epiphyseal cartilage and is thus liable to be confounded with joint disease. Its thickened wall stands out very distinctly in the radiograph.

The operative principles laid down before are of equal importance here. The curette should never be used as a subterranean instrument for scraping blindly about either in this condition or in that of old bone sinuses, but should always be used under the direction of the eyesight. This is an important precept and one that is often violated, which is, I am led to believe, one of the reasons for the existence of many persistent osteomyelitic sinuses.

The operative indications are to remove the dead bone which is likely to lie beneath newly formed periosteal bone, through which a hole always persists for the drainage of the sequestrum pocket beneath. Now in order to get a thorough exposure of the sequestrum, it is often necessary to make a considerable skin incision and remove with chisel and mallet a considerable amount of overlying bone, either old or newly formed. This new bone forms very rapidly on account of the irritative stimulation of the periosteum by the presence of the dead bone. If possible the sequestrum should be removed in toto. When all particles of dead bone are removed the sinus will immediately close and close permanently, providing sufficient endosteum remains intact.

## A SIMPLE "AIR HOUSE."

By J. T. TUBBY, JR.,  
New York.

The question of open air bungalows and sleeping quarters is no longer restricted to building for tuberculous persons. It is admitted that sleeping out of doors is as beneficial for the so called "well" as for the sick. Hence the prediction is well founded that the community will shortly demand of its architects first, the design of second story loggias, then of temporary free standing bungalows, and finally open buildings of a type to supply an abundance of fresh air under the least artificial conditions. Already the

It is desirable to select a dry, well drained site for the structure, in a position having a free circulation of air. It may stand alone or in juxtaposition to a sheltering house. Connection to a house piazza is a convenient arrangement. A site well shaded with tall trees trimmed up to ten or twelve feet from the ground would be excellent.

The air house shown in the accompanying sketch has a room about eight feet by thirteen feet, with an ample porch. The roof has a wide overhang at every point.

The house is raised three feet from the ground upon three inch locust, cedar, or chestnut posts set three feet into the ground. Sills and beams are of



FIG. 1.—"AIR HOUSE."

evidence pointing to such a conclusion is strong. Our architectural periodicals show in greater numbers designs for cottages of very open type.

In the present state of popular opinion, from the point of view of that same being, "the average man," the question of the use of outdoor sleeping quarters is considered a question of luxury. Such need not be the case. Sleeping quarters of the type treated in this article can be built inexpensively and can be used to advantage as additional veranda space or for a children's playroom in the daytime.

hemlock, spruce, or pine. The flooring is made of one inch at centre to throw out water. The window openings, and, in fact, the whole house wall above three feet six inches is closed with shutters of roofing paper, waterproofed canvas, or some similar material, stretched over a light wooden framework. The shutters are manipulated precisely like an ordinary window sash and allow the closing of the entire structure or the opening of any part of it to the window sill level. Wire netting may be tacked out on outside lacing in a manner suggested by the



quitos. Light is afforded, in the rare case of closing the shutters, by two window sashes in rear wall and two sashes in the front doors.

The color treatment should harmonize with existing conditions of site. The temperature inside, however, is affected by a light outside color. Dull colors for interior finish and underside of eaves will prove restful.

The furnishing will be dictated by the taste or convenience of the occupant.

The cost of such a structure will depend on the cost of lumber and of labor at the place of erection.

subject to eyestrain. In the discussion which followed, Patrick, of Chicago, voiced the prevailing opinion among neurologists when he said that he referred such patients to a competent oculist as a matter of routine, unless they had already consulted one, but that the cases in which migraine had been cured were of extreme rarity in his experience. Some neurologists go even further and consider the connection between eyestrain and migraine to be so improbable that it is a waste of time to have the eyes examined at all in such cases, while some ophthalmologists go to the other extreme and state that

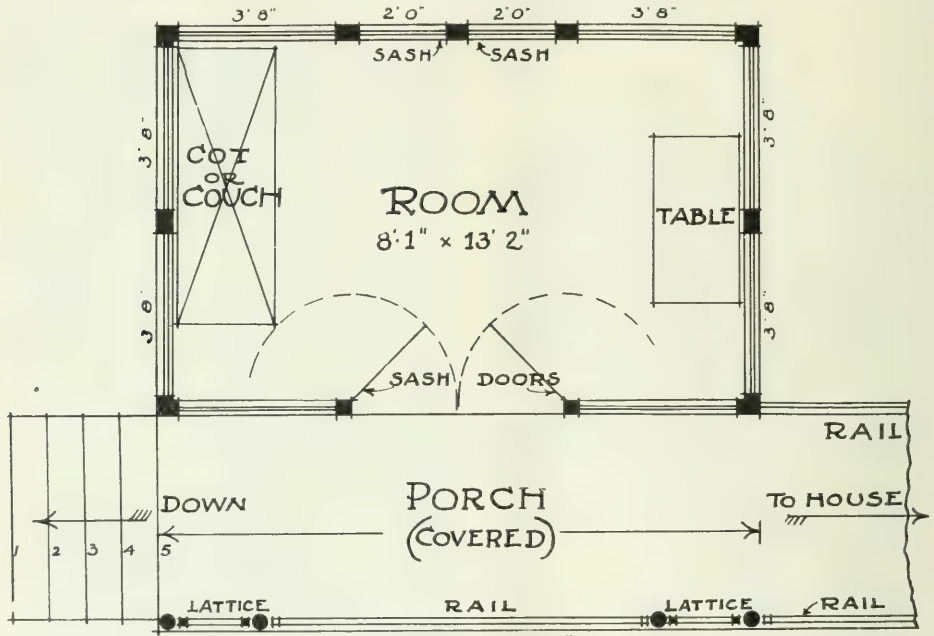


FIG. 2.—Plan of "Air House."

In the neighborhood of New York it could be built for about \$150.

If a dozen or more of uniform design were erected for sanatorium use, etc., the individual cost would be materially decreased.

81 FULTON STREET.

#### TO WHAT EXTENT IS MIGRAINE AMENABLE TO TREATMENT OF THE EYES?

BY ELLICE M. ALGER, M. D.,  
New York.

At the last meeting of the American Medical Association Coggeshall and McCoy, of Boston, presented to the neurological section a singularly conservative and temperate joint paper on headache, which they concluded with the broad statement that their experience had led them to consider the variety known as migraine or sick headache in the great majority of cases as the reaction of a neurotic

they are able to cure practically every case under their care.

Like most disputes between honest men the present one probably depends in large part on lack of understanding to start with, first as to what constitutes competent eye treatment; second, what is to be considered a cure, and, finally, most important of all, exactly what is meant by the term migraine.

Coggeshall and McCoy have given in the paper referred to a definition of what they understand by competent eye treatment, and conclude: "We venture to say that most neurologists who are sceptical about the eyes as a factor in migraine and other less severe forms of headache have failed to give this much consideration to the details of the oculist's treatment, but if we do not pay unremitting and exact attention to all these minutiae we shall continue to see cases of migraine that are not due to the eyes." Most men place their confidence in a competent oculist, which is not the same by any means. Just as a man may be a perfectly competent general surgeon

and yet do the most ragged kind of special surgery, so there is a vast number of oculists skilful and generally competent, but who lack the interest or the time or even the skill to do good refraction-work.

I will not enter into a discussion of methods, the use of cycloplegics, the value of the ophthalmometer, the investigation of muscular imbalances, and other questions over which oculists are divided, but it seems only reasonable to argue that competent treatment means treatment by some one who habitually gets results at least approximating the most successful by whatever methods of work he deems most suitable in a given case. Judged by this standard, many oculists cannot be considered competent when it comes to the treatment of migraine and many other nervous affections, which, it is admitted, they seldom treat successfully.

The term "cure" also needs explanation. Even supposing for the moment that eyestrain is admitted as the chief exciting cause, every migraine patient also has an underlying nerve instability often hereditary, without which no amount of excitation would be effective in producing an attack. This instability may be so great that even overuse of normal eyes is disastrous, or, on the other hand, the irritability may be slight while the exciting eyestrain is relatively large. The first case we should hardly expect to benefit short of stopping entirely the use of the eyes, while the second would cease to have trouble as soon as we have enabled him to use his eyes economically. The majority of cases fall between these extremes, but it seems to me that we are hardly justified in using the word "cure." We do indeed often remove the exciting cause and the attacks cease, but the underlying instability is still present, perhaps modified to some extent, but still capable of reacting to a sufficient excitation.

Then, too, we are not all agreed as to just what the term "migraine" means. Many general practitioners and not a few oculists base their diagnosis on the severity of the attack and consider every violent headache as a migraine, especially if it is one sided, and, on the other hand, overlook many typical cases in which the head symptoms are not very severe. Migraine is defined in the textbooks as an explosive paroxysmal psychoneurosis developing in certain neurotic individuals. It is in a sense a family disease, being often traceable in the direct line for generations. Patients may be unaware of this, but questioning will often elicit a history which is suspicious, to say the least, of "sick headache," "bilious headache," "neuralgic headache," in various ancestors. In the same families this nerve instability is sometimes evidenced by cases of insanity and epilepsy, and indeed between the latter and migraine there are so many analogies that many authorities consider the one a sensory form of the other. A long list of exciting causes is usually given, which may precipitate at attack from time to time, such as lowered health, constipation, auto-toxæmia, gout, fatigue, worry, and strong emotions. A few years ago none of the textbooks mentioned the abuse of the eyes as an exciting cause. Recent editions are now almost unanimous in putting it among the possibilities, and we may hope that in course of time it may be included in the long list of probabilities.

The symptoms in a typical case are unmistak-

able, consisting of an aura, followed by sensory disturbances generally involving the eyes, headache, nausea and vomiting, and, finally, by sleep which precedes recovery. But not one of these symptoms taken singly is pathognomonic, so that in atypical cases it is often difficult to establish the diagnosis beyond cavil. The premonitory symptoms, for instance, are often wanting. They often consist of a feeling of dulness and apathy, or possibly of unusual exhilaration, which in this individual leads him to expect an attack, but they are not in any sense diagnostic, and are not invariably followed by migraine. The sensory phenomena are the most constant and characteristic, and are usually confined to the eyes. They often consist of sparkling lights, near the fixation point, which widen and assume the most changing and fantastic shapes, and at the same time there is disturbance of vision, varying from photophobia to absolute blindness of corresponding halves of each retina. The headache comes on at once, sometimes one sided, but not always so by any means. In some patients it is regularly very slight, and is not allowed to interfere with usual duties, but in others it is an excruciating jumping pain, which lasts perhaps several days and causes utter prostration. In most cases there follows an intense nausea, often accompanied by vomiting. There is a complete arrest of digestion, but the vomiting persists long after the stomach is empty, and only serves to increase the headache.

These are so often associated in the minds of both patient and physician that the indigestion is considered the exciting cause of the attack, which is spoken of as a bilious headache. But there are many cases in which the nausea is hardly noticeable, and the vomiting does not occur at all. It is a notable fact that for a variable time after an attack the usual exciting cause seems incapable of precipitating another attack.

Recent authorities are beginning to agree that faulty eyes may be a factor in migraine, but there are many reasons which suggest a far closer connection than is generally admitted. For instance, migraine begins in thirty per cent. of the cases between the ages of five and ten years, or just at the period when school life is beginning to put the first serious strain on the eyes. Of the balance most begin in the second decade, and only in the rarest instances does it begin after thirty. It is said to gradually subside after the menopause, and this has been considered significant, but it must be remembered that it also begins to abate in men at the same age. But this same period in both sexes marks the onset of that great change in the eyes which we call presbyopia, during which the patient is gradually compelled to admit that even straining his eyes no longer results in satisfactory near vision and that glasses have at last become a necessity. But among those who deny the presbyopia and put off as long as possible the wearing of glasses, attacks of migraine are notably increased both in frequency and severity. In old age, when the accommodative power has practically disappeared, attacks practically never occur. The very fact that the individual symptoms of migraine often appear in other patients as the result of abuse of the eyes is suggestive. In many cases patients have noticed

that attacks are much more frequent when they are doing work that involves unusual use of the eyes, while conversely when leading an outdoor life they are practically free. Careful questioning will elicit the same history in many others.

There are three ocular conditions which are conceivably concerned in attacks of migraine. First and most important, over use of the ciliary muscle in accommodation, which may exceptionally occur in normal eyes by reason of immoderate use, but is almost invariable in hyperopia and especially in astigmatism, since it is only by accommodation that clear vision is secured; second come conditions in which binocular vision is impossible without undue strain of the extrinsic ocular muscles; and, third, the cerebral fatigue that comes from the constant interpretation of distorted or unequal retinal images, as in astigmatism and anisometropia. It can readily be seen that the relief of these conditions may often be a very complicated problem, an exact solution of which is sometimes impossible. In most people Nature herself has compensatory powers, and if we can bring the error within the limits of those powers we shall have given all the relief necessary. This is the reason why inexpert work is so often perfectly satisfactory to patients in ordinary conditions. But it must be remembered that in migraine and many other nervous conditions it is this very attempt at compensation that causes the trouble, and a much closer correction is called for.

The one great defect in the evidence is the widespread failure of ocular therapeutics to afford relief, even when applied by men whose reputations are of the highest. This may be due to two causes, first, that the ocular treatment is seldom as patient and painstaking as it should be; and, second, because there may be cases in which eyestrain is not the chief cause and perhaps not a cause at all. So far as my own experience goes, I believe both to be true. Many of the patients whose histories are here recorded had received from reputable men prescriptions very different from the ones which finally proved beneficial. On the other hand, there are many patients whose hereditary instability is so great that an explosion may occur from any one of several exciting causes. Suitable eye treatment might prevent some of these attacks, but could not possibly prevent them all. Other cases are pure eyestrain cases, and are completely relieved.

I believe a thorough examination of the eyes should be made in every case, not only once, but several times, by different men if the first is not successful. This may seem an extreme position to take, but when one considers the alternative plan of treatment as outlined in our standard textbooks: the long continued use of drugs, ranging from bromides to cannabis indica, with analgesics for the attack ranging from acetanilid to morphine, very possibly combined with a rigid diet, intestinal antiseptics, and continued abstinence from nearly every interest or occupation that makes life worth living to a normal man or woman, and when, after all this, we are obliged to tell our patient that these measures are only occasionally productive of permanent good, but that, at the very worst, his old age will be a happy one, the ophthalmological position does not seem so extreme.

Many oculists have recorded their success in the relief of migraine, but the term is used so indiscriminately that I have thought it wise to append the histories of a few illustrative cases, which, it will be noted, were not all successfully treated. Some of them seem from the very history to be pure eyestrain cases, and were invariably relieved. In others, notably Case X, the nerve instability is the predominant factor, while still others occupy an intermediate ground. One or two of them date back to a time when I thought I could do sufficiently accurate work without a cycloplegic, a practice which I have given up in all cases of any moment. I am sure it was the cause of my being compelled to write "benefited" instead of "cured" at the end of many a case record.

CASE I.—Male, aged twenty-eight, bookkeeper. Family history not noted. For several years he had had attacks of migraine at frequent intervals which he had supposed were due to indigestion and for which he had had much treatment by various physicians without any result. For some time past he had been having an attack every other day, generally in the afternoon, beginning with scotoma scintillans, followed by nausea and vomiting, the whole lasting a couple of hours. He had noticed that he rarely or never had an attack while on vacation. He had never had any trouble with his eyes, and only came to satisfy the wish of his physician. His static refraction was R. E. + 62 + 37 ax. 105; L. E. + 75 + 50 ax. 105. A month later he complained that his glasses fogged things except when he looked straight at them, but that he had had absolutely no headache, though there had been no change in the kind or condition of his work. This has continued since.

CASE II.—Female, aged twenty-two, housewife. Patient could remember that her mother had frequent severe headaches sometimes lasting several days, but could recall no details. She herself as a schoolgirl had severe headaches with nausea, which were ascribed to biliousness. These became less frequent after she finished school, but during the last five years recurred every two or three weeks, being so dependent on the use of her eyes that she had to give up reading and sewing to a great extent. They generally began with a "flimmering of light," followed by hemianopsia and a headache which was usually onesided at first. She has no nausea now, but used to have. The duration of an attack was about twelve hours. Her static refraction was R. E. + 1.75 + 25 ax. 120; L. E. + 1.50 + 25 ax. 60. A month later she reported that she had been reading all she wished and doing much of the sewing for four children, and had had no headache of any kind except one night at the theatre, when she had left her glasses at home. Up to the present time, a period of five months, the same freedom from migraine has persisted.

CASE III.—Female, aged twenty-nine, occupation housewife. Family history negative, did not suffer from school headaches and remembered no abnormality as a girl. At age of twenty-two began to have attacks of migraine, especially at menstrual periods and when subjected to excitement. Married at twenty-six, no children. A year ago lost her husband, since when she had been having attacks much more often, every week or so. The attacks began with a heavy feeling, followed by "white specks" before the eyes and a severe frontal headache, getting worse till she went to bed. She had nausea and sometimes vomiting, which last afforded some relief. Otherwise she was perfectly well and had never been conscious of any eye trouble. Her refraction under atropine was R. E. — 1. — 4.50 ax. 15 = 20/50; L. E. — 5.25 = 20/30. She had a divergent squint in relaxation, Maddox rod showing an exophoria of 10° with a left hyperphoria of 4°. I supposed this would have to be corrected, but she reported three weeks later that at her menstrual period she had had no headache for the first time in years, and this has been the case to the time of writing, a period of five months, so that I have thought it advisable to let well enough alone.

CASE IV.—School girl, aged fourteen. Family history negative. Patient had had no serious illnesses, but was rather anæmic and delicate. She was of a nervous temperament, and had been subject to headaches for several years.



sometimes having them several times a week, especially in school time. Frequently, but not always, they were preceded by flashes of light and followed by nausea. She first noticed failing vision about two years ago, and a glass of No. — I. D. was prescribed by a well known oculist. This had no appreciable effect on her headaches, and she thought her eyes were getting worse all the time. Her refraction under atropine was at this time R. E. — 1.25 — 75 ax. 105; L. E. — 1.25 — 75 ax. 75. The corneal radius was 7.05. Eighteen months later she reported that she did not remember having any headaches. Under homatropine she required a half diopter increase in the sphere to give her normal vision.

CASE V.—Female, aged twenty-two, occupation machine operator. Family history not noted. Patient had always been nervous and as a schoolgirl was of the opinion that she had headaches nearly every day. She was otherwise healthy and never had her eyes examined till four years ago, when an optician prescribed some concave cylinders, though she had never been near sighted. These glasses helped her only for a short time, but had been worn steadily even since, though the headaches were now typical migraine attacks, occurring about once a week and followed by nausea and vomiting. Her eyes called for a convex cylinder instead of a concave, her refraction being R. E. + 75 ax. 45; L. E. + 1.25 ax. 135. A month later she complained that she had had a hard time in getting used to her glasses but had had no headaches. I have not seen her since, but in writing for a copy of her prescription, two years later, she reported that her glasses were all right and that she was having no trouble.

CASE VI.—Female, aged thirty-one, housewife. Very fond of sewing and embroidering. Family history negative. Always healthy except for two attacks of rheumatism, which had left a heart complication. Married eight years without children, and was said to have a retroversion. She was of a nervous temperament, but was not hysterical. Her eyes had troubled her all her life, being, as she said, "near sighted." She received glasses from an optician in childhood which improved her vision, and she did not remember being troubled with headaches while in school. During the last year or so had been having many headaches which she thought depended almost entirely on the use of her eyes, as she was almost entirely free in the summer, when she was out of doors most of the time. Her eyes became tired, her sight blurred, and shortly she had a severe headache, generally right sided, which was soon followed by nausea and vomiting. A year ago she was examined under atropine by one of our most experienced oculists, who prescribed R. E. + 2.25 ax. 75; L. E. + 2.25 ax. 105. These gave her no appreciable relief and, indeed, in her opinion, were not as helpful as the previous glasses by the optician. Her true correction was R. E. + 3 + 150 ax. 120; L. E. + 250 + 150 ax. 60. Her husband reported four months later: "Glasses thoroughly satisfactory; can read and sew a great deal, and has not been troubled with headaches, though she is obliged to wear her glasses constantly. She cannot work comfortably by lamplight." Two months more have now elapsed without an attack of migraine.

CASE VII.—Male, aged thirty-four, occupation business man. Father and grandfather had typical migraine. Patient had headaches all his life, beginning with luminous flashes and settling in left eye. Nausea and vomiting not invariable. Had been free at times for three weeks, and once had no attack for six months while taking what he thought was strychnine. Thought he would have attacks several times a week, but took acatinal in 10 grain doses when he felt them coming and often aborted them. Attacks sometimes lasted for several days and even a week. His occupation at times placed great strain on his eyes and he had always been a very heavy smoker. Otherwise he was healthy and did an unusual amount of work. Declined to have a cycloplegic examination at present. His refraction without cycloplegia was R. E. + 75; L. E. + 75. I am certain that this was not by any means his full correction, but he complained constantly that his distant vision was fogged, though it made his near work much easier. A month later he reported that his headaches had been both fewer and milder, but complained so much of the fogging that I reduced the strength of his glass a half diopter. A month later he reported headaches were not and went back to stronger glass. The next month "was threat-

ened with headache many times but had only one," which he thought was due to something he ate, as it was accompanied by gastroenteritis. He had stopped the use of tobacco. Nine months after his first visit he reported that he had been entirely free from headache till recently he had to do "over 100 columns of fractional figuring" and had had trouble ever since. He had begun smoking again.

CASE VIII.—Male, aged thirty-six, minister, who did much literary work. The family history was negative. As a child he was delicate and had frequent sick headaches characterized by "quivering of the eyes," severe headache and vomiting. Could remember rolling on the floor in his attacks, which lasted usually half a day. He was cured for ten years by an irregular nerve doctor, who gave him a syrup which tasted like peach pits. As sophomore in college had scarlatina, which was followed by migraine, often twice a week. This had continued more or less ever since, the headaches being much more frequent when he was studying and writing steadily. Had always been near-sighted and worn glasses, sometimes ordered by opticians and sometimes by physicians. They never had any effect on his migraine, the last by a well known oculist being R. E. — 1.75 — 50 ax. 180; L. E. — 1 — 50 ax. 180. Vision is equally good in both eyes, but he had a divergent squint with a left hyperphoria which was alternating. His refraction under atropine was R. E. — 1.50 — 50 ax. 45 = 20/20; L. E. — 1.75 — 50 ax. 105 = 20/20, which was very different from the preceding correction. Nothing was done about his squint, as it was not a cosmetic defect and he had learned to suppress the image in the nonfixing eye. He reported a month later that he had been able to use his eyes more comfortably than he could remember and had not had a suspicion of a headache. An interesting feature of this case was a habit of tilting his head to the right, presumably due to the oblique axis of his astigmatism.

CASE IX.—Female, aged thirty-five, occupied chiefly in looking after her health. Family history negative. Was brought up by an ambitious aunt who pushed her education. Between the ages of six and seven she began to have headaches so severe and frequent that she was allowed to give up study and run wild. Found she could wear her mother's glasses but was seldom allowed, for fear of injuring her eyes with such strong glasses. Never had a pair of her own till fifteen, since which time they have been changed often, always by opticians, except the last pair by an oculist (3.25), with a stronger pair for near work. She had had five children in the last eight years, was greatly run down, and had come north to recuperate. A well known internist said she had a mild anemia with entropion, but was otherwise sound. He advised iron and tonics with rest. An equally well known neurologist said it was a pure neurosis and advised bromides and no tonics. Just which plan the family physician adopted I do not know. The patient appeared a nervous wreck, was irritated by everything; was very hysterical at times and again was very melancholic. She was in great fear of death and complained of a band sensation about her head. Her digestion was bad, her heart irregular, and she was often troubled with insomnia. She said her headaches were often preceded by muscae volitantes and characterized by a "fireball" and one sided blindness. The right lid drooped and the right eye diverged slightly. Under atropine her correction was R. E. + 5 + 50 ax. 105; L. E. + 5 + 50 ax. 75. Both before and after atropine she had a marked cross diplopia with a red glass. Two weeks later I increased the strength of her glass a diopter for near work as her accommodation was subnormal, a condition which was in my experience very common in patients of Spanish descent. Four months later she was very much better in every way; had no more need for a nurse; had had little or no headache and very infrequent attacks of anxiety and depression. She had been doing a great deal of continuous shopping without undue fatigue and could use her eyes for reading and sewing with comfort for the first time in years. The dropping of the lid and the cross diplopia had disappeared, though she still had some muscae volitantes. Her eyes were so good that the entire improvement was due to the effect of the eye-glasses, but the last improvement was completely suppressed promptly from the time of the first installation of atropine. She has now returned to her home, but has not had a headache since that her condition remains unimpaired after a year of this month.

CASE X.—Mr. S. aged thirty-one, single, contractor.

There was a history of typical migraine on his mother's side for two generations. Patient was undersized, badly developed, anæmic, and of a decidedly neurotic type. He had never been very strong nor suffered from any severe illness. He had had attacks of migraine on the average once a month ever since he could remember, though sometimes they were more frequent. They often began with a capricious appetite or a mental exhilaration, followed shortly by scotoma scintillans and then a violent pain, beginning in one eye and finally spreading over the whole side of the head, with the most distressing nausea and vomiting. Sometimes the attacks lasted only twenty-four hours, but often the pain after leaving one side went over to the other, and such attacks sometimes lasted three or four days, during which he was absolutely confined to his bed. Coal tar products were of no use, but occasionally an attack could be aborted by a half grain of morphine hypodermically. The pain was so severe that it could be controlled by nothing but morphine, and I was frequently obliged to give him a grain a day without by any means affording complete relief. He was my *bête noir* for several years. The exciting cause of his attacks seemed numerous; one could be confidently expected after any worry or business misfortune, of which he suffered many, and sometimes they seemed to follow dining out and sometimes overuse of his eyes. I once apparently caused an attack shortly after a severe one which should have conferred temporary immunity by testing his eyes with prisms in my office. One attack I succeeded in aborting by instillation of homatropine after it was fairly started, but this invariably failed in subsequent attacks. His static refraction was R. E. + 75 + 175 ax. 90; L. E. + 75 + 175 ax. 90, with the addition of a + 1, sphere for near work. He regularly had an esophoria of about 2° between the attacks, but which increased during them so that he often had a perceptible squint with diplopia. In other words, he was affected with a spasm of the interni, which might have been either the cause or the effect of his attack. A full correction of his refraction apparently modified somewhat both the frequency and severity of his attacks during several months. He then had an operation on first one externus and then the other, which finally secured a normal balance of the extrinsic muscles, both as measured by the tropometer and prisms. This resulted in complete freedom for three months. About this time he failed completely in business and took a position as a clerk, and whether from the worry or increased work the attacks recurred. At first, however, they were notably less severe, as he was able to keep at his desk and do without any morphine at all. Eventually, however, they became about as severe as when I first saw him. During a period of employment in Philadelphia he had his glasses reduced slightly in strength, and since then I have no record of his eye condition. That winter he spent as a clerk in a country store, absolutely free from all worry and overwork, and the next summer as watchman in a summer hotel, leading an outdoor life, but under such conditions he said the migraine remained as when I first saw him.

55 EAST FIFTY-SIXTH STREET.

#### EPILEPSY.\*

##### *The So Called Idiopathic Form.*

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In presenting a paper upon so complex a disease as epilepsy I realize the limitation of the time allotted me and hence I shall only attempt to briefly condense what I consider most important. The Jacksonian type of the disease will not be considered, but only the so called idiopathic form.

Epilepsy is one of the most interesting, most distressing, and, until recently, most neglected of diseases. It has been known from time immemorial.

It affects every race, is found in every clime, and no age nor state of society is immune to this disease. Attacking its victim at the most unexpected moment, sometimes with and sometimes without warning, it has led to many unfortunate accidents, and is a constant source of danger to the patient and of extreme anxiety to the family and friends. It is a spectre that cannot be hid in the family closet, and its convulsions are only too often food for the morbid amusement of the curious and jeering inhuman element of human society. The jails and insane asylums can testify to the extreme effects of epilepsy; but the outlook is brighter now, for, in the last decade or two, the epileptic colonies are humanely and scientifically looking after many of these unfortunates. Our chief aim, however, should be to check the process before its ravages make institutional care taking necessary, and I shall attempt to show that with patience, knowledge, and proper management the disease can be frequently arrested and often cured.

The derivation of the name epilepsy implies "being seized upon." It has been called "falling sickness." Many superstitions have been connected with the disease and its victims have been considered as possessed with devils, or, on the other hand, it has been considered a sacred disease, morbus sacer, and more recently its manifestations have been thought to be due to an explosion of some sort of an electrical force. Some of the world's greatest men are said to have been epileptics, notably, Julius Cæsar and Napoleon. Some of the most vicious criminals and most profound idiots have also been epileptics.

Hippocrates and Lucretius have well described the convulsions, and from their time to nearly the nineteenth century the study of the disease has consisted almost entirely in simply noting the fit.

It is said that there is a fraction more than one epileptic to every four hundred of the population of this country. The probability is, however, that the proportion is even greater, as many cases, especially of petit mal, would not be reported for statistics. Sex has no marked influence upon the ætiology. The most frequent age of onset of the disease is the first year of life, about ten per cent. beginning at this time. Between eleven and twenty years about 46.5 per cent. begin, according to Turner. From twenty years on as age advances the frequency of the onset of epilepsy decreases.

Race has but little influence, except that it is rather rare in the negro. The hereditary factor has been the subject of much discussion, and statistics vary according to what the observer thinks heredity should embrace. In cases beginning early in life its influence is traced more frequently than in those beginning late. Epilepsy, alcoholism, and insanity are the chief hereditary factors. After reviewing a large number of statistics I conclude that these cannot be traced in more than forty per cent. of the cases. We must also bear in mind that many other individuals would present family histories of one or more of these diseases.

Intrauterine developmental conditions as malformations, hydrocephalus, and microcephalus, or birth trauma causing intracranial cysts, local compressions, or hemiplegias are sometimes seen, while

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rickets, scurvy, malnutrition, and other conditions infrequently seem to have some causative relation to idiopathic epilepsy.

After considering all of these there is still a larger class in which no clinically demonstrable cause can be elicited, but I purpose to point out later on that there is enough evidence in the latest pathological investigations to make us believe that every case of epilepsy has a definite histological and pathological basis. I believe I am justified in saying that the immediate cause of a convulsion or a series of convulsions has but little to do with the cause of the disease; that the convulsion is simply a manifestation of an underlying pathological condition; and that autointoxication and reflex irritations bear the relation of exciting causes only. These exciting causes may be shock, excitement, fear, overeating, improper diet, too violent exercise, mental and physical, overheating, masturbation, alcohol, reflex states from trauma, defective eyesight, adherent prepuce, ovarian or uterine disease, menstruation, pharyngitis or any irritative condition.

There are many clinical forms and types of epilepsy which must be distinguished and separately considered and treated if we hope to cope scientifically or successfully with the disease. The following classification is a modification from that of several authorities, especially Turner:

1. *Petit mal.* a. *Complete attacks*, usually without aura or marked convulsions, and with brief loss of consciousness. b. *Incomplete attacks*, consisting of aura only or brief periods of distracted attention without loss of consciousness.

2. *Grand mal.* a. *Complete attacks* with or without aura. Consciousness is lost and the patient may fall. Then there is a stage of tonic, then clonic muscular spasm which is followed by a period of more or less stupor. b. *Incomplete attacks*, consisting of aura, slight muscular paroxysm, and with or without loss of consciousness.

3. *The combined type*, consisting of sometimes major and sometimes minor seizures.

4. *Nocturnal.* a. Either major or minor attacks occurring only during sleep or in the predormant or postdormant stage. b. Mixed day and night attacks.

5. *Serial.* Attacks, either major or minor, occurring in a series of fits with periods of freedom or comparative freedom.

6. *Status epilepticus*, major or minor fits with one attack following another so closely that consciousness is hardly regained, or not regained, between the convulsions.

7. *Psychical epileptic equivalents*, which, if we follow Turner rather closely, consist of: a. *True psychical epilepsy*, as automatic movements, like undressing without realizing it, etc. b. *Epileptic ambulatory automatism*, in which, sometimes for days, a patient may travel and then suddenly find himself in a strange community without knowing how he got there. c. *Epileptic mania*, including impulsions. d. *Dream states*, consisting of a feeling of non-existence and doubts as to reality of surrounding things. These feelings recur at intervals and may be preceded by an aura. e. *Transitory delusional states* in which the patient may be pugnacious and hard to manage. f. *Catatonic stuporous conditions*.

These also occur in nonepileptic patients and are usually marked by a blank expression and rigidity. g. *Cephalic sensations* occurring in epileptics which seem to replace the seizure. Headache is an example when it takes the place of an attack. h. *Aura*. This is present in about half the cases and may occur without the convulsion following. This aura, or warning, may have a motor manifestation, as localized muscle spasm, or a sensory, as a sick sensation in the stomach, or may be purely psychical, as fear. I have a patient who has aura of all three varieties. i. *Miscellaneous equivalents*, as narcolepsy, paroxysmal laughter, or sneezing, which, unless they occur in known epileptics and seem to take the place of attacks, cannot be considered at all as equivalents.

*Diagnosis:* The diagnosis consists in the recognition of the types just outlined and in noting the result of long standing epilepsy, for example, the facies epilepticus, changes in disposition, and the insanities and criminal states that may follow. The description of the convulsions of the various types are so familiar that I shall not detail them here, except as a matter of interest to quote from Lucretius his word picture of a major fit, penned over 2,000 years ago.

Of, too, some wretch, before our startled sight,  
Struck as with lightning, by some keen disease  
Drops sudden: By the dread attack o'erpowered  
He foams, he groans, he trembles, and he faints;  
Now rigid, now convulsed, his laboring lungs  
Heave quick, and quivers each exhausted limb.  
Spread through the frame, so deep the dire disease  
Perturbs his spirit; as the briny main  
Foams through each wave beneath the tempest's ire,  
He groans since every member smarts with pain  
And from his inmost breast, with wantless toil  
Confused and harsh, articulation springs. . . .  
But when at last the morbid cause declined,  
And the fermenting humors from the heart  
Flow back, with staggering foot first treads,  
Led gradual on to intellect and strength. (1)

Having noted the especial type of an attack, we must watch for its recurrence to confirm our diagnosis. I believe, however, that many of the convulsions of infants and some so called fainting attacks of adults are cases of epilepsy with a single manifestation in which the convulsive habit is never formed. The chief consideration in the distinctive diagnosis of idiopathic epilepsy is to separate the disease from hysteria. The unfortunate term *hysteroepilepsy*, frequently taken to mean a combination of the two diseases, has been a dumping ground for both and has kept physicians from attempting to separate the forms of either. Gowers doubts the existence of *hysteroepilepsy*, while the last editions of Church and Peterson and Purves Stewart ignore it in their indices. It no more exists than does typhomalaria. The two conditions may exist independently in the same individual, but, through some wise provision of Nature, this is rare. The very type of an hysterical personality is frequently at the opposite pole from an epileptic disposition.

In hysterical convulsions the patients fall, if they fall at all, without injury, and they often talk and scream during the attack. The eyelids usually quiver, the pupils react to light, the movements of their extremities are wide and purposive, they may fight, or beat at surrounding objects or people, their



position takes the character of a pose, and there is usually no after stage of stupor, while various anesthetics and other hysterical stigmata may usually be found. The tonic then clonic stage of convulsion, biting of the tongue, foaming at the mouth, and other symptoms of epilepsy are absent.

I happened to have had the pleasure in London of hearing Sir William Gowers read his recent paper on Vagal Attacks which are due to disturbance of the vagus nerve. These have a sense of gas and fullness in the stomach, dyspnoea, inability to concentrate attention, and a sense of coldness or rigor. Consciousness is not lost. This condition has been mistaken for epilepsy.

*Pathology.*—Coming to pathology, only a few of the main points can be considered here, but they are the new ones and are of greatest importance. That there is a pathology to the so called idiopathic epilepsy has been denied, but the work of the last few years, and especially that of Dr. John Turner, of England, from whom I largely quote, has done much to clear the field and to put epilepsy in the class of organic nervous diseases and upon a very fair pathological basis. The changes in the brain tissue previously noted as taking place are those supposed to result from the effect of many convulsions, and consist of dilated bloodvessels, increase in the neuroglia elements, and atrophy of the convolutions. I believe with Dr. Turner that there is a congenital developmental defect in most cases, and this conclusion has been reached from his many examinations of epileptic brains. He says: "The occurrence of epilepsy in persons who are sane is not necessarily an objection to this view, as congenital, structural defect may coexist with average intelligence." He has found changes indicative of cerebral congenital defect, such as diminution of the number of nerve cells in cortical areas, changes in these cells and their nuclei, and changes in the nucleoli, especially of the Betz cells. The changes which occur as the immediate cause of an attack are intravascular clotting, either formed by masses lying free in the vessels (which are probably an amalgamation of blood plates), or hyaline material formation, or finely granulated debris, or fibrin threads. These changes were found in over eighty per cent. of a large number of epileptic brains examined. From these and similar investigations he reaches the conclusion that "there are two factors whose cooperation is necessary before a fit can result: a. A brain hereditarily and structurally predisposed to instability and convulsion; b. A sudden deprivation of the normal blood supply." The immediate cause being "cortical stasis resulting from obstruction of the blood supply by intravascular clots." (2)

Hulings Jackson advocated the latter point of this view in 1864, but could not prove it and did not include the congenital structural defect which Turner believes to be essential.

Chemical examination and microscopical analysis and estimation of the blood elements have proved of no conclusive value. In view, however, of the intravascular clotting found, the blood coagulation time was found to be greatly reduced in nineteen out of twenty-three cases examined by Turner just before, during, and shortly after the convulsive seizure. It is a well known clinical fact that the

wounds of epileptics heal quickly, showing a tendency to rapid blood coagulation. (3)

It is believed that some cases of autointoxication thicken the blood and may cause a convulsion in a person with a congenital structural cerebral defect. Dr. William J. Taylor, of Philadelphia, called my attention some time ago to the fact that thyreoid extract given internally would decrease the coagulation time of the blood. This was tested successfully at the Orthopædic Hospital and Infirmary for Nervous Diseases of Philadelphia in cases of hæmophilia. (4) Such being the case, thyreoid extract given to epileptics should increase the frequency of the convulsions. This, of course, is a line of investigation which we hesitate to explore.

The testimony of examiners of the urine, sweat, and cerebrospinal fluid of epileptics has been conflicting and uninformative.

*Prognosis.*—The prognosis of the disease under consideration depends much upon the type to which the case belongs. It has been considered an almost hopeless disease to cure or ameliorate. However, statistics show that from seven to ten per cent. of all cases are really cured, while in a larger percentage the attacks are arrested for a time and the condition improved. It must be remembered in estimating the seven to ten per cent. cured that the worst and most chronic forms of epilepsy in colonies and asylums are included, and that many cases seen in private practice of the milder forms have not been considered, hence the conclusions are entirely too pessimistic.

Various authorities estimate that an arrest of seizures from three to nine years should constitute a cure. The writer believes that after five years without an attack we are justified in calling the patient cured. An opinion based upon the recent literature of the subject and observations in clinics leads me to believe that the prognosis as to cure, in all cases outside of the insane class, provided the best treatment and regulation of life is strictly adhered to, is from twenty to twenty-five per cent., and that from sixty to seventy-five per cent. can be greatly improved with the same proviso.

Cases treated between ten and twenty-five years of age seem to have the brightest prospect of cure. The more frequent the attacks and more long standing the manifestations of the disease the worse the prognosis. The diurnal is said to have a better prognosis than the nocturnal, major better than the minor or combined type of attacks, while in psychic, serial, and status epilepticus the prognosis is worst of all. The curability seems to depend upon whether or not we are able to arrest the convulsive habit in these congenitally defective brains, and upon our ability to get the blood in such a condition that local or general cerebral stasis does not occur.

*Treatment.*—The treatment of epilepsy would be subject matter enough for quite a long paper and can only be outlined here.

In each case we must bear in mind the following: First—and this I wish to insist upon—the case must be classified as to which especial type of the disease it belongs. Second, the treatment must include the search for and the correction of all reflex causes. Third, each individual case must be managed with reference to habits, diet, occupation, education, rest,

etc. Fourth, the patient must continue under observation at regular intervals for years, and an exact list kept of the occurrence and character of convulsions. Fifth, patients having frequent, uncontrollable convulsions, or who are dangerous to themselves or to others, or who cannot receive supervision and care at home, or who develop insanity, should be sent to colonies or institutions for treatment.

Every conceivable drug has been used in epilepsy, and during the last fifty years the bromine salts more than all others. They have not proved specific by any means, and at times the end result of bromism, acne, lassitude, stupidity, etc., have been almost as distressing as the disease.

The sodium and potassium salts are upon the whole the best, and thirty to forty-five grains daily is the usual dose. Much larger doses may be given in conjunction with purgatives, massage, and hot baths. The action of the bromides is aided by a "salt free diet," and this procedure, even when the bromides are not used, gives marked beneficial results. The method was introduced by Toulouse and Richet. To keep the patient from becoming demineralized, sodium phosphate was given. (5)

Turner highly recommends a "purin free diet." The base of purin substance is C<sub>4</sub>N<sub>4</sub>. Dr. Walker Hall gives the following articles as purin free: Milk, eggs, cheese, butter, sugar, white bread, rice, tapioca, cabbage, cauliflower, lettuce, macaroni, strawberries, and olive oil, and another list, including potatoes, onions, oatmeal, beans, carrots, kale, spinach, dates, figs, asparagus, and codfish, as being purin poor; and salmon, halibut, beef, pork, mutton, chicken, veal, liver, and sweetbread as purin rich foods. (6.)

At Chalfont Colony in England the decreased purin diet is said to have proved very effective.

The patient should be very moderate in the use of coffee and tobacco. Pastries, candies, and alcohol should be practically excluded. All forms of excitement should be avoided. Baths, hot or cool, should be regularly given, and the bowels should be kept open. Convulsions may often be aborted by controlling the aura if present. This may be done if an aura begins locally in an accessible part, by sudden compression, or, in any case of psychic or sensory aura, by the administration of nitroglycerin one hundredth to one twenty-fifth of a grain (7), or by the inhalation of minims five of amylnitrite. In attacks known to come on at regular times sodium bromide, grains twenty, should be given two hours before the fit is due.

In petit mal or in nocturnal epilepsy chlorotone, grains three, morning and night, should be given. I have seen brilliant results from this remedy. Trional often has a good effect in the nocturnal form.

In grand mal, and combined grand mal and petit mal, the bromides, sodium borate, or fluid extract of *Solanum carolinense*, are our best drugs. Often it is advisable to change from one of these remedies to the other. If the convulsions are close together bromides may be increased quickly to as high as two hundred grains a day, and after they are controlled for a few days, reduced quickly to the ordinary dose. It is important in administering this drug in ascending doses to give massage, hot baths, and purgation at the same time to prevent bromism.

In serial epilepsy chloral in small doses in addition to other medication, and rest in bed, may cut short the series. Chloral is also indicated in status epilepticus if the patient is strong. In the stupor following status epilepticus give liquid food by mouth or bowel, and do not hesitate to stimulate with whiskey or strychnine if there are any signs of collapse. For psychical epilepsy hyosine or doboisine should be added in small doses to the bromides. As malaria in some cases seems to aggravate or to be the exciting cause of epilepsy, it should be borne in mind that quinine is of supreme value in these cases.

**Conclusion.**—In conclusion, allow me to submit that we should look upon epilepsy as an organic nervous disease with a pathology of its own, that we should admit the majority of all cases to be helpable, and a goodly percentage curable, and that, if we will turn from the apathy of the past and adopt the more modern methods of diagnosis and treatment, we may aid in the inauguration of a new and optimistic era for this much dreaded malady.

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2. Aldren Turner. *Epilepsy*. Chapter on Pathology.
3. Aldren Turner. *Epilepsy*, p. 194.
4. William J. Taylor. *Surgery, Gynecology, and Obstetrics*, iii, No. 2, p. 219.
5. Hugh M. Cox. *New York Postgraduate*, August, 1905.
6. Aldren Turner. *Epilepsy*. Appendix.
7. Allen McLean Hamilton. *Handbook of the Medical Sciences*, iii, p. 852.

402 WEST GRACE STREET.

#### MULTIPLE CONCEPTION.

By M. J. KARPELES, M. D.,  
Germantown, Philadelphia.

The birth of triplets, according to statistics, occurs once in 7,910 births. This infrequency, therefore, warrants the report of this case. I have attended women who have given birth to twins, and this as a surprise, but when a retail engagement becomes a wholesale one, the surprise is all the greater.

Multiple conceptions may result in the birth of twins, triplets, and quadruplets. A number of instances of five children at one time are recorded, and even an apparently trustworthy case of the birth of six—four boys and two girls—has been reported by Vessali. The most extensive statistics examined with a view of determining the relative frequency of multiple conceptions is that studied by G. Veit, which included the records of 13,000,000 births in Prussia. According to this report, twins occur once in eighty-eight births, and, as stated before, triplets once in 7,910, and quadruplets once in 371,126. Recent statistics by the Boards of Health of New York and Philadelphia place the frequency of twin births in these cities at one in every 120 births. Twins are more frequent in multiparae than in primiparae. Individual and hereditary tendencies seem to be factors in the occurrence of multiple conceptions, as will be shown in the case I am reporting, and female twins often give birth to twins. Triplets may originate from a single ovum, from two or



three distinct eggs, a frequent arrangement being that one child is derived from a distinct ovum and two from a single ovum. Upon the manner of their origin depend the arrangement and relation of the placenta and membranes.

Plural conceptions may result from a single coitus whereby are impregnated ova which have simultaneously been discharged from the sexual gland, prepared for the reception of the male elements. On the other hand, repeated impregnations may occur after different though closely following sexual acts, these resulting in the fecundation of different ova which have been liberated at slightly different moments, but which belong to the same ovulation.

This possibility received recognition in the term "superfecundation," by which is understood the fecundation of two ova belonging to the same period by different sexual acts. Conspicuous examples of such occurrences are afforded by instances where a negress gave birth to a white and a black child. The only rational explanation is that in each case each child shows a different paternity.

A mare may be covered by a stallion and at an interval following from a few hours to fifteen days is covered by an ass; she has twins, one a horse, the other a mule.

A bitch in heat is covered by different dogs, and in her litter the puppies may indicate different fathers. I might add here, to avoid any suspicion of multiple racial paternity, that all three of these babies reported are white.

Tarnier's statistics show that in more than two thirds of multiple pregnancies the labor is premature; the reason for this fact is the great distention of the uterus.

The case is as follows:

E. O., age thirty-one, married six years. Had first child eleven months after marriage, female; second child fifteen months later, also female; one and a half years later, miscarriage of twins, male and female. Fifteen months later, another female child. Two years later, triplets. Aunt on mother's side had ten children, which included both twins and triplets.

The beginning of February I was called to see the patient at 6 a. m. This was three and one half weeks before the date of her expected confinement. On examination I found the bag of waters ruptured, position left occipitoanterior. Labor was well advanced, true labor pain every ten minutes, which rate continued about an hour. The pain after that came every three or four minutes, and by 7 o'clock she was delivered of this baby, which weighed five and one quarter pounds. The cord was so short that it was necessary to clamp with two hæmostats and sever before the child could be fully expelled.

Placing my hand over the uterus, it seemed as large as before the delivery, and on examination I found a breech presenting and this bag unruptured. I anesthetized the patient with chloroform, ruptured one sac, and brought down the feet and delivered with very little difficulty. The uterus still was large, and on examination, to my great surprise, I found another with the head presenting. The patient was allowed to recover from the influence of the anæsthetic, and in course of fifteen minutes later pains set in at intervals of three minutes, which continued for twenty minutes, and the third child was delivered.

The second child weighed five pounds and the third four pounds, making a total of fourteen and one quarter pounds. All three were females, this making six female heirs and a twin miscarriage during her married life of six years. I was careful not to make traction on the cords until the triplets were born. I had little trouble in delivering the placenta, which was of course very large, giving the appearance of three placenta coalesced into one with three cords and three distinct attachments to the placenta.

While I had attended this patient during previous con-

finements, I did not see her during this last pregnancy until after labor had begun.

The babies were weighed today, April 2d, and recorded, respectively, five pounds eleven ounces, six pounds five ounces, and six pounds seven ounces. They are artificially fed.

60 WEST CHELTEN AVENUE.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXIV. How do you treat sunstroke? (Closed May 15, 1908.)

LXXV. How do you treat cholera infantum? (Answers due not later than June 15, 1908.)

LXXVI. How do you treat acute articular rheumatism? (Answers due not later than July 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXIII has been awarded to Passed Assistant Surgeon Charles S. Butler, United States Navy, whose article appeared on page 1040.

### PRIZE QUESTION NO. LXXIII.

#### HOW DO YOU TREAT SEASICKNESS?

(Concluded from page 1044.)

*Dr. William C. Griggs, of Philadelphia, states:*

Whenever the textbooks recommend a large number of drugs for the treatment of a disease, the student is pretty safe in believing that not one of them is absolutely satisfactory, and that the longer the list is the less satisfactory are the remedies. This is at least true in the case of seasickness, where they range all the way from calomel to chloroform. In fact, just as "more pure air and less drugs" is becoming the rule in treating tuberculosis, so I believe "larger and better ships and less 'dope'" will prove the best preventative of seasickness.

It cannot be too strongly urged that many patients are sent to sea who should be kept ashore. If a patient can afford an ocean trip it is an easy way for a physician to shift the responsibility of an undesirable case upon the surgeon of a transatlantic liner, especially if that physician has not personally suffered the horrors of seasickness. Many a patient would be a good deal better off at the shore or on the mountains than in a twelve by eight stateroom on a steamer. Since globe trotting, however, has become such a fad, there are few physicians probably who are not called upon to give advice at least once during the summer.

Amongst these may be a man who has just been planning a trip to Europe. The night before sailing



his friends give him a sendoff; probably they attend a theatre and afterwards adjourn to a restaurant for supper, and going upon the principle that "a man might as well hang for a sheep as a lamb," the prospective sailor eats heartily, maybe finishing up with a Welsh rabbit and champagne, and comes aboard the ship next day like a bomb with the fuse lit.

Here is another man: He has made up his mind that he will be seasick in the most orthodox fashion, and therefore prepares himself for the ordeal. For weeks he has been reading up on the subject, and in addition to a starvation diet, has purged himself and then taken all sorts and conditions of patent medicines, which, in spite of the fact that half of them have names which appear to have been taken out of a Chinese grammar and the other half stolen bodily from the outside of a Pullman car, rely for their effect upon practically nothing but chloral and bromides. That man would be seasick if he had a total gastrectomy performed upon him before sailing.

About midway between these two extremes, however, the vast majority of travelers will come, most of them nervous, especially if the trip be the first they have taken; and while in a great many cases it is impossible to entirely prevent the unpleasant experience they dread, it is without doubt possible to shorten it and make it more bearable.

First of all, the traveler should for a day or two before sailing prepare himself by not taking any rich foods or anything which he knows "disagrees with him." The day previous to sailing let him take 0.1 grain tablets of calomel every hour for ten doses or until the bowels have moved freely, and then, last thing before going aboard, eat a good, plain substantial meal.

Tell your friend to keep on deck as much as possible, have a good comfortable cane (not canvas, that gets wet and is difficult to dry) steamer chair, long enough to lie full length in, and a warm steamer rug or blanket; the latter is very important, for seasickness almost always makes a person feel chilly.

The first meal on the steamer is usually a hurried affair, everybody wanting to get on deck again as soon as possible, so as not to miss seeing the harbor, etc., and passengers are liable to "bolt" their food; under the circumstances a very bad thing to do. A little cold boiled ham or a sandwich or two is best; nothing hot or greasy should be taken; then on deck again. Do not omit this meal or the stomach becomes "empty" before the next one is ready, a condition which greatly predisposes to an attack of seasickness.

Personally I do not believe it is a good thing to "fight off" the nausea when it comes. Most people greatly dread to be the first to show the white feather, and hang on till the last possible moment. Better go to the rail and get it over and not prolong the misery; then, when the stomach has emptied itself, lie down with a soda cracker and munch it dry. These soda crackers are better than all the drugs ever used.

Retiring the first night and getting up the next morning are two dark, dark spots in most first voy-

ages, but "keep your head down when you once get it on the pillow" is a good rule, never mind how suggestive the unpleasant sounds from the next cabin may be. Call the steward to bring a little hot tea and more soda crackers twenty minutes before you try to get up next morning, then jump into your clothes as fast as you can and get on deck, and don't go into your stuffy cabin again before you have to.

Always go to the dining saloon at meal times, even though you have to beat a hasty retreat immediately after. It may not be a very Christianlike sentiment to feel good when looking at the rows of empty seats and the idle stewards, but the fact remains it will help you a lot. Take a few more soda crackers with you when you return on deck and munch them dry, and when the deck steward comes around with the beef tea at "eight bells" you will probably find you can not only retain a cupful, but will really enjoy it.

There are practically no drugs here, it may be noted, because in a simple case such as I have outlined I do not believe they are of any practical benefit. Of course, there are cases which demand them. Some persons become dangerously ill; one case I recall of a woman in the second month of pregnancy who almost died during a trip across the Atlantic in November, and another similar case in the Mediterranean Sea, the latter aborting on the fourth or fifth day. Here iced brandy, very small doses of malted milk at frequent intervals, with sufficient morphine, given hypodermatically, is the most satisfactory treatment.

*Dr. Charles Haase, of Elmira, N. Y., remarks:*

Nothing is of more value in treating those subject to seasickness than a preparatory treatment. Get the digestive tract in good condition by excluding from the diet for one week previous to sailing the following: Nuts, salads, pastry, condiments, fats, bonbons, fried foods, and farewell dinners. On the second night before sailing, one grain of calomel in divided doses is taken, to be followed in the morning by a Seidlitz powder. The Seidlitz powder to be repeated every morning for four or five days.

For weak individuals strychnine sulphate 1/60 grain, and fluidextract of ergot  $\text{M} \text{v}$  are given three times a day after meals. This dose to be doubled on the voyage. For robust individuals sodium bromides in 20 grain doses three times a day, after each meal, is of more value. It is to be given three days previous to and the first three days of sailing.

On board ship it is important that small quantities of easily digested food be taken at short intervals, at least every three hours. Liquids in small quantities should only be taken at meal times, as the rolling around of fluids in the stomach tends to produce nausea. Remain on deck as much as possible. Do not neglect taking exercise, and there is none better than walking. Avoid thinking and talking about seasickness. Have your stateroom thoroughly ventilated, as ship odors are a factor in the causation of seasickness.

In mild attacks of seasickness, with headache, the application of the constricting bandage to the neck and a reclining position in a deck chair, with the

eyes closed, is usually all that is necessary. The bandage relieves the anæmia of the brain and the closing of the eyes prevents optic vertigo.

In more severe cases, where nausea and vomiting are present, a glass of lukewarm water or some weak emetic is given to clean out the stomach. The patient is placed in bed, with the head low, eyes closed, and the constricting band applied to his neck. A large dose of magnesium citrate is given by the mouth, and if this is not retained an enema is given. Then a hypodermatic injection of atropine sulphate 1/100 grain, and strychnine sulphate 1/60 grain, is injected into the epigastrium.

A mustard plaster over the epigastrium and an ice bag to the nape of the neck often adds greatly to the patient's comfort.

In cases where the blood pressure is low, and it is so in most cases, strychnine sulphate 1/30 grain, and fluidextract of ergot  $\mathbb{W}x$  should be given every three to six hours, as indicated.

In exceptional cases it may be necessary to give a hypodermatic injection of morphine to control vomiting.

Clam broth, strong black coffee, beef juice, peptonized milk, grape fruit juice, lemon juice, dry toast, and salted crackers are some of the foods most easily retained. The individual's liking or longing for certain food is usually a good indicator of what the stomach will take care of.

*Dr. Samuel Stalberg, of Philadelphia, says:*

The passenger should put himself in the best physical condition before coming on board ship. He should avoid the fatigue and irregular meals usually attending the preparations for the departure. Only easily digestible food should be taken for a few days preceding the voyage. One quarter grain calomel for eight doses, followed by a bottle of solution of magnesium citrate, should be taken on the day of sailing. In the bilious this may be replaced by a few pills containing calomel and podophyllin. The berth selected should be as near amidships as possible, well ventilated, and free from odors. The larger, steadier, and slower going boats should be selected. Straining of the eyes and looking at the water should be avoided. For the first few days the meals should be light, taken often.

When the first symptoms of the attack present themselves, such as lightheadedness, dizziness, headache, and epigastric uneasiness, the passenger should assume a horizontal position in bed, or in a sailor's hammock on deck, well protected against direct sunlight and a view of the ocean. A bowl of hot soup or cup of coffee should be taken, and in cases that do not go beyond this stage, this will be sufficient to restore the disturbed equilibrium and relieve cerebral hyperæmia, sending the patient on his way to recovery.

In the majority of cases, however, these symptoms are but the beginning, and nausea, vomiting, vertigo, faintness, and mental depression follow. These patients should maintain the horizontal position, and keep their bowels open by the effervescent magnesium citrate, Seidlitz powder, or some mineral water. The diet should consist of clam juice, nutritious soup, and pasteurized milk, which can be

pancreatized or diluted with equal parts of vichy or lime water, or it may be taken with ten grains of sodium bicarbonate and three grains of cerium oxalate to the tumblerful, and kumyss and matzoon. In some patients solid food is better than liquids for the vomiting, and they should try soda crackers, zwieback, lemon ginger snaps, and chipped smoked beef. All of these, as well as bottled milk and clam broth, should be taken along when going on board. Fresh lemons, oranges, and lime water tablets are often gratifying. Daily baths of cold water, or hot water followed by friction or by a cold douche, should be taken. The patient should be made as cheerful as possible.

In patients in whom nausea and vomiting are persistent, and exhaustion is marked, strychnine sulphate, grain 1/48, and atropine sulphate, grain 1/240, should be given hypodermatically, three or four times daily, until recovery sets in. The atropine and strychnine solutions should be kept separately, but given together, so as to better regulate their administration in accordance with their effect. They may be given by mouth, if retained, in the form of tablets, but these tablets should never be entrusted to the patients themselves. Where there is marked headache, potassium bromide, grain xxx, three times a day, should be given.

Cerium oxalate, grain iii; bismuth subnitrate, grain x, and codeine sulphate, grain ¼, may be tried if the vomiting is persistent. If nausea is constant and vomiting does not follow, it is well to unload the stomach by a light emetic, such as a glass of lukewarm water to which is added salt, or a few teaspoonfuls of the wine of ipecac. Hot water bags and mustard leaves or plasters to the epigastrium should be applied. When patients crave sour articles to relieve the bad taste in the mouth, such as sour pickles, lime juice tablets, etc., these may be cautiously allowed. Small pieces of cracked ice may be swallowed.

Few persons will go beyond this stage, but those that do are alarmingly ill, and the prostration is marked. In these cases, hot water bottles should be kept along the limbs, and the latter rubbed briskly with alcohol. The stimulating and supporting treatment mentioned before should be carried out. A hot compress to the forehead, and a broad rubber band tied around the neck with a moderate amount of pressure, on the principle of Bier's hyperæmia method, should be tried. An ice bag to the spine may be tried. It is in these cases that the various mechanical devices calculated to lessen the effects of the movements of the boats, though usually useless, may be tried. These are the swinging staterooms, berths, and bunks, the Bessemer suspended saloons, and the electrically vibrating chair.

Schlick, a Hamburg naval engineer, has recently invented an apparatus which may prove of real value in limiting the rolling motions of the boat. This apparatus is designed at the same time to increase considerably the period of oscillation of the rolling movements and to diminish the amplitude of the oscillation. This is based on the gyroscopic effect of a flywheel mounted on board a steamer and caused to rotate rapidly. The vertical axis of the apparatus is so located as to be able to move pendulum-



like in the central plane of the ship. The rapid oscillations of the wheel will result in rendering the patient insensible to the effects of the wave motion, the rolling movements being practically eliminated. The underlying principle of the apparatus is the fact that a rotating body will oppose to any inclination of its axis a resistance higher, as its rotation is more rapid and its weight more considerable.

Those affected with acute disease, and those with diseases like aneurysm and hernia, in which the mechanical effect of the vomiting might be disastrous, should abstain from undertaking a sea voyage. While a treatment, as stated, is in the main symptomatic and aiming at rationality, still it was attempted to recognize that seasickness is primarily a neurosis, the movements of the vessel causing disturbances of equilibrium in the brain centers, the visual and aural disturbance probably also contributing their stimuli. This disturbance causes vertigo, malaise, etc., and the sympathetic being involved, nausea, vomiting, and prostration following. Due to vasomotor disturbance, anaemia of the centres follows, and heart weakness results. Therefore stimulating rather than depressant treatment is recommended.

### Correspondence.

#### LETTER FROM LONDON.

*Mr. Moynihan on Gastroenterostomy.—The Proposed Removal of King's College Hospital.—The Registration of Nurses Bill.—An Antivivisectionist Meeting.—The Royal Academy Pictures.—The Franco-British Exhibition.*

LONDON, May 18, 1908.

At a recent meeting of the Sunderland Branch of the British Medical Association, Mr. Moynihan, the well known Leeds surgeon, gave an address on the operation of gastroenterostomy. As a leading exponent of gastric surgery in England, Mr. Moynihan was an ardent advocate of this operation. With the improvements in method and technique the operation mortality has gradually fallen and in the hands of some surgeons is now less than two per cent. It was therefore, he said, scarcely surprising that this operation should be performed with increasing frequency, the indications for its performance growing more numerous from time to time. Mr. Moynihan's teaching has been generally accepted, and many surgeons hold the view that if laparotomy is performed for supposed organic disease of the stomach and none is found it is advisable to proceed to the performance of gastroenterostomy, apparently on a similar principle to that of those surgeons who remove the appendix whenever they operate in that region, whether it is diseased or not. Out of 205 patients upon whom this operation had been performed by Mr. Moynihan, there were eleven in whom no organic disease was found. Now that he has had a further opportunity of studying the after results of his cases, Mr. Moynihan expresses himself as being distinctly antagonistic to the performance of this operation except when demonstrable organic disease is present. In func-

tional stomach conditions the after results are almost invariably bad, the patients either remaining in the same condition or their symptoms being aggravated by regurgitant bilious vomiting. No improvement is to be expected in those cases in which the pylorus remains patent. Experimental work has shown that if gastroenterostomy is performed on healthy animals, all the stomach contents continue to pass out by the natural opening, the artificial one not being used at all. Thus in cases of an ulcer on the lesser curvature, near the cardiac end, the pylorus remaining normal, gastroenterostomy not only is useless, but may be harmful, and the best treatment in such cases is excision of the ulcer. Mr. Moynihan's conclusions are of considerable interest and will, no doubt, have some influence in producing a reaction in favor of conservatism in this operation.

Considerable interest is being aroused in the proposed removal of King's College Hospital, one of the large metropolitan teaching hospitals, to Denmark Hill, in South London. The general practitioners of the South London district, who will be most affected by the change, have held a large meeting to discuss various matters in connection with the hospital. Several resolutions were proposed and accepted relating to the methods of managing the hospital, and it was intended to place these resolutions before the hospital committee. They related chiefly to the question of hospital abuse, one of the most important being that out patients should not be seen at the hospital, except on production of a certificate from a medical practitioner stating that the patient was a suitable person for hospital treatment. These certificates would be given by the general practitioners free of charge. Another resolution proposed was to the effect that the out patient department should only be consultative. A medical man wanting a specialist's opinion on a case where the patient could not afford to pay a consultant's fee should be able to send this patient to the hospital with a letter, and after seeing the patient the consultant should outline the treatment to be adopted in a letter to the medical practitioner, who would continue in attendance. At the Bolingbroke Hospital, Wandsworth, one of the smaller hospitals, this system has now been in vogue for some time and is very successful. The question of the admission of paying patients to the hospital was next considered, and a resolution was carried unanimously to the effect that in a hospital supported by charitable contributions this was a mistake. Doubtless the general practitioners in the district will be adversely affected to some extent by the advent of a large hospital. The decentralization of a large teaching hospital is certainly an innovation. We have got used to the idea of having all our large hospitals in the heart of the city. But the increasing growth of the suburbs affords plenty of scope now for the existence of large hospitals outside the central area, and the example of King's College may possibly be imitated by another large hospital.

Medical opinion in England is divided on the question of the state registration of nurses. The British Medical Association had the subject under consideration for two years, and it was fully dis-



bated in all its aspects. Finally, at the annual general meeting in 1906 the principle was approved of. The General Medical Council, the body controlling medical registration, was also in favor of the principle. Yet on Wednesday last, May 6th, the second reading by Lord Balfour of Burleigh's Official Directory of Nurses' Bill, which requires "that an official directory be kept on which shall be entered the names of all nurses who have received an adequate training," was rejected in the House of Lords by 53 votes to 20. The debate on the bill showed that, although most of the speakers were in favor of some form of state control over the nursing profession, the present bill did not supply an adequate method of dealing with the question. It did not provide proper representation of the nursing and medical professions, neither would it guarantee the efficiency of those registered.

The Antivivisectors have not been long in retaliating upon the Research Defense Society. On Tuesday, May 12th, they held a large meeting at the Caxton Hall, Westminster, with the object of "making a demonstration against vivisection and the principles, tactics, and misleading title of the newly formed Research Defense Society." It was stated that this society lacked courage to send a speaker to debate with them. They had written to Mr. Stephen Paget, the honorary secretary, asking him to send a speaker to meet one of the Antivivisectors in a public debate, the question to be discussed being Is Vivisection Morally Justifiable and Scientifically Necessary? but their challenge was not accepted. This is scarcely surprising in view of the insults and extravagant statements of some of the Antivivisectors, but the presence of Mr. Paget at the meeting and his very effective speech showed that he did not lack the courage to beard the lion in his den. It would not serve any useful purpose to make further comments on the proceedings at the meeting, but a comparison of the names of those constituting the Research Defense Society with the names of the leading Antivivisectors will at once show thinking men which side to follow.

Some of the pictures at the Royal Academy this year have a decided medical interest. There is one by the Hon. John Collier, entitled The Death Sentence. It portrays an intellectual looking physician giving advice to a young man who is obviously suffering from some severe illness. His malady may be open to speculation by physicians, but the aspect of the patient is most like one affected with tuberculous disease. The picture displays realism and the situation is dramatic, but it is not a very unusual occurrence in the busy physician's life. There is also a good portrait of Dr. Pridgin Teale, and among the sculptures is a bust of Hughlings Jackson.

The opening of the Franco-British Exhibition at Shepherd's Bush took place on Thursday, May 14th. The wretchedness of the weather and the general state of unpreparedness combined to mar the opening function somewhat. None of the medical or scientific exhibits, of which there will be quite a large number, were ready for inspection, and it will be some time before the various exhibits reach the stage of completion.

## Therapeutical Notes.

**Treatment of Pain from Biliary Calculus.**—A paper by Robin on the treatment of biliary calculus, published in the *Bulletin médical*, is summarized in the *Journal de médecine et de chirurgie pratiques*. For the relief of pain he does not use morphine hypodermatically, except in particularly painful cases and such as do not respond to a sedative like the following:

B	Potassium bromide, .....	3iiss;
	Morphine hydrochloride,	
	Aqueous extract of belladonna, .....	ãã gr. ¼;
	Syrup of ether, .....	5i;
	Cherry laurel water, .....	3iiiss;
	Valerian water, .....	3iiiss.

M. et sig.: One tablespoonful every half hour until three or four doses have been taken.

While this medicine is being taken apply over the region of the liver a piece of flannel soaked in the following liniment:

B	Compound oil of hyoscyamus, N. F., .....	3x;
	Extract of opium,	
	Extract of belladonna,	
	Extract of hyoscyamus, .....	ãã 3ss;
	Chloroform, .....	3iiiss.

M. ft. liniment.

The third thing to be done is to evacuate the intestine. During an attack of biliary colic, the intestine, like the biliary duct, is in a state of spasm, and the mildest form of enema must be used. This consists of water which has been boiled and allowed to cool to the temperature of the room; such an enema exerts a cholagogue and evacuant action on the liver.

In cases where the foregoing means of overcoming the pain prove insufficient, recourse must be had to hypodermatic injections of morphine, hot sedative baths, or to a sedative mixture of chloral, chloroform, and glycerin, according to the following formula of Manquat:

B	Syrup of chloral,	
	Glycerin, .....	ãã 5i;
	Chloroform water,	
	Cinnamon water, .....	ãã 3iss.

M. et sig.: One tablespoonful every fifteen minutes until the pain is relieved.

The vomiting which is reflex in its nature is readily controlled by the administration of six drops of the following mixture, given in a little warm water:

B	Picrotoxine .....	gr. 3/4;
	Alcohol, enough to dissolve the picrotoxine,	
	Morphine hydrochloride, .....	gr. 3/4;
	Atropine sulphate, .....	gr. 3/20;
	Vyon's ergotine, .....	gr. xv;
	Cherry laurel water, .....	3iii.

M.

Five or more doses of this are given during the twenty-four hours, but the vomiting will usually cease after the second dose.

As medicine to be taken regularly during the day the following powders are prescribed with which to make phosphobenzoated water:

B	Sodium bicarbonate, .....	3iii;
	Dried sodium sulphate,	
	Dried sodium phosphate, .....	ãã gr. xlv;
	Sodium benzoate, .....	gr. xv.

M. ft. chart. No. 1.

Sig.: One powder to be dissolved in a quart of boiling water. Take a wineglassful on rising; and one and one half glassfuls (three ounces) at 10 o'clock a. m., and at 5 and 10 o'clock p. m.

# NEW YORK MEDICAL JOURNAL

INCORPORATING THE

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*A Weekly Review of Medicine.*

Edited by

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and SMITH ELY JELLIFFE, M. D.

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## THE MEDICAL RESERVE CORPS OF THE ARMY.

The Act to Increase the Efficiency of the Medical Department, United States Army, approved April 23d, contains a feature which must be of great interest to the medical profession of the country. The institution of a reserve corps of officers available for military service in war or other great emergency is distinctly a new departure in the military history of the United States, and if the attempt is a success there is reason to believe the principle of maintaining reserve forces may be extended along other and nonmedical lines, much to the advantage of the nation.

The immediate aid to the military medical service afforded by this provision of the recent act is that the contract surgeons now in service will receive commissions and enjoy the positions and emoluments of regular officers, instead of the unsatisfactory half military, half civil status heretofore occupied by them. The recent increase in army pay makes the new position also better worth having. The necessity for a considerable number of medical officers additional to those of the Medical Corps will continue for some years at least, as the increase in the regular force cannot under the act be fully obtained for four years, and unless much greater success than heretofore is had in securing properly qualified men, the corps is not likely to be entirely filled even in that time.

Candidates for the permanent corps will, after passing the preliminary examinations, be also commissioned in the Reserve Corps and placed on active duty until they have gone through a course of in-

struction at the Army Medical School, thus insuring them against loss of pay or future loss of rank in the Medical Corps when they are finally admitted.

The present advantages of this section of the act are, therefore, so manifest that the Medical Department may well be congratulated upon its passage, but it is hoped the Medical Reserve Corps of the future will be much more than a small band of assistants temporarily helping out the medical service of our little regular army. The President is authorized to commission as first lieutenants of the Reserve Corps properly qualified graduates in medicine who are citizens of the United States. The holders of these commissions, although not on active duty, will form a body of men available for service in emergency all over the land. They will be considered as having pledged themselves to serve the country professionally in time of war when called upon, although by no means necessarily as first lieutenants of the Reserve. Service to the nation in any capacity will be considered as carrying out the agreement.

The number of the Reserve Corps is not limited by law, and it is probable that the age limits will be so fixed that some of the older men of acknowledged eminence may be induced to enter and put a proper "cachet" upon the new corps from the beginning. We take for granted that physical soundness, good standing in the community, and legal qualification to practise will be required of all applicants.

The success of the scheme will depend entirely upon the interest taken in it by the best physicians and surgeons throughout the land. If, from motives of patriotism and national pride, representative men, and no others are wanted, enter the Reserve Corps, the War Department will be enabled to maintain contact with the medical profession of the country that will insure our soldiers, regular and volunteer, in future wars an adequate and efficient medical service. Except for the few who are employed on active service in time of peace, and the candidates for life careers in the army undergoing instruction at the school, positions in the Reserve Corps carry no emoluments of any sort. We believe, however, that the possession of the President's commission and the knowledge that one's name is registered among those willing to serve the country in her time of need will be sufficient attraction for the class of men particularly desired.

## THE EDUCATION OF THE PUBLIC IN MEDICINE.

Dr. Herbert L. Burrell, of Boston, the new president of the American Medical Association, chose a timely theme for his inaugural address before the annual meeting of the association, held in Chicago this week. We are indebted to the general secretary

for advance proofs of that and the other formal addresses. The title of Dr. Burrell's discourse was *A New Duty of the Medical Profession: the Education of the Public in Scientific Medicine*. Having paid a graceful tribute to the memory of the late Dr. Nicholas Senn and traced the progress of medicine from the condition of a satellite of theology to that of biological science applied to the prevention and relief of disease, the president proceeded to his subject proper.

Dr. Burrell is in thorough accord with the present feeling of the profession that the general public needs medical instruction from the best sources, not the self seekers and the covert advertisers, whom, he is quite sure, the people would not be slow to detect. He specifies four agencies by which the public may be educated in medicine. The first of them is newspaper articles authorized by a responsible board of medical men. "These articles," he says, "should be signed and published under the authority of the Board of Public Instruction. That these articles should be judiciously edited must be apparent to all. No statement issued by the Board of Public Instruction should fail to be the absolute truth. Irreparable damage to the medical profession and to the public might be done by unwisely exploiting mooted subjects." We presume it may be taken for granted that authoritative boards would be less likely to fall into the errors alluded to than enthusiastic individuals would.

The next agency mentioned is magazine articles written by skilled lay writers inspired by medical men of sound knowledge and discretion. This strikes us as an exceedingly hopeful means, only we may first have to disabuse the public of the extravagant appreciation which it has been taught to entertain of "the commercial value of a name," for that overappreciation is a real obstacle. The man who has done things and who knows things is not usually the one who can best expound them. Julius Caesar was a shining exception, but our Caesars are few and far between. We presume that the source of the lay writer's inspiration ought always to be indicated, but the intervention of the skilled writer is highly necessary.

The next agency mentioned is that of free public lectures. In regard to their efficiency, Dr. Burrell says:

These lectures should be given by men who are authorities in their subjects; and the experiment as it has been tried in various parts of the country, particularly in Chicago and at Harvard, has been a success. At Harvard during this last winter the lectures have been so popular that at times a hundred or more people have been turned away, being unable to gain admission. A wide range of subjects has been covered in these lectures. Many factors influenced the attendance: First, the subject selected; second, the individual who gave the lecture; and

third, the condition of the weather. Sunday afternoon lectures were better attended than Saturday evening lectures. Inclement weather markedly diminished the attendance. The most conspicuous factor that influenced the attendance at the lectures was the cooperation of the press. For example, when a lecture was given on a subject of great public interest, then if the press devoted from a half column to three columns to noticing it, the stimulus to the attendance at succeeding lectures was marked.

But Dr. Burrell is convinced that the most potent agency of all is individual teaching by the physician in the family, and we believe that the profession will cordially agree with him in this. He thinks that in public instruction it will be well to avoid attempts to cover too wide a field; we should rather seek to make the instruction thorough in a limited range, such as that of the infectious diseases, and notably, as is now being done, with regard to tuberculous disease. The address as a whole was replete with wisdom.

#### OUR RELATIONS WITH THE PUBLIC.

The association is to be congratulated on having selected so scholarly and broad minded a man as Dr. William Sydney Thayer, of Baltimore, to deliver the address in medicine this year. Dr. Thayer touches luminously on a number of points covered by the title of his address, *On Some Relations of the Physician to the Public; Duties and Opportunities*. We can mention only the more notable of them. The subject of malaria receives considerable attention. The Hellenic Peninsula, Dr. Thayer reminds us, is still cursed with the prevalence of malarial disease, and he implies that the decadence of the Greeks of ancient times may be traced to the sapping of general health among them by that infection. In Italy, on the other hand, malaria is well on the road to suppression as a result of vigorous sanitation. In our own country we may take a lesson from what has been accomplished in some of our dependencies, particularly in the Panama Canal Zone, in the prevention of disease. Of the work on the canal, "one of the greatest undertakings that man has ever essayed," Dr. Thayer says:

The French, with unexcelled mechanical skill and energy, had failed—failed largely because of the dreadful and continued mortality among the workmen. The United States took up the work. In the mean time there had come the great discoveries of Ross and Grassi and Bignami and Bastianelli, completing those of Laveran, concerning malaria, and the vital and illuminating contributions of our own Reed, Lazear, Carroll, and Agramonte, with regard to yellow fever. And to-day the Panama Zone compares favorably, as to sanitary conditions, with the more healthy parts of this country. Yellow fever, though on all sides, is here unknown. It is the greatest triumph of preventive medicine that the world has ever known.

Dr. Thayer depicts vividly the difficulties too frequently met with by physicians in inducing persons



in authority to listen to arguments in favor of hygienic precautions, instancing "an eastern city" whose authorities suffered an engineer to stifle the pleadings of medical men who insisted on proper measures for insuring the salubrity of the water supply. It would have done no harm, we think, if he had mentioned the city by name; municipalities are in great need of having such blunders brought home to them specifically.

Frankness with patients, as a part of the public, is another of the great duties which Dr. Thayer insisted upon—frankness associated with optimism. The mysterious, the impressive, the oracular, he said, should be discarded in our intercourse with the sick. "Truth," he reminded us, "is as sacred a duty in medicine as anywhere else in life," and he forcibly cited Cabot as having said: "The doctor's lie is always detected."

### THE CANCER PROBLEM.

This was the title of the address in surgery by Dr. George W. Crile, of Cleveland, delivered before the meeting of the American Medical Association in Chicago. Not only, in our opinion, was it the gem of all the formal discourses, but also such a pronouncement as cannot fail to remain a landmark, and a bright one, in the history of the present worldwide endeavor to solve the problems of malignant disease. It is no wonder that those who heard it were profoundly impressed. There is no circumlocution about Dr. Crile's way of putting things, no shadow of uncertainty as to his meaning or as to the depth of conviction from which he speaks; his incisiveness, indeed, reminds us of the late Dr. Henry B. Sands, and there is often observable in his style a verbal felicity that but few medical writers have ever possessed. The following expressions, for example, are worthy to be ranked with the late Dr. Roberts Bartholow's "therapeutic nihilism": "Cellular cannibalism" (referring to the destructive action of cancer) and "There is no tie of sentiment between a man and his cancer" (apropos of the feasibility of inducing a patient to consent readily to excision of a precancerous lesion).

Dr. Crile is optimistic in the matter of cancer, but his optimism is abundantly justified. Though he gives solid reasons for hopefulness as to the ultimate triumph of other means, he regards the knife as still practically the sole resource in rescuing the subjects of cancer. He presents an encouraging contrast between the "ghastly" statistics of operative results collected by Butlin twenty-one years ago and the brilliant consequences witnessed at the present day. But, he insists, the operation must be an early one, done in the precancerous stage if possible, and he justly scores those doubters in the pro-

fession who dally with a growth of yet uncertain nature until the period of hopefulness has been passed. "I have often thought," he says, "that, pending a more general enlightenment, it would be a great boon to mankind if the words 'glandular enlargement and cachexia' as denoting symptoms of cancer were stricken from every textbook of medicine. These are terminal symptoms, and indicate that the surgical opportunity is forever lost."

Early and thorough excision, under proper technique, having been demonstrated to be practically curative of readily accessible growths, Dr. Crile turns his attention to internal cancers. In common with many others, he is convinced that these tumors also have a precancerous stage, gastric cancer, for example, following upon a simple ulcer. Hence these possibly precancerous lesions should be removed. In the early diagnosis of internal cancer much dependence may be placed upon blood examinations turning upon the presence or absence of hæmolytic action. In cases that appear inoperable on account of the patient's bad condition, substantial assistance is to be derived from a properly conducted transfusion of whole blood or an infusion of serum, and there is good ground for expecting the establishment before long of immunization by serum treatment. We know of nothing in all our literature which is so encouraging in the struggle against cancer as this address of Dr. Crile's.

### THE AMERICAN MEDICOPSYCHOLOGICAL ASSOCIATION.

The sixty-fourth annual meeting of this organization, the oldest national medical association in the country, took place recently in Cincinnati, with an average attendance of over two hundred members. The meeting was marked by many pleasant social features, as members from all parts of the United States and Canada were in attendance; the hospitality of the State, the city, and the medical profession was most cordial, and the scientific programme was rich in records of earnest and progressive work in the special field of psychiatry.

In his opening address, Dr. Charles P. Bancroft, of Concord, New Hampshire, speaking of the hopeful and discouraging aspects of the psychiatric outlook, reviewed the progress of the past few years, showing how rapidly the science of psychiatry had been advancing, far more rapidly, in fact, than most of the members of the profession were aware, and thus progress, he said, had been no less marked in the sphere of the therapeutics of mental disease than in that of its more exact diagnosis. He emphasized the necessity for a broader outlook on the part of alienists if they were to discharge a fuller measure

of their responsibility to the social body, and spoke of the discouraging features implicated in the political management of many of our hospitals for the insane.

In Dr. Henry J. Berkley's paper, read by Dr. Hurd, on Thyroidectomy and the Thyreolecithin Treatment of Catatonia, the definite report of therapeutic advance was made with reference to this group of mental disorders. In well marked catatonic præcox cases, characterized by much motor disturbance, in the form of command automatism, negativism, stereotypy, catalepsy, etc., by the removal of part of the thyroid gland, done under certain surgical precautions, a definite and distinct amelioration had taken place in a fairly large number of patients. In some instances the change had been so marked and had occurred in so short a time that the effects seemed almost magical. The author, however, gave a very guarded estimate of the permanent value of the procedure, and expressed the opinion that the number of reported cases was still too small to permit of generalizations. In view of the active discussion that brought out the facts of the relatively good prognosis in this particular form of disturbance, the difficulties in diagnosis, especially of certain hysterical admixtures, the absence of definite biological concepts interpretative of the results, the general feeling shown was that of a hopeful productive conservatism that counseled further trials under rigid analysis of results.

The vexed problem of the presenile mental affections was attacked with hopeful results by Dr. E. E. Southard and Dr. H. W. Mitchell, of Hathorne, Mass. The coordination of clinical and pathological material in an analysis of some 400 cases was too exhaustive to permit of more than a brief note in this place. The author showed, however, that in some twenty insanities occurring in the sixth and seventh decades, which were studied post mortem, there was no need of regarding them as different in type, from the clinical or pathological point of view, from the insanities known to occur in other decades. Thus, one patient of over sixty, in the absence of any arteriosclerosis, showed the typical clinical picture of a dementia præcox; others were classical "manic depressives," the attacks occurring apparently for the first time in these decades. The paper was extremely suggestive in many directions and offered considerable light in a field much in need of investigation. A spirited discussion was held on the general subject of the bacteriology of general paresis, which we have presented in a separate editorial note. The paper of Dr. Henry M. Hurd, of Baltimore, was a masterly one—Psychiatry as a Part of Preventive Medicine. We shall comment upon it at a future time.

Speaking of the proper size of hospitals for the insane, Dr. Charles W. Pilgrim, of Poughkeepsie, made a searching analysis of this entire question. He traced the gradual growth of our hospital system from the days when 300 inmates were regarded as sufficient in number for one superintendent to care for properly, to the enormous piles in which 5,000 are domiciled. He showed that we now had had experience enough to determine the proper size for a hospital for mental disease, from the standpoint of economical administration and maximum efficiency in the treatment of the individual.

We have been able only to pick out here and there some of the interesting papers given before this association—there were many others equally important that space does not admit of our discussing.

#### INSTRUCTION IN HYGIENE AT WEST POINT.

The recent appropriation bill for the Military Academy at West Point provides that the Secretary of War may appoint a medical officer of the army as "instructor" of hygiene for the Corps of Cadets. The use of the word "instructor" instead of "professor," as heretofore, is most unfortunate and constitutes a step backward in the teaching of hygiene to the line of the army. A West Point "professor" is a personage with distinct rights and privileges. He has the rank of lieutenant colonel or colonel, and his assistants detailed from the army are "instructors." Professors are also members of the Academic Board. The professor of hygiene at the academy has enjoyed like privileges and, although a major in the Medical Corps, has been carried on the register with the temporary rank of lieutenant colonel. The position carried with it extra pay to the extent of five hundred dollars a year (the difference between the pay of a professor at the Military Academy and a major in the army). It appears that Congress objects only to the extra pay, and so substituted the word "instructor." The loss of pay to the officer in question, although it seems unfair to him, is not a matter of national importance, but the change of title is really a serious matter, as it minimizes the chair of hygiene and may possibly operate as a technical obstacle to the teacher of that branch serving on the Academic Board. The actual daily practice of military hygiene is necessarily in the hands of the officers who command men, and its foundation is discipline. The instruction, therefore, of future officers of the army in all that constitutes "care of troops" is of supreme importance, and the relegation of hygiene to an inferior place in the curriculum at West Point is much to be regretted.

# The American Medical Association,

Fifty-ninth Annual Meeting, Chicago, June 2, 3, 4, 5, 1908.

## The Meeting Reviewed.

With a registered attendance of six thousand four hundred members the fifty-ninth annual meeting of the American Medical Association establishes a new record for gatherings of medical men, for it can be safely asserted that never before were there so many physicians gathered together on one occasion. The central situation of the place of meeting, its accessibility, and the excellence of the programme all combined to make possible so large an attendance.

Although the scientific meeting was not called until Tuesday, the House of Delegates began its sessions on Monday, the 1st, at 10 a. m. A full report of the business of the House of Delegates will be found after this article.

**The General Meetings.**—The first general meeting was called to order at 10:30 a. m. on the 2d by the president, Dr. Joseph D. Bryant, of New York. After an invocation by the Right Reverend Charles Edward Cheney, D.D., bishop of the Reformed Episcopal Church, addresses of welcome were made by the Honorable Charles S. Deneen, governor of Illinois; the Honorable Fred A. Busse, mayor of Chicago; and Dr. H. B. Favill, the president of the Chicago Medical Society.

After the report of the local committee of arrangements was presented by Dr. M. L. Harris, of Chicago, Dr. Herbert L. Burrell, of Boston, was introduced and conducted to the chair. Dr. Burrell then delivered the address of the president (see page 1095).

The second general meeting was called to order at 7:30 p. m. on the 2d, by the president, Dr. Herbert L. Burrell, of Boston. The oration on medicine was delivered by Dr. William S. Thayer, of Baltimore. The oration on surgery was delivered by Dr. George W. Crile, of Cleveland, in the section on Surgery and Anatomy. Both of these orations have been treated in our editorial columns in this issue. At the third general meeting, which was held on Wednesday, June 3d, at 2 p. m., Dr. Charles Harrington, of Boston, delivered the oration on State medicine.

**The Scientific Business.**—The scientific business of the meeting as conducted in the various sections was up to the average of excellence so far maintained by this association. Lack of space prevents us from giving the gist of each paper read, but the reader will find abstracts of several important communications in proper sequence in the description of the meetings.

**Guests.**—Among the distinguished foreigners who were present as guests of the association may be mentioned Professor J. Hannenstiel, of Kiel, Germany, who spoke upon Abdominal Cervical Cesarean Section at the symposium on Cesarean section at the Tuesday afternoon meeting of the Section in Obstetrics and Diseases of Women; Professor A. Martin, of Greifswald, Germany, who spoke on Genital Tuberculosis at the Wednesday afternoon meeting of the Section in Obstetrics and Diseases of Women; Professor L. Brauer, of Marburg, Germany, who took part in the symposium on the surgery of the vascular system and read a paper on Positive Pressure in the Surgery of the Chest; Professor Jensen, of Berlin; Dr. Arthur Bahr, of London, who read a paper on the Surgery of the Abdomen; Professor Edward A. Schaefer, of Edinburgh, Scotland, who read a paper on Artificial Respiration in Its Physiological Aspects, and another paper on the Pituitary Body at the meetings of the section in Pathology and Physiology; Dr. F. Sauerbruch, of Marburg, Germany, who read a paper on the Present Status of Surgery of the Thoracic Cavity and the Significance of the Author's Method of Preventing Pneumothorax, in the section in Surgery and Anatomy; Dr. E. Treacher Collins, of London, who read a paper on the Developmental Deformities of the Crystalline Lens, and took part in the discussion on the treatment of simple glaucoma in the section in Ophthalmology; Dr. Charles E. Beevor, of London, who addressed the section in Nervous and Mental Diseases on Associated Movements.

**The Entertainments.**—The social features of the meetings of the American Medical Association are among its most important proceedings. The president's reception and the ball, which were held on Wednesday evening, were, of course, the leading social functions, and it was a great pleasure to watch the gay scene in which such a large number of physicians and their guests took such evident enjoyment. The Art Institute, on Michigan avenue, was open daily to those who wore the official badge of the association. Automobiles left from the Art Institute hourly from 10 o'clock every day, in which those who desired to see the city were taken to the various points of interest. There was an informal gathering of the ladies in the rooms of the Fortnightly Club, the Chicago Woman's Club, and the Chicago College Club on Tuesday afternoon, a reception at home of Mrs. Herbert L. Burrell at the South Shore Country Club on Wednesday



afternoon; a reception and a musicale by members of the Theodore Thomas Orchestra in the Art Institute on Thursday afternoon. There was a concert and smoker at the Coliseum for the men on Thursday evening.

Tuesday evening was given over to section dinners and entertainments and alumni reunions. During the past few years the latter have taken on great and increasing importance as an attraction for those contemplating attending the meetings of the association. This year the following alumni had reunions, all of which were well attended.

**Alumni College Reunions.**—Albany Medical College, Dartmouth Medical College, Detroit College of Medicine, Harvard Medical School, Jefferson Medical College, Johns Hopkins University Medical School, Kentucky School of Medicine, Long Island College Hospital, McGill University, University of Maryland, University of Michigan, University of Nebraska School of Medicine, Northwestern University Medical School, Medical College of Ohio, University of Pennsylvania Medical Department, College of Physicians and Surgeons, Chicago, College of Physicians and Surgeons, New York City, Rush Medical College, Tulane University Medical Department, Western Pennsylvania Medical College, Women Alumnae, Woman's Medical Society of Illinois, Medical Woman's Club of Chicago.

On Friday evening the Wiener Studenten 1906-07 enjoyed a Dutch lunch at the Tom Jones Restaurant. The Phi Rho Sigma Fraternity held a smoker on Monday evening at the Beta chapter house.

Opportunities were offered for members of the association to visit the plant of the Illinois Steel Company at South Chicago. Armour and Company, Swift and Company, and Libby, McNeill, and Libby arranged a demonstration of government inspection of meat and of the killing of cattle on Saturday morning, June 6th.

**The Scientific and Commercial Exhibits.**—The scientific exhibit, under the direction of Frank B. Wynn, of Indiana, was possibly not quite so large as that in Atlantic City, but was quite as interesting. Mention should be especially made of the exhibition of anatomical specimens from Tulane University and of the life history of the tick, *Dermacentor occidentalis*, and the pathology of Rocky Mountain fever.

The commercial exhibit was of the usual character.

There had been some doubt in the minds of some, in the East particularly, as to the possibility of hotel accommodations holding out; but no one, so far as we know, had any difficulty in securing satisfactory

quarters. The Chicago hotels which are opposite Grant Park on Michigan avenue have a site which is quite picturesque and is very interesting. To look out of one's window at night and to see three light-houses on guard at the entrance to the Chicago River, at the south end of the government pier, and at the crib for the intake of the Chicago water, one would easily imagine himself at the seashore. The Illinois Central Railroad is depressed so as not to spoil the view from the street, and when the road is equipped with electric locomotives there will be no telltale smoke to indicate its presence.

The meeting was a large one; up to Thursday at 4 o'clock 6,389 members had registered. The weather was all that could be desired.

### Proceedings of the House of Delegates.

The House of Delegates met on Monday, June 1st, at 10 a. m., the president, Dr. Joseph D. Bryant, of New York, in the chair.

After the adoption of the minutes of the fifty-eighth annual meeting the president delivered his annual address.

**The Retiring President's Address to the House of Delegates.**—Dr. Bryant spoke as follows:

Gentlemen: The period of my official connection with the high station to which I was chosen is drawing to a close, and in a few hours what yet remains will become a part of that already passed, when the whole will have been registered in the annals of the affairs of the organization, there to remain as evidence in the estimate of my official deserts. For the expression of confidence and respect so generously bestowed I again bow in most humble acknowledgment.

The practical wisdom of those who conceived and gave birth to the system of government of the association did not seriously contemplate that the transient advent of a president need much disturb the ordinary tide of its concerns. Whether or not this conception of presidential utility be wise or otherwise cannot yet be considered as settled. And, whether it be wise or not can better be determined by a broad spirit of statesmanship than by one of restricted policy. It might safely be regarded as possible that a transient judicious executive would exercise a wholesome influence in the control of affairs. Be this as it may, the comparative differences of the governing affairs of the association and those of the government on which they are fashioned become less apparent as one reaches the sources of authority, and they practically disappear at the port of the official head of this organization.

I am not finding fault because of this anomaly, but am simply pointing out what is recognized and gravely regarded by many thoughtful and devoted men, whose views are not limited by the horizon of the present time. In my judgment the well being of the association would be more securely fixed and correspondingly enhanced by requiring that the president cooperate with his colleagues in official labors, the same as is done in other corporate bodies of established significance.

The problem which for long has periodically perplexed our Federal government and its gracious and sympathetic people, viz., "What to do with the former presidents," now appears to be knocking at the door of expediency of our organization, and inquiring "What to do with the former presidents" of its own? In this connection, I would say that the degree of wisdom which our former presidents have acquired because of established official contact with their colleagues in the control of affairs cannot be seriously regarded as profoundly fitting them for much special consideration. With this important feature thus qualified, I am inclined to caution you to think carefully and act slowly in a matter which, while disturbing the equilibrium of con-

stituted State representation, seems not to contribute a commensurate gain.

I am aware it is often thought wise or expedient by some persons that the coordinating requirements of an organization be not too explicitly stated in its constitution and bylaws, but I am none the less of the opinion that these of ours could be improved in forms of expression and in scope and requirement by comparatively brief efforts of judicious character.

The fact of whether or not the provision relating to the calling of meetings is sufficiently amplified for the purposes of duly authorized action might well be determined.

The clause of the constitution providing that "no member of the House of Delegates shall be eligible to the office of president or vice president" is a wise and healthy measure, for men thus disposed should not be active constituents of a legislative body vested with the power of conferring official station, nor should one be thus connected whose remuneration for special services can come before the legislative body for consideration, for plainly obvious reasons.

The selection of the members constituting the special and reference committees of the session have been made, as far as practicable, in accordance with the numerical representation in the association of the respective parts of the country and as estimated for the purpose of selection by Mr. Hoffman, of Newark, a distinguished statistician and actuary. Therefore, if any disappointment should happen because of less representation than before, the difference is due more to the verdict of impartial figures than to the exercise of individual desire.

I have thus far on all occasions taken pleasure in commending the purpose and the work of the Council on Pharmacy and Chemistry. I again wish to renew this approval, and also to express the self evident fact that, if medical therapy is to be of reliable worth, then, indeed, the constructive purity of its agents and their physiological action must be scrupulously guarded.

I have been not a little disturbed by the assertions of persons who are engaged in the enterprises of pharmacy, related to certain wrongs which they claim to have sustained because of unfair and ungentlemanly treatment at the hands of responsible officials of the association. In one instance it was asserted that oppressive and illegal hardship had been inflicted which resulted in mental distress and in pecuniary loss. In this instance I expressed the belief to the complainant that he was in error, and predicted that the courts would so determine, were a test made, and advised that it be made at once. The complainant declined to accept this advice, saying that were his contentions well founded, and even sustained by the courts, still his business would be destroyed by retaliatory cooperative action of the members of the American Medical Association! Was ever an upright and independent body of men more misjudged than this? Could one impelled with childish imaginings be more mistaken than he? It were better far for the honor of the medical profession that this association resolve into thin air or into the sediment of a stagnant pool than thus attempt to smother established justice with the fumes of revengeful disorder. Already too much of this kind of spirit is abroad in the land for the comfort and security of law abiding people. And we, the members of a learned profession, should be ever actuated by the spirit of citizenship, which promotes good order in all things and invites the infliction of the penalties that foster obedience.

Bitter complaints have come to my notice which appear to embrace the practical question of whether or not those who are opposed to the policy of government which stands for the securing of trustworthy medicinal agents are entitled to the same consideration as are those who approve of and support the purpose. And, as a corollary of the preceding, whether or not those who actively give or passively lend support to a policy impairing or making uncertain the curative virtues of medicinal measures, or lowering in other ways the station of scientific medicine, are entitled for long to potent consideration at the hands of those who in this regard, are striving for the best of things. I do not understand how it is that this question can be answered in the affirmative. However, the unusual and novel questions which readily come to the front in these circumstances should be kindly thought firmly met, and with a spirit which, though striving for higher thought and action, neither, instead of needlessly provoking opposition.

I am convinced of the need, and commend to your approval the importance of the work being done by Dr. McCormack in elevating the tone and the standard of the

medical profession. A service of this kind is in order, and will enhance the station of medicine accordingly as the facts are wisely selected and judiciously expressed.

Some of the discreditable vagaries of thought and action that are noted in business relations are threatening to enter much into professional relations as well. In fact, tangible evidence is not lacking that practices of unethical reciprocal nature too frequently exist for the credit and honor of our calling. I regard it of special importance that students in medicine should have their ideas of professional conduct carefully moulded aright, while yet in the plastic state of development. The principles of moral philosophy as related to medicine are not apt to be decidedly catching in the instances of physicians whose thoughts and habits of action are already quite well established. And, also, the active and passive obstruction to coordinating within decent bounds certain questionable and convenient products of pharmaceutical skill are an earnest of the need for a proper bending of those who may be regarded as the "twigs" of our profession, so that as "trees" they later may be rightfully "inclined."

It would seem to me as wise that a standing committee on principles of moral philosophy as applied to medicine be constituted, with the view of elaborating still further ethical principles, and so far as practicable establishing in this respect uniformity between the medical profession of this and other countries. Also, I would suggest that undergraduate and postgraduate general instruction in ethical medicine be a part of the requirements of institutions engaged in medical teaching. I should expect greater, earlier, and more durable results, and without friction, from this plan than can come from any quasi-insistent method of endeavor. The incident of the insistent master, the abundant trough, and the unwilling horse well typifies the present situation in many instances. In any event, it would be well to properly develop the roots of our profession while busily trimming the branches.

I should signifyally fail in my duty at this time were I to omit telling you that plausible measures directed to the regulation of animal experimentation are abroad in the land, which are drawn so adroitly and presented so cleverly as to conceal, on confiding inspection, special factors of grave possibilities. Consequently, medical men who are loyal to the spirit of scientific endeavor are thoughtlessly giving strength to the stealthy foes of scientific medicine. It should not be possible to thus easily introduce into the ranks of our calling a wedge which, when driven home, would split our organization asunder on the policy of animal experimentation. Medical men should refuse to give assent to strange policies of a professional kind until after thoughtful and judicious consideration shall have determined the wisdom of the propositions. If organization in medicine stands for aught, it should stand for unity of purpose in all scientific matters relating to it. Since "forewarned is forearmed," each of you should keep in mind the possibility of besetting dangers, and in no instance fail to sound the alarm long in advance of parley or of impossible capitulation. I would respectfully urge that the House of Delegates take decided and far reaching action in this important matter.

Whether the constitution or the flag should take precedence in the outlying parts of our country need not concern this association as much as how soon can the medical profession of those accessions properly become integral parts of the organization. It seems to me that this question should be answered at the earliest practical moment. The claim of the medical profession of Alaska for similar action is one of substantial moment, and may be of superior importance to those of recent birth and of less development. The moral effect, on the tone of the profession of these communities, of the sympathy, approval, and support of this association, in the furtherance of proper methods of control of their affairs, would be encouraging to them and creditable to the organization. And no doubt the sooner the supporting hand is extended the easier and more complete will be their task.

In as brief manner as possible I have called your attention to certain things relating to matters of the organization which, in my judgment, should be better advanced in order to comport more closely with the standard of the affairs of organizations whose wisdom of government cannot paralyze. The question before the house is not how best to phrase a few, but how best to satisfy the sense. Therefore, the policy of government should be broad and uniform and in conformity with the wisdom of the



majority. Its conduct should be characterized by the inherent power of discriminating justice, patiently and temperately dispensed. The official servants of the organization should regard themselves as such, and not the masters of it. They should exercise discretion and patience, and consequently should be vigilant and gracious under all circumstances. And in this connection it should be remembered that our country is broad, and that its people are independent and honest; also that those of different parts of the country do not always think and judge alike in similar matters, and what is of special significance at this time is that the medical profession is an influential part of the people, and, therefore, of significant importance in its respective environments. I earnestly utter these words and without bias, because of the known recognized temptations to inconsistency of thought and action which the exercise of power so often begets. I would remind you that the wise exercise of power oftener requires greater skill and courage than does the achieving of power. And also that the absence of wisdom in control not infrequently destroys the highest governing conception of men.

Although it has been said that "those who think must govern those who toil," it should not be overlooked that, in a profession, those who toil must also think, and because of thought are competent to govern while yet they toil. That too much government is apt to be harmful is an accepted fact, and, therefore, that those who govern least may govern best cannot be gainsaid.

I should regard it as a misfortune were the duties of the House of Delegates of this association to become so onerous and perplexing as to eliminate from its councils men whose ceaseless toil makes for higher station in medicine. Consequently, I regard it as very important that the duties of this body be abridged and simplified as much as possible, and that judicious expedition in the conduct of its affairs be promoted and that hindering cavil be abrogated. When it shall appear that the uncertain products of legislative desire are of more concern than those of positive scientific endeavor, then the ennobling functions of the association will have been mortally hurt.

That "death has many doors to let life out" is the history of all bodies of men. And it is a matter of profound congratulation to us that, of the many doors in this organization, but few, indeed, came ajar during the last year. Through one, however, out into the unknown has recently passed a conspicuous member of the association and the profession—one whose indefatigable energy and ceaseless activity contributed enduring abundance to the honor and glory of our calling. In his profession, the paths which he hewed with consummate wisdom and patient care, often through obstacles akin to those of pious endeavor, still lead onward and upward and toward the terrestrial Mecca of cure and comfort of the human race. In other undertakings his footsteps were firm, consecutive, and direct, and his successes were indelibly impressed on the fields of his toil. And, as an example for emulation in all that relates to breadth of effort and height of success in the paths to which he clung, the memory of the late Dr. Nicholas Senn should be revered and ever regarded as a precious heritage of our profession.

An unprecedented incident of unusual significance and full of beneficent possibilities happened when, in March last, the President of the United States extended an invitation to the medical profession to take part in the conference on the conservation of natural resources. The President, in this regard, expressed himself as follows: "I wish to invite the cooperation of the American Medical Association in bringing this matter before the people; and it gives me added pleasure to invite you, as President of the association, to take part in the conference." It should not be necessary to say that I was present and that, on behalf of the American Medical Association, I thanked the President profoundly for the invitation, and pledged to his support in the conservation, not only the members of the American Medical Association, but the entire profession of the land. I would urge that prompt, appropriate, and decided action be taken by this body, thus showing appreciation of the invitation and determination to aid in every possible manner.

I should be negligent of a plain duty and the promptings of a keen sense of satisfaction were I to omit on this occasion to express my appreciation of the uniform courtesy which has been shown me by the members of this body and by the officers of the organization. The charm of official

association is greatly enhanced by the unanimity of purpose and the attention to duty which characterize those invested with responsibility. In this connection it can be truly said that criticisms visited on the officers of the association rarely include those of delay or indifference in the conduct of official business. And to have to do with the activity of an organization blessed with the chance of bringing the medical profession of this country into judicial unity, for the promotion of wise and beneficent purposes, is the distinction of a lifetime, and one which those who are thus favored should honor, as long as opportunity and effort can add to the glory and station of medicine.

Finally, the comforting optimism of my nature leads me to regard as certain the final success of all our contentions which are based on the capacity to gladden and to cure the afflicted of our kind.

The president appointed the following committees:

*Reference Committee on Medical Education.*—H. D. Arnold, Massachusetts (chairman); Frank Billings, Illinois; A. Vander Veer, New York; L. S. McMurtry, Kentucky; W. M. L. Coplin, Pennsylvania (Committee on Medical Education ex officio). *Reference Committee on Amendment to Constitution and By-Laws.*—George W. Guthrie, Pennsylvania (chairman); Charles E. Cantrell, Texas; G. L. Taneyhill, Maryland; C. H. Cook, Massachusetts; G. L. Strader, Wyoming. *Reference Committee on Section and Section Work.*—Leartus Connor, Michigan (chairman); S. W. Woodyard, Tennessee; Michael Hoke, Georgia; Julius Bierwirth, New York; Charles McVea, Louisiana. *Reference Committee on Rules and Order of Business.*—W. H. Sanders, Alabama (chairman); V. H. Stickney, North Dakota; J. F. Highsmith, North Carolina; J. N. Jenne, Vermont; Hugh F. Lorimer, Ohio. *Reference Committee on Legislation and Political Action.*—C. S. Bacon, Illinois (chairman); J. N. Hall, Colorado; S. Bailey, Iowa; Colonel H. G. Beyer, Navy; Major W. W. Ireland, Army (Committee on Medical Legislation, ex officio). *Reference Committee on Miscellaneous Business.*—Stuart McGuire, Virginia (chairman); J. B. McGaughey, Minnesota; H. H. McCarthy, Washington; J. T. Wilson, Texas; J. H. Pierpont, Florida. *Judicial Council.*—C. E. Cantrell, Texas (chairman); C. J. Kipp, New Jersey; J. F. Percy, Illinois; George Dock, Michigan; H. L. Alkire, Kansas. *Reference Committee on Reports of Officers.*—Wisner R. Townsend, New York (chairman); Donald Campbell, Montana; W. T. Williamson, Oregon; W. T. Sarles, Wisconsin; Frank Paschal, Texas. *Reference Committee on Hygiene and Public Health.*—W. N. Wishard, Indiana (chairman); A. R. Craig, Pennsylvania; G. B. Young, U. S. P. H. and M.-H. S.; J. D. Griffith, Missouri. *Committee on Credentials.*—H. B. Ellis, California (chairman); Horace Bonner, Ohio; C. M. Nicholson, Missouri; D. C. Brown, Connecticut; Adam Guthrie, Arkansas.

**Report of the General Secretary.**—Dr. GEORGE H. SIMMONS reported that on May 1, 1907, the membership in the American Medical Association was 27,515. During the year there had been a total loss of 2,344 members and a total gain of 6,172 members, so that on May 1, 1908, the total membership was 31,343, a net gain of 3,828. In September, 1907, the president appointed the following Committee on Nomenclature and Classification of Diseases: Dr. Frank P. Foster, of New York,



chairman; Dr. W. A. N. Dorland, of Pennsylvania; Dr. Victor C. Vaughan, of Michigan; Dr. Alexander Duane, of New York, and Dr. J. Chalmers Da Costa, of Pennsylvania.

Dr. William H. Welch resigned as a member of the Committee on Medical Legislation, and Dr. John B. Roberts, of Pennsylvania, was appointed by the president to fill his unexpired term.

Delaware and Maryland voted in favor of establishing branch associations; Colorado, Idaho, Massachusetts, New York, Rhode Island, Ohio, and Pennsylvania voted against their establishment; and twenty-five States have not yet voted on the question.

The secretary recommended that the entire matter of uniform regulations regarding membership be referred to a committee of three, at least two of whom should be secretaries of constituent State associations, with instructions to secure data regarding the present provision of the constitution and by-laws of various State associations on these points—as well as the procedure followed by State and county secretaries, and to report its findings and recommendations at the next annual session.

A number of communications had been received concerning the establishment of constituent associations in Puerto Rico and Alaska; but no such association had yet been organized.

*The American Medical Association Bulletin* was the continuation of the *Councillors' Bulletin*. It had been used for the distribution of the outline of post-graduate study, for information issued by the Committee on Medical Legislation, and a number would soon be issued containing the minutes of the conference on Medical Education, held in Chicago in April.

An invitation had been received for the American Medical Association to appoint two of its members to represent it in the council of the American Association for the Advancement of Science.

The past year had been one of increasing and unprecedented activity. Much good had resulted from the work of Dr. J. N. McCormack, of Kentucky, in the systematic organization of county and State societies.

**Report of the Board of Trustees for the Year 1907.**—The Board of Trustees presented the report of the Investors' Audit Company, of Chicago, which had audited the books of the various officers and committees of the association. This report showed an excess of \$94,650.15 over liabilities.

The treasurer had a total of \$89,118.84 in his hands on January 1, 1908.

The percentage of physicians receiving the *Journal of the American Medical Association* varied in the different States from 75.1 in North Dakota, the highest, to 21.5 in Georgia, the lowest. In New York only 39.5 per cent. of the physicians belong to the association, while in Pennsylvania the percentage was 40.6.

The work on the *Directory* had consisted in keeping up the records relative to the graduates of individual medical colleges, the compilation of a biographical card index of all physicians, revision and corrections of the first edition material, and a circular letter inviting criticisms and suggestions.

The first edition of the *Directory* was issued at a net loss of \$18,427.14.

The trustees appropriated a sum not to exceed \$225 to secure certificates of awards and medals in addition to the customary appropriation for the Committee on Scientific Exhibit.

The Board of Public Instruction on Medical Subjects received \$1,800. Dr. McCormack received \$7,500 for his travelling and other expenses, \$600 of which was for the purpose of establishing the post-graduate course of study. The *Anæsthesia Commission* was awarded \$200.

The resolution of Dr. Peterson, of Michigan, authorizing that free copies of the *Journal of the American Medical Association* be sent to the members of the Association of Medical Librarians was not allowed, because the libraries to which these librarians are attached already received free copies of the *Journal*.

The suggestion of Dr. Marcy, of Boston, that \$5,000 be appropriated for the erection of a monument to Dr. N. S. Davis was respectfully declined on the ground that such a precedent should never be established.

The increase of clerical help for the Bureau of Medical Legislation would be supplied from the office of the *Journal*.

The trustees felt that the American Medical Association owed a debt of gratitude to Dr. J. N. McCormack for the great work that he had done in his special department.

The fifty-eighth annual meeting of the Association, held in Atlantic City, cost \$4,499.98.

The trustees commended the work of the Committee on Pharmacy and Chemistry, and the work done in the chemical laboratory.

Dr. Reid Hunt, of Washington; Dr. E. E. Hyde, of Chicago; Dr. George Dock, of Ann Arbor; Dr. Robert A. Hatcher, of New York; Dr. W. S. Thayer, of Baltimore, and Dr. S. Solis-Cohen, of Philadelphia, were selected as the committee to represent the Association at the next revision of the pharmacopœia, and \$100 was appropriated for its expenses.

Dr. David L. Edsall, of Philadelphia; Dr. J. A. Capps, of Chicago; Dr. R. A. Hatcher, of New York, and Dr. Otto Folin, of Waverley, were elected new members of the Council on Pharmacy and Chemistry.

Dr. Alexander Lambert, of New York; Dr. C. F. Hoover, of Cleveland; Dr. A. S. Taussig, of Denver; Dr. Charles G. Stockton, of Buffalo; Dr. John A. Witherspoon, of Nashville; Dr. John T. Halsey, of New Orleans; Dr. Alfred Stengel, of Philadelphia; Dr. George E. de Schweinitz, of Philadelphia; Dr. Henry A. Christian, of Boston; Dr. George Dock, of Ann Arbor; Dr. LeRoy Crummer, of Omaha; Dr. H. C. Moffitt, of San Francisco; Dr. J. L. Miller, of Chicago; Dr. A. T. McCormack, of Bowling Green, and Dr. L. E. Barker, of Baltimore, were elected members of a staff of clinical consultants to the Council on Pharmacy and Chemistry.

The business affairs of the *Journal* office were in satisfactory condition, so that the office had no part in the "financial machismo."

The trustees suggested the advisability of making

an annual appropriation of \$500 for an essay on subjects relating to internal medicine; that this be awarded as a single prize, or as a first and second prize of, say, \$300 and \$200. They further suggested that, if this should be adopted, the editorial board of the *Archives of Internal Medicine* should have the management of the award of this prize or prizes.

They recommended the following amendment to the by-laws:

Amend Book I, Chapter III, of the By-laws by adding the following as Section 9: "Retired members": "Any one who has been a member in good standing of the American Medical Association for twenty years, and who has been placed on the retired list of his State association, shall, on his request, be placed by the secretary of the A. M. A. on the retired list of the members of this association. Retired members shall be exempt from the payment of dues."

**Report of the Committee on Medical Legislation.**—Dr. C. A. L. Reed, of Ohio, said that the Committee on Medical Legislation had endorsed the bill for the reorganization of the Army Medical Department, which became a law on April 23, 1908. The committee cooperated in every possible way with the Medical Department of the United States Army. It endorsed a bill reorganizing and increasing the efficiency of the hospital corps of the United States Navy; a bill authorizing the appointment of dental surgeons in the United States Navy; and a bill authorizing the establishment and organization of a corps of trained women nurses. None of these bills passed.

It endorsed the bill for increasing the pensions of Mrs. James Carroll and Mrs. Jesse W. Lazear, which passed.

The question of uniform and adequate State legislation on subjects pertaining to the practice of medicine and preservation of public health became more important each year. The policy of the committee was to cooperate with various State associations and the State legislative committees appointed by them; to outline uniform policies regarding the various questions involved; to draft and perfect model laws for the use of State associations; to accumulate, tabulate, and distribute necessary information regarding legislation in the various States, as well as in foreign countries, and to constantly aid the various State associations by advice and cooperation. The actual work of securing the adoption of desired laws should devolve on the State association and its legislative committee. In accordance with this plan, the committee had been working along three different lines, viz.: (1) The accumulation of data regarding medical practice acts; (2) the formulation of a model bill regulating vital statistics; (3) the collection of material regarding pure food and drug acts.

In order to accumulate data regarding medical practice acts the committee was engaged in making a comparison and analysis of the existing medical practice acts; in compiling a history of medical legislation; in compiling and comparing the medical practice acts of foreign countries; and compiling, collating, and comparing the decisions of all courts of final jurisdiction, both State and Federal, so far as they related to the constitutionality, interpretation, and enforcement of medical practice acts. It was obviously useless to attempt to draft a satisfac-

tory law for adoption by the different States without first knowing what the decisions of our courts had been on previous laws, and what rulings and interpretations would be sustained by the courts in future.

By the time the various State legislatures assembled in the fall, it was hoped to have a vital statistics bill ready for submission, which would have the endorsement of all the authorities on this subject as well as of all recognized organizations interested in this matter.

The committee had endorsed the pure food laws of Kentucky and Tennessee, two of the best State laws yet adopted, and with the national Food and Drugs Act and the Iowa law, comprised the best examples of pure food legislation.

During the past year the legislature had been in session in fifteen States. Through the Bureau of Medical Legislation the committee had endeavored to cooperate with the legislative committees of the various States and to afford them every possible assistance in securing the passage of good laws and the defeating of pernicious ones. The results had been most gratifying and encouraging. With the exception of the New York optometry law, which was now in the hands of the governor, not a single objectionable bill had been passed. On the other hand, the medical practice act of Kansas had been strengthened by the adoption of an amendment defining the practice of medicine, the legislature of Kentucky had passed one of the best pure food laws yet enacted by any State; a new board of health law was adopted in New Jersey; an important amendment to the medical practice act was passed in South Carolina, while in Ohio a record for a successful legislative campaign was established by the passage of a pure food and drug bill, a bill providing for county tuberculosis hospitals, a vital statistics bill, and a number of others. Bills intended to hamper animal experimentation had been defeated in New York and New Jersey. An excellent law establishing a Board of Health had been passed in Virginia.

At the Conference on Medical Legislation the resolution on the control of rabies, submitted at the last meeting by Dr. R. C. Cabot, of Massachusetts, was discussed. Resolutions were adopted favoring the increase of the scope and power of the United States Public Health and Marine Hospital Service, in order that the question of rabies and similar questions affecting the public health might be taken up by this service. The committee asked that the House of Delegates recommend to the various State associations that a State committee on legislation and public policy be established, if this had not already been done, and that the chairman of such committee be appointed by the president as the member of the National Council on Legislation for that State; that the House of Delegates further recommend that each association provide for an auxiliary legislative committee, consisting of one member from each county society, this member also to be appointed the member of the National Auxiliary Legislative Committee for that county.

It further recommended that Section 5, Chapter X, Book 3, page 20, of the Bylaws be amended by substituting the title "National Auxiliary Legis-



lative Committee," in place of "National Auxiliary Congressional Committee," as at present.

**Report of the Council on Medical Education.**—Dr. A. D. BEVAN, of Illinois, reported that the third annual conference of the Council for Medical Education was held in Chicago, April 13, 1908. This council was the instrument of the association in matters pertaining to medical education; its functions were those of a national bureau of information: it sought to collect the facts in regard to medical education in this country and abroad, and to give publicity to these facts. During the past year the work of the council had been continued along these lines, and the accumulation of data seemed to point to the following basic principles for a model medical practice act which should be agreed upon and adopted in each State: (1) A single licensing board made up of members irrespective of schools, the only requirement being that the men should be qualified practitioners of modern scientific medicine. (2) This board should have the power to determine the matter of preliminary education and medical curriculum and should have the power to refuse recognition to disreputable medical schools. (3) The preliminary education should be a standard four year high school education, to which should be added in each State, as soon as conditions warrant, a thorough training in physics, chemistry, and biology, including laboratory work. (4) A four year medical curriculum should be required, each annual session consisting of thirty weeks, thirty hours a week, the first two years to be spent in well equipped laboratories of anatomy, physiology, bacteriology, pathology, and pharmacology, officered by trained teachers; the second two years devoted to medicine, surgery, obstetrics, and the specialties, largely in clinical work in well equipped laboratories, dispensaries, and hospitals. (5) When conditions warranted, there should be added to this a compulsory year as a hospital interne. (6) The State boards of each State should inspect its schools and refuse recognition to those which were not teaching scientific medicine.

Then there should be a single association of State licensing boards organized, which should consist of delegates who were active members of State boards, representing every State in the Union. In order to secure better conditions there should be an active, earnest cooperation in each State between the State licensing board and the organized medical profession; and the profession must see to it that the necessary laws were secured and that efficient men were appointed to see that they were enforced. The report then took up the conditions now existing in each State, from the viewpoint of the ideal law above indicated. Then the defects were indicated, and the remedy, higher preliminary requirements, was pointed out. The report then gave an interesting collation of facts about medical standards abroad. Several diagrams and maps were shown which illustrated graphically the differences in standard of educational requirements in different countries and different States; both preliminary educational requirements and professional educational necessities. The recognition of medical colleges was taken up, together with reciprocity, progress toward uniformity, inspection of medical colleges, medical college mergers, and several other

important points which had a bearing on the subject of medical education. A special committee, composed of Dr. Victor C. Vaughan, of Ann Arbor; Dr. William J. Means, of Columbus; and Dr. George W. Webster, of Chicago, had been at work on an outline of what should constitute a medical college in good standing or a medical college which, in the light of present day medicine, should be considered as doing satisfactory work. The report of the committee outlined a schedule of minimum requirements, laboratory facilities, and clinical facilities which should obtain in a medical college before it could be considered to give a satisfactory course or be determined to be a medical college in good standing. This included requirements for matriculation, acceptable credentials, requirements for the course and for graduation, equipment and teaching facilities, and the conduct of the college.

**The Report of the Board of Public Instruction on Medical Subjects.**—Dr. JOHN G. CLARK, of Philadelphia, presented the report of the newly constituted Board of Public Instruction. The board had decided that the first articles that should appear under its auspices should be devoted to preliminary education. The public was to be instructed on the history of our present knowledge of infectious diseases. The board had decided that gynecological subjects and matters pertaining to sexual questions could best be taken up through circular letters to physicians or by carefully prepared monographs by some first class authority in the medical profession. In order to avoid the imputation of advertising, no allusion to the details of treatment should be included in these articles. The board had not decided whether such articles should be signed.

Dr. R. MAX GOEPP, of Philadelphia, had been selected as the salaried secretary of the board. The board recommended two lecture systems, one under the direct authority of the American Medical Association, which should be national in character, and one under the auspices of county medical societies. The board further advised the establishment of State boards of public instruction under the auspices of the various State medical societies. Both the State boards and the county boards should, of course, work in harmony with the national board. It was suggested that a brief epitome of articles be sent to the medical profession, either through the *Journal of the American Medical Association* or through a separate leaflet accompanying that journal. A provisional programme was submitted with titles of proposed articles under the head of medicine, including bacteriology, nervous diseases, surgery, hygiene, and the history of medicine.

**Report of the Committee on Organization.**—Dr. J. N. McCORMACK, of Kentucky, outlined the work of the year, which had been devoted principally to the making of addresses before audiences composed of laymen and physicians. He asked to be relieved of further duty on the Committee on Organization. The organization was so far completed that he deemed it unnecessary to devote his entire time to it; but he recommended that suitable men be kept in the field and that these men be increased in number as the necessity occurs.



**Report of the Director of Postgraduate Work.**—Dr. JOHN H. BLACKBURN, of Kentucky, said that an outline of study which was submitted to the American Medical Association at its Atlantic City meeting in 1907 had been sent out to selected workers in the profession all over the country for suggestions and criticisms. In the answers received particular attention was called to the necessity for instruction in materia medica and therapeutics. The first year's outline was published in two parts, each covering the work of six months. He had corresponded with the county society officers and with individuals in thirty-nine States regarding the course, and he had been notified of its formal adoption by ninety county societies. Five physicians had been following the outline as a reading course of home study because they were unable to meet with others as a club. The first year's programme consisted of twelve general subjects, but the second year's outline would consist of ten only. It was suggested that all societies intending to take up the course for the coming year should begin work the first week in September, so that the courses all over the country should be uniform. This second year's outline would be ready for distribution by August 1st. The committee had in view regular quarterly examinations, with proper credits and a certificate or a diploma on the completion of the four years' course. The object of the course in postgraduate study was the perpetuation of the county society and its active cooperation with the national society.

**The Report of the Committee on the Section in Tropical Medicine.**—Dr. L. HEKTOEN, of Chicago, reported that the committee regarded the formation of a section in tropical medicine by the American Medical Association as unnecessary at the present time. Papers and discussions on subjects connected with tropical medicine might be very well presented in the already existing sections. The report was adopted.

**The Report of the Committee on Scientific Research.**—Dr. ALFRED STENGEL, of Philadelphia, said that the following grants had been made by the committee for the encouragement of scientific research. The papers resulting from these grants were to be presented at the present meeting in Chicago:

Dr. D. J. McCarthy and Dr. M. K. Myers, of Philadelphia, An Experimental Study of Cerebral Thrombosis. Dr. Karl Voegtlin, of Baltimore, Chemistry of the Parathyroid Glands. Dr. Isabel Herb, of Chicago, A Study of the Ætiology of Mumps. Dr. R. M. Pearce, of Albany, Dr. H. C. Jackson, and Dr. A. W. Elting, A Study of the Elimination of Inorganic Salts in a Case of Chronic Universal Edema of Unknown Ætiology with Apparent Recovery. Dr. H. C. Jackson, Dr. C. B. Hawin, and Dr. H. P. Sawyer, A Comparative Study of the Physical Changes in the Blood in Relation to Opsonic and Phagocytic Indices and Cell Contents under Normal Conditions. Dr. H. T. Ricketts, of Chicago, An Investigation of the Identity of the Rocky Mountain Fever of Idaho with That Found in Western Montana.

The amount of the grant in each case had been fixed at \$200. The committee requested that its appropriation be increased to \$1,000 a year.

**Report of the Committee on the Davis Memorial.**—Dr. HENRY O. MARCY, of Boston, reported slow progress. Massachusetts had collected over \$700, but beyond this subscriptions had not been received. A number of the members of the committee had resigned, and the committee requested that it be given power to fill vacancies.

**Report of the Committee on Nomenclature and Classification of Diseases.**—Dr. FRANK P. FOSTER, of New York, said that he had communicated with Dr. Cressy L. Wilbur, chief statistician of the Division of Vital Statistics of the Bureau of the Census; with Dr. A. T. Bristow, of New York; with Dr. Wilmer R. Batt, of Harrisburg, representing the American Public Health Association, and with Dr. Robert L. Dickinson, of Brooklyn, representing the American Gynecological Society. As a result they recommended the adoption of the following resolutions:

1. *Resolved*, That the Nomenclature of Diseases of the Royal College of Physicians of London be recommended for the present use of American physicians in naming diseases and injuries in clinical reports and papers, morbidity and hospital returns, and for certificates of cause of death.

2. *Resolved*, That the International Classification of Diseases and Causes of Death be recommended for all official mortality and morbidity statistical reports.

3. *Resolved*, That the Committee on Nomenclature and Classification of Diseases present a report on the London nomenclature to the association at its meeting in 1909, with such recommendations as may seem advisable for American usage, and with the assignment of each term indicated according to the International Classification.

4. *Resolved*, That a tentative reconstruction of the International Classification be framed on the basis of the foregoing report, and recommendations be drafted for submission to the International Commission of Revision.

5. *Resolved*, That inquiry be made as to the possibility of holding the next Decennial Revision of the International Classification at Washington in 1910 in connection with the International Congress of Hygiene and Demography.

6. *Resolved*, That after the revision of the International Classification in 1910, the Nomenclature of Diseases be recast in corresponding form, so that there will be available under a uniform arrangement and with precise agreement in the meaning of terms:

- (1) International Classification of Causes of Death.
- (2) International Classification of Sickness and Disability.
- (3) International Nomenclature of Diseases and Injuries.

**Report of the Committee on Ophthalmia Neonatorum.**—Dr. F. PARK LEWIS, of New York, said that three things appeared to be necessary. (1) Exact data concerning the incidence of the disease and its results should be secured in every State. (2) The control of the disease rested with the State through its department of public health. (3) The securing of united and concurrent action for its control on the part of all those who know what to do and were willing to aid in stamping out the disorder. A circular letter had been addressed to the president and secretary of each State medical society asking that these three things be done. Gratifying answers had been received. The subject had been presented before a number of national societies. It was suggested that midwives be registered and that the disease be made reportable. An outline of the manner in which the problem might receive solution was appended to the report.

### Reports of Committees on Referred Business.

—It was deemed advisable that the services of Dr. J. N. McCormack be not entirely dispensed with, but that he remain as the directing officer of organization, even if he did not give his entire time to the work.

The report of the Board of Public Instruction was adopted, and the board was given power to have the articles that it intended to publish signed at its discretion.

The report of the Committee on Ophthalmia Neonatorum was adopted, and the committee was continued.

The report of the Committee on Scientific Research was adopted.

The report of the Committee on Nomenclature and the Classification of Diseases was adopted, and the committee was continued.

The report of the director of Postgraduate Study was adopted.

Changes in the constitution and by-laws.—The orations were made not mandatory, and authority was given that they might be delivered at section meetings if considered advisable.

### Report of the Reference Committee on Amendments to the Constitution and By-Laws.

—The committee reported adversely on the amendment to the constitution offered by Dr. J. N. McCormack, of Kentucky, to make the ex-presidents of the association members of the House of Delegates.

### Report of the Committee on Awards.—The

Committee on Awards, composed of Dr. William M. L. Coplin, of Philadelphia; Dr. George Dock, of Ann Arbor; and Dr. George W. Crile, of Cleveland, made the following awards to those exhibiting in the Scientific Department: The gold medal for a research exhibit of tick fever to Dr. H. T. Ricketts, of Chicago; a diploma for an exhibit illustrating the pathology of peptic ulcer, to Dr. Fenton B. Turck, of Chicago; a diploma for a teaching exhibit illustrating morbid anatomy, to the Northwestern University Medical Department; a diploma for a teaching exhibit illustrating morbid anatomy, to the Rush Medical College; a diploma for an exhibit of drawings of the human eyeground, to Dr. Charles H. Beard; a diploma for the exhibit illustrating early human embryology, to Dr. Maxmillian Herzog, of Chicago; a diploma for a clinical and pathological exhibit of stereoscopic photographs, to St. Mary's Hospital, Rochester, Minn.; a diploma for an improved method for the preservation and exhibition of anatomical specimens, to Dr. Edmond Semonin, of New Orleans; a diploma for an exhibit illustrating blastomycosis, to Dr. A. M. Stober, of Chicago; a diploma for an exhibit of drawings and photomicrographs illustrating the classification of tumors, to Dr. Mallory and Dr. Woolbach, of Harvard University. Honorable mention was made of the following exhibits: That of the United States Public Health and Marine Hospital Service, illustrating the investigations of Dr. C. W. Stiles, on hookworm disease; to the Iowa State University, for an instructive tuberculosis exhibit; to the Cincinnati Hospital, for a creditable group of speci-

mens; to the Philadelphia Polyclinic and College for Graduates in Medicine, for a creditable exhibit of a group of teaching specimens; to the Lying-In Hospital, of New York, for a creditable exhibit.

**Election of Officers.**—The following officers were elected for the coming year: President, Dr. William C. Gorgas, of the United States Army. Vice-presidents, Dr. T. J. Murray, of Butte, Mont.; Dr. John A. Hatchett, of El Reno, Oklahoma; Dr. Thomas A. Woodruff, of Chicago; Dr. E. N. Hall, of Woodburn, Kentucky. General secretary, Dr. George H. Simmons, of Chicago. Treasurer, Dr. Frank Billings, of Chicago. Trustees to serve until 1911, Dr. Wisner R. Townsend, of New York; Dr. Philip Mills Jones, of San Francisco; Dr. W. T. Sarles, of Wisconsin. Chairman of the Committee on Transportation and Place of Session, to serve three years, Dr. M. L. Harris, of Chicago. The following honorary members were elected: Professor E. A. Schaefer, of Edinburgh, Scotland; Dr. August Martin, of Greifswald, Germany; and Dr. E. Treacher Collins, of London. The president appointed Dr. Charles Harrington, of Boston, a member of the Committee on Legislation, to serve until 1911, and Dr. Victor C. Vaughan, of Ann Arbor, to be a member of the Council on Medical Education, to serve until 1913.

The next meeting will be held in Atlantic City.

**Officers of the sections.**—*Section in Practice of Medicine:* Chairman, Dr. Joseph L. Miller, of Chicago; secretary, Dr. Wilbur Tileston, of Boston; delegate, Dr. George Dock, of Ann Arbor; orator in medicine, Dr. John B. McElroy, of Memphis. *Section in Obstetrics and Diseases of Women:* Chairman, Dr. Walter T. Manton, of Detroit; secretary, Dr. C. Jess Miller, of New Orleans; delegate, Dr. J. H. Carstens, of Detroit. *Section in Surgery and Anatomy:* Chairman, Dr. John C. Munro, of Boston; secretary, Dr. John F. Binnie, of Kansas City; delegate, Dr. Edward Ochsner, of Chicago; orator in surgery, Dr. Harvey Cushing, of Baltimore. *Section in Ophthalmology:* Chairman, Dr. Alvin A. Hubbell, of Baltimore; secretary, Dr. A. E. Bulson, Jr., of Fort Wayne; delegate, Dr. Thomas A. Woodruff, of Chicago. *Section in Laryngology and Otology:* Chairman, Dr. W. Sohler Bryant, of New York; secretary, Dr. G. E. Shambaugh, of Chicago; delegate, Dr. H. W. Loeb, of St. Louis. *Section in Nervous and Mental Diseases:* Chairman, Dr. D. M. Allen Starr, of New York; secretary, Dr. W. A. Jones, of Minneapolis; delegate, Dr. T. H. Weisenburg, of Philadelphia. *Section in Diseases of Children:* Chairman, Dr. Thomas S. Southworth, of New York; secretary, Dr. W. W. Butterworth, of New Orleans; delegate, Dr. R. B. Gilbert, of Louisville. *Section in Hygiene and Sanitary Science:* Chairman, Dr. J. H. White, of the United States Public Health and Marine Hospital Service; secretary, Dr. S. T. Armstrong, of New York; delegate, Dr. Charles Harrington, of Boston. *Section in Pharmacology and Therapeutics:* Chairman, Dr. Reid Hunt, of Washington; secretary, Dr. C. S. N. Habern, of Chicago; delegate, Dr. M. Howard Tussell, of Philadelphia.

**Meetings of Sections.****SECTION IN PRACTICE OF MEDICINE.**

CHAIRMAN, C. F. HOOVER, CLEVELAND, OHIO; SECRETARY,  
JOSEPH L. MILLER, CHICAGO.

Chairman's Address: Paroxysmal Hematuria,

By C. F. HOOVER.

A Case of Syphilitic Infection of Fourteen Years' Duration  
with Protracted and Unusual Febrile Symptoms,

By HENRY C. BUSWELL.

Enderteritic Gangrene in Early Life, By DAVID RIESMAN.  
Modification of Typhoid during Menstruation, and the Suc-  
cessive Menstrual Epochs; Treatment,

By ALFRED STENGEL.

The Pathology, Diagnosis, and Treatment of So Called  
Hodgkin's Disease,

By HUGO A. FREUND.

Absolutely Irregular Hearts, By A. W. HEWLETT.  
Factors in Estimation of Blood Pressure, the Tonometer

By JOSEPH EICHBERG.

Serotherapy of Meningitis, By L. W. LADD.  
Experiments on a Salt Free Diet, with Especial Reference  
to Diabetes Mellitus,

By E. P. JOSLIN and H. W. GOODALL.

Physics of Physical Signs, By H. D. ARNOLD.  
Diagnostic Value of Cutaneous and Conjunctival Tubercu-  
lin Reactions.

By W. ENGELBACH and J. W. SHANKLAND.

Clinical Manifestations of Cardiovascular Disease,

By FRANK A. JONES.

Disguised Starvation, By NATHAN ROSEWATER.  
Viscosity of the Blood in Its Clinical Application,

By GEORGE W. McCASKEY.

Causes of High Arterial Tension, By L. F. BISHOP.  
Cardiac Aneurysm, with Report of a Case Associated with

Mediastinopericarditis, By JAMES B. McELROY.

Temporary Periods of Improvement in Pernicious Anemia,  
By WALTER L. BIERING.

A Clinical Method of Determining the Chlorid Content of  
the Blood, By DOUGLAS VANDER HOF.

Clinical Aspects of Mediastinal Tumors,  
By FRANK SMITHIES.

The Influence on Practice of Recent Studies of the Circu-  
lation, By A. D. HIRSCHFELDER.

An Epidemic of Trichiniasis, By S. MARX WHITE.  
The Clinical Value of the Quantitative Estimation of Pep-  
sin, By C. B. FARR and E. H. GEDMAN.

Epidemic of Pellagra, By R. H. BELLAMY.  
The Value of Nitrogen Insufflation into the Pleura in the

Treatment of Severe Forms of Unilateral Pul-  
monary Tuberculosis, By LUDOLPH BRAUER.

Phases of Duodenal Ulcer, By C. GRAHAM.

Compensatory Diarrhea, By HEINRICH STERN.  
Tuberculin Therapy, By H. B. WEAVER.

"SYMPOSIUM" ON TYPHOID FEVER.

Conditions Simulating Perforation in Typhoid,

By DAVID L. EDSALL.

Channels of Infection in Relation to Suppression of  
Typhoid, By M. J. ROSENAU.

Treatment of Typhoid, By THOMAS McCRAE.

COMBINED MEETING OF THE SECTION IN PRACTICE OF  
MEDICINE AND THE SECTION IN PATHOLOGY  
AND PHYSIOLOGY.

"SYMPOSIUM" ON TYPHOID FEVER.

**The Channels of Infection in Relation to the Suppression of Typhoid Fever.**—Dr. M. J. ROSENAU, of Washington, said that there was more typhoid fever in the country than there was in the city. The infection came to the city in the water, in the milk, in other varieties of food, and in the bodies of certain persons who were now known as typhoid fever carriers. The city returned the compliment to the country, but to a less extent. The water was the principal vehicle of infection, but not to such an extent as used to be imagined. There were two kinds of epidemics due to polluted water—the great epidemics, which were due to high pollution, and

epidemics of less intensity, due to a diluted or attenuated infection. In addition, there were the cases of residual typhoid fever which were due to other sources of infection. In Washington, in 1907, with a very good sanitary water supply, there were thirty-five deaths from typhoid fever to the 100,000 population. The author thought that probably twenty-five per cent. of these cases were due to milk and probably more than thirty per cent. to direct contagion. Typhoid fever might be uniformly distributed through a community without being due to any single cause, such as water. In a community in which typhoid fever was prevalent the normal curve of case incidence showed the greatest number of cases in the late summer and early autumn. In places in which typhoid fever was due to an infective water supply, the greatest number of cases occurred in the late winter and early spring. Milk was the second great channel of infection. In Washington, in 1906, eleven per cent. of the cases were traced to milk, and in 1907 nine per cent. of the cases were due to milk. The author considered that these figures were too low, because the only cases that could be traced were those that occurred in localized outbreaks. In a study of the dairies in Washington it was found that the number of cases of typhoid fever occurring in the families supplied by the different dairymen (the case incidence of typhoid fever to 100,000 gallons of milk supplied) varied from 6.7 among the customers of a man who sterilized his bottles and pasteurized his milk, to 52.5 among the customers supplied by a man who did neither. What the result would have been if all bottles had been sterilized and all the milk kept as clean as possible could only be imagined. In Glasgow, Liverpool, and London, however, there was a reduction of fifty per cent. in the case incidence of typhoid fever with the establishment of pasteurization of milk. All this reduction, however, could not be credited to this factor, because sanitary measures and filtration of the water supply were established at the same time. In order to secure a clean milk supply for a given community, it would be necessary to educate the farmers in methods of producing a clean milk, and it would be necessary to pasteurize the milk in addition. The third great source of infection was the so called typhoid carriers. In Washington, in 1906, six per cent. of the cases, and in 1907 nineteen per cent. of the cases, were shown to be due to contact. These figures were too low, because it was difficult to trace contacts. Typhoid fever was a contagious disease and should be isolated, and typhoid suspects should be isolated and thorough disinfection should be carried out. The investigations of Reed, Vaughan, and Shakespeare showed that typhoid fever was spread by actual contact. Children probably played an important part in the transmission of the disease, because the disease in children was very often atypical and abortive. In America the things to be desired for the prevention of typhoid fever were a clean water supply and an uninfected milk supply, isolation of the patients, and early diagnosis.

**The Value of Blood Culture in Typhoid Fever.**

Dr. FRANCIS W. PEARBODY, of Boston, said that the early diagnosis of typhoid fever was of great



importance on account of the possibility of spreading the disease by contact with the patient and by contact with the convalescent for a varying period after the disease was supposed to be cured. He referred to the obvious objections to the ordinary methods of making blood cultures. He mentioned the employment of ox bile as a culture medium for the *Bacillus typhosus*, and described a method of making a blood culture with blood obtained by the ordinary method of puncture. Two cubic centimetres of blood were inoculated into a small quantity of pure sterile ox bile, which was incubated for twenty-four hours. A portion of this culture was then transferred to Löffler's blood serum medium and incubated for another twenty-four hours. The isolation of a motile bacillus was presumptive evidence of the existence of typhoid fever, but, of course, further culture experiments were necessary to establish the identity of the organism. In the Massachusetts General Hospital fifty-five out of eighty-two cases of suspected typhoid fever were diagnosed by this method. The drawbacks to the Widal reaction, as an early diagnostic method, were the fact that the reaction was sometimes late in appearing and that it was not absolutely specific. As a supplement to a blood culture, however, the Widal reaction was very valuable, because the latter occurred late, and the former occurred early in the course of the disease.

**Typhoid Bacillus Carriers.**—A paper with this title, by Dr. WILLIAM H. PARK, of New York, was read by Dr. W. B. Cannon, of Boston, in the unavoidable absence of Dr. Park. After an attack of typhoid fever it was known that persons passed typhoid bacilli in the urine and in the feces for a varying period of time, sometimes for many years. The typhoid bacilli that were passed in the feces probably came from the gallbladder, although they might be multiplying in the folds of the mucous membrane of the intestine and in the glands of the intestine. Large numbers of cases had been traced to these bacillus carriers. Women were more frequently bacillus carriers than men. A cook who had lived in eight families in New York city, in seven of which cases of typhoid fever had developed after she had entered the service of the family, was referred to the laboratory of the New York City Department of Health. In these seven families twenty-six cases of typhoid fever had developed, with one death. Thirty per cent. of the bacilli in the feces of this woman were found to be *Bacillus typhosus*. The woman denied that she had ever had typhoid fever. The stools from fifty-two persons who had had typhoid fever in an epidemic in the New Jersey State Insane Asylum were examined, and two of them were found to contain *Bacillus typhosus*. The stools from sixteen persons in a Long Island village who had recovered from typhoid fever were examined, and two of them were found to contain *Bacillus typhosus*. In other words, six per cent. of the patients examined were found to have typhoid bacilli in their feces. There were numerous cases of typhoid bacillus carriers who had never had typhoid fever, but who had been exposed to the infection. Isolation in these cases was not always possible, although the woman first referred to was being detained by the Department of Health.

**Some Conditions Simulating Perforation in Typhoid Fever.**—Dr. DAVID L. EDSALL, of Philadelphia, said that he did not wish any of the remarks he was about to make to be construed as undervaluing the necessity for operation in cases of typhoid perforation, but he wished to point out that the tendency of the surgeon was to operate in any case in which a perforation was suspected. He thought that an operation during the course of typhoid fever was not a harmless procedure, and that every case should be carefully studied clinically before an operation was undertaken. Among the diseases which simulated perforation in typhoid fever was, first, acute, sudden, lobar pneumonia. He referred to three cases of this character which had occurred in his wards in the Episcopal Hospital in Philadelphia. Second, there was typhoid spine, which occurred during convalescence and might simulate typhoid perforation. Third came thrombosis of one of the iliac veins. Fourth, there was a marked, severe, stormy crisis, which was, of course, uncommon. He said that he thought that the surgeon had more faith in rigidity of the abdominal muscles as a sign of perforative peritonitis than was proper. If rigidity of the abdominal muscles was associated with a general muscular rigidity of equal intensity, the sign would lose much of its value as a symptom of typhoid perforation. A sharp and sudden fall of temperature near the end of a case of typhoid fever was likely to be followed by a relapse. A careful, complete physical examination, including the chest and the vertebral column, should be made in every case in which typhoid perforation was suspected. One should consider the general features of the case, and if the abdominal symptoms were not prominent enough, the patient should not be operated upon.

**The Metabolism of Typhoid Fever.**—Dr. P. A. SHAFFER, of New York, said that during an attack of typhoid fever the patient lost from ten to sixty pounds of his tissue. This loss was felt particularly in the fats and proteins. The excretion of acetone bodies in the urine in cases of typhoid fever ought not to occur if the patient received plenty of carbohydrate food. The loss of nitrogen was common in typhoid fever, and accounted for the wasting and the weakness. These symptoms were due in part to the destruction of tissue and in part to an autointoxication, not to a bacterial endotoxine. The causes for the loss of protein, during typhoid fever, were partial starvation, pyrexia, and the action of the toxins produced by the typhoid bacilli. The author described certain metabolism experiments which he had carried out in Bellevue Hospital. As a result of these experiments they were able to retard the loss of nitrogen by prescribing a diet which contained a moderate amount of protein and a large amount of carbohydrate, so that the caloric value of the food was kept high. The loss of protein might be compensated for only when 3,000 to 4,000 calories were given daily. It was quite possible to give with benefit liberal diets to patients suffering from typhoid fever. When such a diet was given, the patient had little or no tympanites and little fermentation in the intestines. The ordinary milk diet in typhoid fever deprived the patient of fifty per cent. of his normal nutriment.

**The Treatment of Typhoid Fever.**—Dr. THOMAS MCCREA, of Baltimore, said that it was necessary to study the individual patient with care, and to give him such a diet as would be suitable for him. He thought that the simpler the diet the better, and was inclined to adhere to the common milk diet. He said that there was need for large amounts of water in the treatment of typhoid fever, and it was his custom to give an amount that would cause the patient to excrete from one hundred to one hundred and fifty ounces of urine daily. This internal hydrotherapy, combined with external hydrotherapy, had been very useful. The composition of predigested foods should be investigated before they were used. The initial purge, he thought, gave a higher incidence of diarrhoea than when the bowels were let alone. Opium was rarely justifiable; in the majority of cases it caused harm. If restlessness must be treated, it was better to use morphine by the hypodermatic route. If diarrhoea was troublesome and required opium, it was better to use the starch and laudanum enema. In hæmorrhage in typhoid fever, the lead and opium pill ordinarily advised did harm. It favored distention and concealed the signs of perforation. Hæmorrhage was best treated with hypodermatic injections of morphine, a reduction in the diet, the local application of an ice bag, and the administration of calcium lactate in doses of thirty grains a day. In cases of perforation a more careful study of the signs and symptoms ought to be made. There should be more frequent and earlier consultations between the physician and the surgeon. As between the opinion of a surgeon who had seen a patient once and that of the physician who had carefully studied the case for a long period of time, the latter was the more valuable. In order to relieve gaseous distention of the stomach, the passage of the stomach tube was the method to be preferred. Urotropin was valuable in preventing bacilluria, and, if given in large enough doses, it would be found in all the fluids of the body. Thus it might kill any bacilli that were inhabiting the gallbladder. For this purpose he used as much as seventy-five grains a day, watching the urine for any sign of hæmaturia. The prevention of infection was as important as the treatment of the disease. In order to accomplish this, isolation of the patient, personal cleanliness of the physician, the nurse, and the orderly, the use of rubber gloves by the nurse, if she had to handle bed pans, urinals, and soiled bedclothing, were necessary. The nurse who handled typhoid fever patients ought not to handle other patients. The family should be instructed in these methods by written direction. The supply of bacilli in a patient who had had typhoid fever should be exhausted before he was discharged.

Dr. WILLIAM S. THAYER, of Baltimore, said that he agreed that typhoid fever was a contagious disease and that the sooner we realized it the better.

Dr. JAMES M. ANDERS, of Philadelphia, said that Dr. Rosenau had laid down a very important principle when he said that we should endeavor to discover the channel of infection in typhoid fever epidemics in each individual community.

Dr. JOHN A. WITHERSPOON, of Nashville, said that the physician should instruct the people in the methods of preventing infection with typhoid fever.

Dr. MUNSON, of Springfield, Ill., asked how long the typhoid bacillus would live in the ground.

Dr. ALEXANDER LAMBERT, of New York, said that it was important for county medical societies to undertake to certify the milk used in the districts over which they had surveillance.

Dr. ROSENAU said that it was difficult to take all the measures to prevent the occurrence of infection in a given individual, but that it was comparatively easy to diminish the amount of typhoid fever in a community.

Dr. JONES asked whether the color of the bile used for making blood cultures made any difference, and he also wished to know how fresh the bile should be.

Dr. PEABODY said that he had found no variation in the results when he had used dark green or golden yellow bile. After sterilizing, the bile kept indefinitely. He had obtained the same results by using pig's bile.

Dr. HENRY ALBERT, of Iowa City, referred to an epidemic of typhoid fever in Cedar Falls, Iowa, which had been traced to a bacillus carrier.

Dr. PHILIP MARVEL, of Atlantic City, spoke of the advisability of draining the gallbladder in the case of a bacillus carrier.

Dr. LITTERER, of Nashville, reported a case in which he had obtained a pure culture of *Bacillus typhosus* in the pus of a periosteal abscess three months after the abscess had been opened. He thought that such a patient should be considered a bacillus carrier. A typhoid vaccine had cured the abscess. He thought that a typhoid vaccine might be used in cases of infected gallbladder.

Dr. ROSENAU said that the gallbladder was not the only source of the appearance of typhoid bacilli in the faeces, and that draining of the gallbladder was probably not justifiable.

Dr. JOHN A. LIGHTY, of Pittsburgh, said that stone in the ureter and appendicitis might resemble typhoid perforation.

Dr. ANDERS said that in perforation of the intestine the temperature did not always fall. On the other hand, it frequently rose. Dulness in the flanks was not always due to perforative peritonitis. He did not base his diagnosis on any single symptom, but only on the combination of symptoms. The most common condition simulating typhoid perforation was excessive tympanites. This condition was frequently accompanied by movable dulness in the flanks.

Dr. EDSALL said that the absence of liver dulness and movable dulness in the flanks were not very valuable signs of intestinal perforation.

Dr. ALEXANDER LAMBERT, of New York, said that a liberal diet in typhoid fever prevented meteorism, delirium, and great losses of weight.

Dr. ELLIOT P. JOSLIN did not approve of giving typhoid patients such large quantities of water, nor did he think it was necessary to have the patient pass such large quantities of urine. He referred to the possibility of favoring the development of arteriosclerosis by this procedure.

Dr. THAYER said that the physician should have the surgeon see the patient when he first thought that an operation for perforative peritonitis might be necessary.



Dr. LITCHFIELD said that he approved of the initial purge.

Dr. H. P. FAVILL, of Chicago, said that he objected to lead and opium in the treatment of typhoid hæmorrhage, because they produced meteorism, obscured the symptoms of perforation, and locked up a large amount of blood in the bowels, where it had a tendency to decompose.

Dr. GEORGE DOCK, of Ann Arbor, said that he approved of the initial purge.

# SECTION IN SURGERY AND ANATOMY.

CHAIRMAN, RUDOLPH MATAS, NEW ORLEANS; SECRETARY, WILLARD BARTLETT, ST. LOUIS.

## SYMPOSIUM ON SURGERY OF VASCULAR SYSTEM.

Observations, Clinical and Experimental, on Occlusion of the Abdominal and Thoracic Aortas,

By W. S. HALSTED.  
Physiological Aspects of Blood Vessel Surgery with Demonstrations,

By C. C. GUTHRIE.  
Results of the Transplantation of Blood Vessels and Organs (Lantern Slides),

By A. CAREL.  
A Statistical Summary of the Surgical Treatment of Aneurysm by the Intrascular Method (Endoaneurysmorrhaphy),

By RUDOLPH MATAS.  
SYMPOSIUM ON THE TECHNIQUE OF CRANIAL SURGERY.

The Surgery of the Base of the Skull,

By Professor CHIPAULT.  
Lantern Slide Demonstrations on Cranial Technique,

By HARVEY CUSHING, FRANK HARTLEY, and C. H. FRAZIER.  
Intracranial Complications of Ear and Nose Diseases,

By J. F. MCKERNON and C. G. COAKLEY.

## SYMPOSIUM ON ARTIFICIAL RESPIRATION.

Artificial Respiration in Its Physiological Aspects,

By Professor SCHAEFER.  
Positive Pressure in the Surgery of the Chest,

By Professor BRAUER.  
Negative Pressure in the Surgery of the Chest,

By SAUERBRUCH.  
Artificial Intrapulmonary Positive Pressure. Experimental

Applications in Surgery of the Lung.  
By SAMUEL ROBINSON and N. W. GREEN.

Local Applications in Surgery, By JAMES E. MOORE.

Atavism in Facial Contours (Lantern), By V. P. BLAIR.

Bier's Hyperæmia, By J. F. BINNIE.

Observations on the Thyreoid and Parathyreoid.

By HERMAN TUHOLSKE.

The Surgical Importance of Cervical Ribs,

By JOHN B. ROBERTS.

A Study of Anterior Poliomyelitis, with an Analysis of 647 Cases, from the Children's Hospital, Boston,

By R. W. LOVETT.

A Successful Ligation of the Innominate Artery, with

Presentation of Patient. By WILLIAM BRITT BURNS.

Surgery of the Upper Abdomen, By B. G. A. MOYNIHAN.

The Diagnosis at Operation between Chronic Ulcer and

Cancer of the Stomach, By F. B. LUND.

Ulcer of the Duodenum, By WILLIAM J. MAYO.

The Surgical Diseases of the Pancreas,

By JOHN B. DEWEY.

Pancreatitis in Its Relation to Gallstone Disease,

By W. D. HAYWARD.

The Cause of Death in High Intestinal Obstruction, as

Demonstrated by Surgical Experimentation,

By J. W. D. MAURY.

Intestinal Anastomosis. Presentation of a New, Simple,

and Aseptic Method, By FRANK B. WALKER.

A Report on a Series of Abdominal Gunshot Wounds,

By CONSTANCE W. WOOD.

Imagination of Limited Annular Gangrene of the Small

Intestine, By I. F. SUMNER.

Gas Cases of the Intestine, By I. M. F. FISKE.

The Reports of a Case of Chronic Peritonitis, with Com-

plete Obstruction Caused by Numerous Inflammatory

Constrictions of a Previously Undiscovered Character

throughout the Intestine, By MILES F. BOYD.

The Effects of Normal and Abnormal Variations in Peris-

talsis on Peritoneal Absorption, By J. L. YATES.

My Present Position on Appendix Questions,

By ROBERT T. MORRIS.

A Case of Acute Diverticulitis of the Sigmoid Operated on before Rupture Had Taken Place,

By GEORGE EMERSON.

Cancer of the Rectum. Deductions Derived from One

Hundred Personal Experiences in Extirpation of the

Rectum and Sigmoid, By JAMES P. TUTTLE.

Enterovesical Fistula, with Especial Reference to Its Sur-

gical Treatment, By F. W. PARHAM and JOSEPH HUME.

A New and Rapid Method of Perineal Drainage in Supra-

pubic Cystotomy, By JOSEPH RANSOHOFF.

The Preservation of Anatomical Dissections with Perma-

nent Color of Muscles, Vessels, and Organs by

a New Method. Preliminary Note,

By EDMOND SOUCHON.

Demonstration of Patients Operated upon for Cleft Palate,

By T. W. BROPHY.

Abstracted Report of the Anæsthesia Commission,

By J. G. MUMFORD.

Some New Facts Regarding Calculi and Tumors of the

Bladder, By CARL BECK.

COMBINED MEETING OF THE SECTION IN SURGERY

AND ANATOMY AND THE SECTION IN LARYN-

GEOLOGY AND OTOTOLOGY.

The Lantern Slide Demonstration of Cranial

Technique.—Dr. HARVEY CUSHING, of Baltimore,

exhibited a number of lantern slides showing the

details of the methods employed in his clinic in in-

tracranial operations. He said that the surgeon

who wished to do brain surgery should endeavor

to perfect himself in neurology, and that the neu-

rologist who intended to direct intracranial opera-

tions should learn something about surgical tech-

nique. One of the most important questions

connected with intracranial surgery was that of the

administration of the anæsthetic. Disregard of the

risks of the administration of anæsthetics had been

well pointed out by Dr. John B. Roberts. These

risks were particularly prominent in brain surgery,

where the anæsthetist came in contact with the field

of operation and in which the induction of anæ-

sthesia was particularly difficult. He made a hood

for the anæsthetist with a sheet, and administered

the anæsthetic by the ordinary method of inhala-

tion. The anæsthetist listened to the patient's heart

continuously during the operation. He shaved the

scalp just before the operation, and arranged the

sheets and the towels, which were sometimes pinned

to the scalp itself, so as to expose as little beyond

the field of operation as possible. After the shav-

ing, the line of incision was scratched on the scalp.

He described the tourniquet and the forceps used

in his own operation. He then showed photographs

of the method and the results of decompressing op-

erations. If a decompression operation was fol-

lowed by internal hydrocephalus, that operation was

inefficient, and this complication was particularly

likely to develop in cases of cerebellar tumor. In

these cases, also, lumbar puncture was particularly

dangerous, because the pressure was exerted in such

a way that the medulla and the cerebellum were

forced down into the foramen magnum. After a

decompression operation the tumor sometimes be-

came localizable. A tumor which could not be lo-

calized was the most favorable for a decompression

operation. He said that he had done one hundred

decompression operations in three years. Decom-

pression was also of value in cases of uremia and

in cases of fracture at the base of the skull. He

then reported seventy-five cases of operation on the

Gasserian ganglion, with two deaths.



Dr. FRANK HARTLEY, of New York, exhibited a number of lantern slides illustrating the instruments used, the method of preparing the field of operation, the method of making the flaps, and the method of craniocerebral topography for operation on the various regions of the brain.

Dr. CHARLES H. FRAZIER, of Philadelphia, described his method of operating upon tumors of the brain. He said that he had operated in a number of cases of epilepsy within the last few years, and that a decompressing operation had given relief in many cases. On opening the skull in these cases he found that the dura mater was thickened, that it was adherent to the underlying membranes, and that there were lines of thickening along the cerebral vessels.

**Intracranial Complications of Diseases of the Eye.**—Dr. JAMES F. MCKERNON, of New York, said that pachymeningitis was indicated as a complication of a disease of the eye by the existence of headache which corresponded to the area of inflamed dura mater. This headache was aggravated by exercise and was frequently accompanied by delirium. The diagnosis of the condition was not usually made prior to the operation. When the existence of the disease was suspected, it was because of the character of the pain. In such a case every vestige of diseased bone should be removed at the operation.

Epidural abscess was usually found around the sigmoid sinus. It was indicated by headache and continuous high temperature, followed by stupor, chills, and an irregular temperature. If the diagnosis was made before the operation, it was made on account of the occurrence of tenderness on pressure and on percussion over the collection of pus and cedema of the soft parts over that collection. The polymorphonuclear leucocytes were found increased in number. In such cases all diseased bone should be removed. Thrombosis of the lateral or of the sigmoid sinus might be partial or complete. The cases might be typical or atypical, or they might occur as primary lesions of the bulb without disease of the mastoid. These cases were characterized by high and fluctuating temperature, chills in fifty per cent. of the cases, and chilly sensations in many of the others, a rapid pulse, corresponding to the temperature, pain along the course of the internal jugular vein, intraocular symptoms in one third of the cases, cedema over the mastoid bone, and stiffening and rigidity of the muscles of the neck. Except in advanced cases, the cerebral functions were normal. The vein would have a hard and cordlike feel. Bacteriological examinations of the discharge from the eye were of value; a distinctive blood count in which the polymorphonuclears were over eighty per cent., also, blood cultures were of importance in arriving at a proper diagnosis. The only treatment for this condition was a complete excision of the sinus.

**Intracranial Complications of Diseases of the Nose.**—Dr. C. G. COAKLEY, of New York, said that few rhinologists had had experience with intracranial disease complicating disease of the nose. When intracranial lesions did occur, the organisms entered the cranium along the lymph spaces or through the bloodvessels which drained into the cerebral sinuses, and a complete nasal examination

was often very unsatisfactory because of the common occurrence of nasal and nasopharyngeal catarrhs and other nasal lesions, such as polypi. When it was necessary to explore the accessory nasal sinuses, he preferred the ethmoidal route.

Dr. JOHN B. MURPHY, of Chicago, recommended ligation of the external carotid artery for hæmorrhage from the middle meningeal artery and other hæmorrhages about the skull. He exhibited an instrument for opening the skull and a probe pointed needle for exploring the brain after the skull had been opened. He pointed out the value of the cisterna magna for purposes of drainage, and referred to the necessity for removing a V shaped piece of velum for the purpose of preventing occlusion of the foramen of Magendie.

Professor JENSEN, of Berlin, said that purulent troubles within the skull were rare after disease within the nose; he had seen but three out of twelve hundred cases of nasal disease that developed meningitis as a complication; all of these patients died. He had had no deaths from abscess of the brain. He had seen patients with serous meningitis recover after the removal of pus from the labyrinth. An auditory tumor gave the symptoms of labyrinthine disturbance, and cerebellar abscess gave similar symptoms in some cases.

#### SECTION IN OBSTETRICS AND DISEASES OF WOMEN.

CHAIRMAN, WALTER B. DORSETT, ST. LOUIS; SECRETARY, W. P. MANTON, DETROIT.

Chairman's Address: Criminal Abortion in Its Broadest Sense, By WALTER B. DORSETT.

Three Procedures for Entering the Abdominal Cavity: the Vaginal, the Vertical Abdominal, and the Pfannenstiel; the Indications for, and Their Relative Advantages and Disadvantages, By E. E. MONTGOMERY.

The Preparation and After Treatment of Abdominal Section, By HENRY T. BYFORD.

The Care of Patients after Abdominal Section, with Especial Reference to the Period of Time They Should be Kept Recumbent, By C. C. FREDERICK.

A Study of the After Condition of Median Abdominal Wounds Healing Primarily, Which Were Closed in Layers by Absorbable Sutures; with Special Reference to the Strength of Union of the Fascia and the Uncertainty of the Staying Qualities of Ordinary Catgut, By LE ROY BROUN.

Abdominal Cervical Cæsarean Section, By JOHANNES PFANNENSTIEL.

Cæsarean Section, with Report of Two Cases, By J. M. TRIGG.

Vaginal Cæsarean Section and Its Place in Obstetric Surgery. Report of Five Cases, By REUBEN PETERSON.

Some Experiences with Extrauterine Pregnancy and Report of Cases, By H. E. HAYD.

Ruptured Tubal Pregnancy. When Shall We Operate? By HUNTER ROBB.

Obstetric, Septic, and Anæsthetic Toxæmias, By H. G. WETHERILL.

Diphtheritic Genital Infection Simulating Puerperal Fever, By WILLIAM CUTHBERTSON.

Genital Tuberculosis, By A. MARTIN.

The Development of Malignancy in Operation Wounds, By I. S. STONE.

The Serum Treatment of Carcinoma, By S. STRAUSS.

Uterus and Stomach: Their Anatomical, Physiological, and Pathological Relationship, By FRED J. TAUSSIG.

Acute Dilatation of the Stomach as a Postoperative Complication in Gynaecological Surgery, By LEWIS S. MCMURTRY.

Bowel Complications Following Gynaecological and Obstetric Operations, By CHANNING W. BARRETT.

The Expectant Treatment of Uteral Calculus, Its Indications and Results, By CHARLES LESTER LEONARD.  
The Treatment of Uteral and Renal Pelvic Inflammation by Means of Antiseptic Injections,

By EDGAR GARCEAU.  
The Corset for Movable Kidney and Associated Visceral Ptooses, By A. E. GALLANT.

The Suture; Its Place in Surgery, By HENRY O. MARCY.  
The Female Perineum from a Physiological Standpoint,

By J. RIDDLE GOFFE.  
The Treatment of Uterine Fibromyomata Associated with Marked Anæmia, By BENJAMIN R. SCHENCK.

The Conservative Surgeon and the Symptomatic Uterine Fibroid, By THOMAS B. EASTMAN.  
The Nonsurgical Treatment of Uterine Displacements,

By H. J. BOLDT.  
The Advisability of Prompt Evacuation of the Uterus in the Treatment of Eclampsia, By HENRY D. FRY.

Report of a Case of Traumatic Rupture of the Uterus and Bladder During Labor at Full Term. Hysterectomy, Repair of Bladder, Recovery, By JOHN YOUNG BROWN and PERCY H. SWAHLAN.

Abnormal Secretion from Mammary Glands in Nonpregnant Women, By GEORGE GELHORN.  
The Menopause, By DANIEL H. CRAIG.

Ablatio Placentæ. (Premature Detachment of the Normally Situated Placenta), By RUDOLPH WIESER HOLMES.

Prolapse of the Rectum and Sigmoid Flexure Following Hysterectomy, By L. J. HIRSCHMAN.  
The Adjustable Canvas Chair as an Aid in the Murphy Treatment of Diffuse Suppurative Peritonitis,

By D. TODD GILLIAM.

**Criminal Abortion in Its Broadest Sense.**—Dr. WALTER B. DORSETT, of St. Louis, used the above title for the address of the chairman of the section. He gave the results of the answers to the following questions submitted to a lawyer in St. Louis: First, in a case of criminal abortion is the woman guilty of any crime? In nine States the woman is guilty of felony; in seven States she is guilty of a misdemeanor; and in thirty-five States she is guilty of no crime. Second, what is the charge and what is the penalty for giving, selling, or offering for sale abortifacient drugs or instruments for the prevention of conception? In twelve States these constitute a felony, and the penalty varies from imprisonment to a fine ranging from \$50 to \$5,000; in twenty States it is a misdemeanor; and in thirty States there are no laws covering the subject. Third, what is the charge, and is the penalty dependent on the age of the fœtus? In four fifths of the States the age of the fœtus is immaterial. Fourth, what is the effect of the death of the woman as to the charge and the penalty after the production of a criminal abortion? In eighteen States the charge is murder, and the penalty is death or imprisonment for life; in six States the charge is murder in the second degree and the penalty is imprisonment for life or for not less than three years. Fifth, can the license of the offender be revoked after the production of a criminal abortion? In fifteen States it can be revoked; in thirty-two States there is no law. Sixth, can the physician who gives subsequent treatment in a case of criminal abortion be allowed to testify, or is his information regarded as a professional secret? In one State only is he allowed to testify. Dr. Dorsett called attention to the fact that the laws were insufficient or inadequate, and he advised the appointment of a committee by the House of Delegates, to be known as the Committee on Criminal Abortion, which should undertake to secure the passage of suitable law after

having studied the conditions from all points of view.

Dr. WATHEN, of Louisville, said that abortion was offensive to every honest doctor and every honest citizen. He considered that the offense was no worse for the woman than for the man who committed it. In his opinion the offense was just as great four weeks after conception as eight months after.

Dr. CARSTENS, of Detroit, said that in this country people had not grown morally as they had financially. The question of the prevention of abortion was a question of education of the people in their moral responsibility. It was also a question of the education of girls in the meaning of life and the duty of maternity. It was the duty of the medical profession to teach, in so far as the opportunity lay with them, this moral responsibility, and also to teach the necessity of love for children.

Dr. HELEN PUTNAM, of Providence, said that for the last year she had been investigating the teaching of physiology and hygiene in the public schools, and incidentally she had been inquiring into the method, if any, by which the question of sex was treated. She found that many teachers, particularly those who had had a training in biology, were doing admirable work in teaching the phenomena of life, especially as illustrated by plants and the lower animals. They compared the facts thus presented to their pupils with the facts of the development of human beings, and finally gave their pupils a talk on sexual matters. She was of the opinion that in this manner the young people of the country might be brought in time to have a proper idea of the sex problem, and thus the tendency to the production of criminal abortion would gradually be checked.

Dr. R. W. HOLMES, of Chicago, said that for the last year or two he had been the chairman of the committee of the Chicago Medical Society which had had the question of criminal abortion under consideration. This committee found that the public did not want a campaign against criminal abortion. In Illinois legislation was not needed; the necessary endeavor was toward the enforcement of the existing law. He said that we must go back and educate the boy and the girl in the meaning of conception.

Dr. ABRAMS, of Michigan, said that he had been a member of the Michigan legislature and the chairman of its Committee on Public Health. He said that there was no more prolific cause of the production of abortion than making the woman a party to it, because it was then impossible to obtain evidence.

Dr. HENRY said that it was necessary to instruct the people in the physical evils of abortion and to teach the moral side of the question.

Dr. DENSLOW LEWIS, of Chicago, emphasized the need of education of the young concerning the sex relationship.

Dr. A. MARTIN, of Greifswald, Germany, condemned criminal abortion, but said that any law passed to control it would fail.

Dr. DENSLOW, of Chicago, said that it was easy to get a law, but difficult to enforce it. Among the poor there was no need for preaching about the subject. Among the rich, child-birth was frequently an

convenient, and it was necessary that these and the moderately well to do should be educated on all sides of the question. She thought that the man should be made equally to blame with the woman whenever blame was to be placed. She thought it was very important to teach the people the responsibility that they bore to the unborn.

Dr. LAWRENCE, of Cincinnati, said that, in his opinion, it was necessary to teach the meaning of the term viability. He offered a resolution asking the House of Delegates to begin to educate the people concerning these matters. The resolution was carried.

Dr. DORSETT agreed that the education of the laity was important, but he emphasized the necessity for the passage of uniform laws covering criminal abortion in all of the States and Territories.

Dr. FREDERICK, of Buffalo, offered a resolution referring the entire matter to the House of Delegates, and requesting them to appoint a National Committee on Criminal Abortion. The resolution was carried.

#### SECTION IN DISEASES OF CHILDREN.

CHAIRMAN, EDWIN E. GRAHAM, PHILADELPHIA; SECRETARY, SAMUEL J. WALKER, CHICAGO.

Chairman's Address: Infant Mortality,

By EDWIN E. GRAHAM.

Hæmorrhage of the Suprarenal Capsules in the Newly Born, with Report of Two Cases Due to Infection,

By JENNINGS C. LITZENBERG and S. MARK WHITE.

Hæmorrhages of the Newborn, By HENRY E. TULEY.  
Cerebellar Symptoms in Hydrocephalus, with a Pathological Report of a Case Associated with Syringomyelia,

By JOHN H. W. RHEIN.

Circulatory Disturbances in Diphtheria,

By JOHN HOWLAND.

The Spasmodic Disorders of the Respiratory Tract in Children,

By CHARLES G. KERLEY.

Chronological and Anatomical Age,

By THOMAS MORGAN ROTCH.

The Clinical Value of Blood Examination in Children,

By LOUIS FISCHER.

A Study of the Anæmias of Infancy,

By JOHN LOVETT MORSE.

Opsonic Work in Children, with Special Reference to the Gonococcus, By F. S. CHURCHILL and A. C. SOPER.

The Vaccine and Serum Treatment of Gonorrhœa in Female Children,

By WILLIAM J. BUTLER and J. P. LONG.

Hydrotherapy in Scarletina, with Special Reference to Tub Baths at Water Temperature of 90° F. for Relief of Nervous Symptoms in Early Stages of the Disease,

By D. S. HANSON.

An Epidemic of Hæmorrhagic Nephritis Following Scarlet Fever,

By C. F. WAHRER.

The Development of the Infantile Stomach,

By D. E. ENGLISH.

A Study of the Quantity and Quality of Breast Milk During the First Two Weeks of the Puerperium,

By EFFA V. DAVIS.

The Problem of Breast Feeding, By J. ROSS SNYDER.

The Character of the Stools in Infancy as Related to the Intestinal Findings, By J. H. MASON KNOX.

Studies in Infantile Indigestion, By ALFRED FRIEDLANDER.

A Summer Camp for Treatment of Sick Babies,

By WALTER GRAHAM MURPHY.

Adaptation of the Fresh Air Treatment of Tuberculosis to Pædiatric Practice, By ALEXANDER MCALISTER.

The Ideal Intestinal Antiseptic in Diseases of Children,

By G. E. ROBBINS.

Hyperpyrexia in Children: Causes and Treatment,

By PHILIP MARVEL.

Paralytic Dementia in Childhood, with Report of a Case and the Brain Changes, By ARTHUR W. FAIRBANKS.

A Consideration of Some Fallacious Standards Employed in Artificial Infant Feeding,

By GODFREY ROGER PISEK.

The Use of Whey in Infant Feeding,

By HENRY L. K. SHAW.

Present Status of Buttermilk in Infant Feeding,

By H. LOWENBURG.

Feeding of Fat,

By A. JACOBI.

High Fat Percentages in Infant Feeding, Their Causes and Effects,

By THOMAS S. SOUTHWORTH.

The Prephysical Signs of Tuberculosis,

By W. C. HOLLOPETER.

Rachitic Erosions of the Permanent Teeth Associated with

Visual Defects,

By I. A. ABT.

The Ambulatory Treatment of Pneumonia in Infants and

Young Children,

By T. W. KILMER.

Curative Effect of Rest in Children with Persistent

Loss of Appetite,

By IRVING M. SNOW.

**The Prephysical Signs of Tuberculosis.**—WILLIAM C. HOLLOPETER, of Philadelphia, called attention to the insidious onset of tuberculosis in children, many cases resulting from a previous acute infection, such as pneumonia, measles, or whooping cough. The mediastinal lymphnodes were frequently the earliest involved of all the lymphnodes, and a recognition of the existence of these enlarged nodes was an important point in early diagnosis. The signs of pressure on the veins, dullness over the first piece of the sternum, and paroxysmal cough were important symptoms of this condition. The development of a venous hum heard over the first part of the sternum when the child's head is bent back so that its face was almost horizontal was an important physical sign of enlargement of the mediastinal lymphnodes and of early tuberculosis. The detection of enlarged mesenteric lymphnodes and the demonstration of tubercle bacilli in the rectal mucus were two other important methods of determining the existence of latent tuberculosis.

**Chronological and Anatomical Age.**—Dr. THOMAS MORGAN ROTCH, of Boston, said that the age of a child in years did not give a proper idea of the anatomical development of that child. For the past several years he had been studying the anatomy of children by the aid of skiagraphs, and he found that the development of children was very frequently six months or a year behind the degree that was considered by most authorities to be normal. He showed the bearing that these facts would have upon school work, athletics, and child labor. He divided his cases into a number of groups, depending upon the degree of development of the centres of ossification in the bones of the hands and wrists. The paper called forth considerable interesting discussion by a number of well known pædiatrists.

**A Study of the Anæmias of Infancy.**—Dr. JOHN LOVETT MORSE, of Boston, described the characteristics of the blood in infancy, and the changes in the blood picture dependent upon the age of the patient. In children the hæmoglobin was relatively low and the lymphocytes were increased in numbers. He said that chlorosis did not exist in infancy, although anæmias of the chlorotic type were common. He said that pernicious anæmia was very rare in childhood, but that when it did occur it was almost always of the metaplastic type. Secondary anæmias were very common and were frequently associated with enlargement of the spleen. He thought that there was no justification for placing cases of anæmias with splenic tumor in a class by themselves with a special name. Leuchæmia was very rare during childhood, but when it did occur, almost all of the cases were acute, and the majority of them were of the lymphatic type.



## SECTION IN NERVOUS AND MENTAL DISEASES.

CHAIRMAN, T. H. WEISENBURG, PHILADELPHIA; SECRETARY, W. A. JONES, MINNEAPOLIS.

Chairman's Address, By T. H. WEISENBURG.  
 Associated Movements, By CHARLES E. BEVOR.  
 Epidemic Infantile Paralysis, By M. ALLEN STARR.  
 The Cortical Centres for Taste and Smell, Illustrated by the Study of a Case of Brain Tumor with Necropsy, By CHARLES K. MILLS.

A Case of Cerebellar Tumor, By WHARTON SINKLER.  
 Traumatic Cervical Myelomalacia, Report of a Case with Necropsy, By CARL D. CAMP.

Myotonia Atrophica, By J. RAMSAY HUNT.  
 The Symptom Complex of Central Neuritis, By ISADORE H. CORIAT.

Significance of Pupillary Changes in Tabes, By EDWARD D. FISHER.  
 Cerebral Thrombosis, Venous and Arterial: A Clinical, Pathological, and Experimental Study, By D. J. MCCARTHY and MILTON K. MEYERS.

Disease of the Cerebral Vessels with Its Problems in Diagnosis, By W. A. JONES.  
 A Study of Certain Nutritional Phenomena of Hysteria, By JAMES J. PUTNAM.

Certain Affections in Children Commonly Classified as Hysteria, By WILLIAM N. BULLARD.  
 A Study of Three Cases of Hysterical Ocular Phenomena Studied from the Standpoint of Dissociation, By SIDNEY I. SCHWAB.

A Study of the Eye in Mental Defectives, By L. PIERCE CLARK and MARTIN COHEN.  
 Injuries of Cranial Nerves from Fractures of the Skull, By JOHN J. THOMAS.

Cerebral Inhibition, as Illustrated in General Pathological Conditions in the Nervous System, By H. A. TOMLINSON.  
 Hemorrhage into the Ventricles; Its Relation to Convulsions and Rigidity in Apoplectic Hemiplegia, By ALFRED REGINALD ALLEN.

Experiments in Psychogalvanic Reactions from Coconscious (Subconscious) Ideas in a Case of Multiple Personality, By MORTON PRINCE and FREDERICK PETERSON.

Elements of Psychiatric Prognosis, By F. X. DERCUM.  
 Some Disorders of Attention and Their Treatment, By HOWELL T. PERSHING.

Pathological Report of the Nervous System in a Case of Spondylose Rhizomelique, By JOHN H. W. RHEIN.  
 Traumatic Disfigurement, Depression, Suicidal Attempts, Delusions of Negation: Bronchiectatic Abscesses of Lungs, Abscesses of Brain, Chronic Meningitis, By E. E. SOUTHAARD and J. B. AYER, Jr.

Cerebral Rheumatism, By HERMAN H. HOPPE.  
 Two Cases of Multiple Neuritis, By PHILIP ZENNER.  
 The Attitude of Neurologists Toward Electrotherapy, By FRANK R. FRY.

The Respiratory Signs of Chorea Minor, By WILLIAM W. GRAVES.  
 Insanities Caused by Acute and Chronic Intoxications with Opium and Cocaine; A Study of 171 Cases, By ALFRED GORDON.

The Wild Duck. A Study in Psychopathology, By SMITH ELY JELIFFE.  
 Psychotherapy, By M. A. BLISS.  
 Neuromuscular Coordinations Having Educational Value, By LUTHER H. GULICK.

The Use of Physical Measures in the Therapeutics of the Nervous System, By WILLIAM BENJAMIN SISK.  
 Rontgenology in Neurology, By MIRIAM K. KASSABIAN.

Chairman's Address: Neurological Teaching in America.—Dr. T. H. WEISENBURG, of Philadelphia, traced the development of neurological and psychiatric teachings in America from the time of Rush's lectures in Philadelphia in 1791. No lectures on the subject of neurology were given until 1867, when Dr. William A. Hammond, one of the former editors of the *New York Medical Journal*, began his course on the diseases of the nervous system in the Bellevue Medical College in New York. In 1871 Dr. Hammond's book on *Nervous Diseases*

appeared. Dr. Weisenburg then referred to the lectures given by E. C. Seguin in New York; the work of Mitchell, Moorehouse, and Keen in Philadelphia; of Putnam, Bowditch, and James in Boston; of H. C. Wood in Philadelphia; of J. S. Jewell in Chicago. He referred to the first course of lectures in electrotherapeutics, which was given in New York as a department of neurology in 1875 by Neftell, Beard, and Rockwell, followed by the course given by Mills, in Philadelphia, in 1877.

In psychiatry, after the lectures of Rush, no course was given until in 1867, when Dr. William A. Hammond began to give a course of lectures on insanity in the Bellevue Hospital Medical College. Dr. Isaac Ray was appointed lecturer on insanity in the Jefferson Medical College in Philadelphia, an appointment which was preceded by the publication of the *Medical Jurisprudence of Insanity* in 1838.

In discussing the methods employed at the present time in the teaching of neurology in the medical schools of America, the courses at Harvard, Cornell, Pennsylvania, and Northwestern were compared as four examples out of the many excellent courses given. In comparing the methods employed in teaching in this country with those in use in the leading schools of Europe, the American schools were far ahead of the latter in their undergraduate courses in neurology and psychiatry.

The author then discussed the postgraduate teaching of these subjects, beginning with the foundation of the New York Polyclinic, in 1881, and the Philadelphia Polyclinic and College for Graduates in Medicine, in 1882. He then outlined a course particularly fitted for the needs of the American medical student, in which he advocated as thorough a course in these subjects as is given in the other specialties, as, for instance, ophthalmology.

## SECTION IN PATHOLOGY AND PHYSIOLOGY.

CHAIRMAN, W. B. CANNON, BOSTON; SECRETARY, M. J. ROSENAU, WASHINGTON, D. C.

Chairman's Address, By WALTER B. CANNON.  
 A Critic of Some of the More Recent Work and Ideas on Nutrition, By L. BREISACHER.

Some Observations on (a) Growth of Hen, (b) Egg Production, (c) Weight of Eggs, (d) Fertility of Eggs, and (e) Size of Chicks After Extirpation and Transplantation of Ovaries in Chickens, By C. C. GUTHRIE.

Experiments Toward a Physiologically Isotonic Solution of Salts, By HERMAN M. ADLER.  
 Chloroform Necrosis of the Liver, By H. GIDEON WELLS.

Safeguards of the Heart, By HENRY SEWALL.  
 Some New Statistics on Blood Plates and Some New Practical Points on Counting Them, By GEORGE T. KEMP, with the collaboration of C. W. YOUNG and CHAS. TEN BRUCKER.

The Cleavage of Bacterial Proteids by Exposure to Direct Sunlight, By VICTOR C. VAUGHAN.  
 Anaphylaxis Induced by Bacterial Proteids, By D. H. BERGEY.

Therapeutic Immunization in Malarial Infection, By A. P. OREMAHONEY.  
 Serum Diagnosis of Syphilis, By WILLIAM J. BUTLER.

Histoplasma Capnitolatum, By SAMUEL J. DALLAN.  
 Some Phenomena of Myxoid Degeneration, By J. H. HAMMER.  
 Demonstration of Displaced Conditions of the Appendix, By F. R. LE GROS.

"SYMPOSIUM" ON TYPHOID.  
 Treatment of Typhoid, By THOMAS MCGRAE.  
 Symptoms Resembling Typhoid in Typhoid, By D. L. ESSLER.

Typhoid Bacillus Carriers, By WILLIAM H. PARK.  
 The Value of Blood Cultures, By FRANCIS W. THOMPSON.

The Metabolism of Typhoid Fever, By P. A. SHAFFER.  
The Channels of Infection, with Special Reference to Suppression of Typhoid Fever, By M. J. ROSENAU.  
The Alleged Urinary Manifestations of Disease of the Pancreas, By J. HENRY SCHROEDER.  
Some Observations on the Diuretic Action of Adrenalin and the Active Principle of the Pituitary Gland, By E. M. HOUGHTON.

Further Results in Suprarenal Transplantation, By F. C. BUSCH.  
The Nature and Cause of (Edema, By MARTIN H. FISCHER.  
Some New Points in the Physiology of Lymph and Lymph Formation, By A. J. CARLSON.  
Multiple Hernias of the Cerebrum and Cerebellum Due to Intracranial Pressure (*Second communication*), By S. BURT.

JOINT MEETING WITH SCIENTIFIC SECTION.  
How Is the Activity of Phagocytes Affected by Electrolytes, by Nonelectrolytes and Changes in Osmotic Tension? By OLIVER HARRY BROWN.  
Physiomechanical Causes of Pathological Conditions, By R. C. FALCONER.

Some Points on the Relation of the Intestinal Flora to Peptic Ulcer, By FENTON B. TURCK.  
Tubercle Bacilli in Sputum of Acute Colds, with Disappearance of Bacilli during Convalescence, By L. NAPOLEON BOSTON.

#### SECTION IN OPHTHALMOLOGY.

CHAIRMAN, WILLIAM H. WILDER, CHICAGO; SECRETARY, ALBERT E. BULSON, JR., FORT WAYNE, IND.

Chairman's Address, By WILLIAM H. WILDER.  
Address by Special Invitation. Developmental Deformities of the Crystalline Lens, By E. TREACHER COLLINS.

A Further Contribution to the Possible Relationship of Autointoxication to Certain Diseases of the Cornea and Uveal Tract (Special Investigation), By G. E. DE SCHWEINITZ and CHARLES A. FIFE.  
The Eye as a Contributory Factor in Tuberculosis, By F. P. LEWIS.

The Calmette Ocular Reaction to Tuberculin, By H. C. PARKER.  
Ocular Complications of Pregnancy (Special Investigation), By HIRAM WOODS.  
The Relation of Ocular and Cardiovascular Disease, By MELVILLE BLACK.

Unilateral Voluntary Nystagmus, with Report of a Case, By WALTER L. PYLE.  
Zonular Opacity of the Cornea, By F. C. HEATH.  
Diffuse Interstitial Keratitis in Acquired Syphilis, By A. E. DAVIS.

Opacification of the Cornea Following Cataract Extraction, By VARD H. HULEN.  
The Surgical Treatment of Orbital Complications in Disease of the Nasal Accessory Sinuses, By ARNOLD KNAPP.

An Infrequent Type of Optic Nerve Atrophy, By H. F. HANSELL.  
Some Clinical Aspects of Lenticular Astigmatism, By EDGAR S. THOMSON.

A Study of One Hundred Refraction Cases in Indians Fresh from the Plains, By CLARENCE PORTER JONES.  
The Association of Lens Opacity with Normal and Pathological Blood Pressures, By D. W. GREENE.

The Treatment of Some Forms of Lens Displacement Other Than Those of Traumatic Origin, By L. D. BROSE.

History of Iridotomy. Knife Needle versus Scissors. Description of Author's V Shaped Method, By S. L. ZIEGLER.

Miotics versus Iridectomy in the Treatment of Simple Chronic Glaucoma. An Analytical Study of Sixty-five Cases Treated by Miotics over a Series of Years (Special Investigation), By W. C. POSEY.

A Better Prognosis in Penetrating Wounds of the Eyeball, By J. A. DONOVAN.

The Treatment of Strictures of the Nasal Duct with Lead Styles, By H. MOULTON.

Imperforation of the Lachrymonasal Duct in the Newborn and Its Clinical Manifestations, By WILLIAM ZENTMEYER.  
Matain Operation for Ptosis, By HENRY DICKSON BRUNS.

Principles Underlying the Operative Treatment of Strabismus (Special Investigation), By EDWARD JACKSON.  
The Treatment of Recurrent Pterygium, By H. GIFFORD.  
The Relation of So Called Ophthalmic Migraine to Epilepsy, By A. A. HUBBELL.  
Restoration of the Conjunctival Cul-de-sac for the Insertion of an Artificial Eye, By M. WIENER.

Palliative Operations for Choked Disc, By WILLIAM G. SPILLER.  
Decompression Operations, with Especial Reference to Changes in the Eye Grounds, By HARVEY CUSHING and JAMES G. BORDLEY.

The Optic Nerve Changes in Multiple Sclerosis, with Remarks on the Causation of Nontoxic Retrobulbar Neuritis in General, By WARD A. HOLDEN.

Migraine: An Occupation Neurosis, By G. L. WALTON.  
Distinctive Diagnosis of Affections of the Optic Nerve, By HARRY FRIEDENWALD.

[The last five papers will be presented in the joint session with the Section on Nervous and Mental Diseases.]

#### SECTION IN LARYNGOLOGY AND OTOTOLOGY.

CHAIRMAN, H. W. LOEB, ST. LOUIS; SECRETARY, W. SOHIER BRYANT, NEW YORK CITY.

Chairman's Address, By H. W. LOEB.  
"SYMPOSIUM." DIFFERENTIAL DIAGNOSIS OF LUETIC TUBERCULOUS AND MALIGNANT DISEASES OF THE LARYNX.

Histological Diagnosis, By D. BRADEN KYLE.  
Laryngoscopic Diagnosis, By CHEVALIER JACKSON.  
Systemic Tests, By JOHN W. BOYCE.

Laryngeal Manifestations Occurring in Locomotor Ataxia and Multiple Sclerosis, By WOLF FREUDENTHAL.  
Tonsillectomy in Children Under Ether Anesthesia. A Hospital Operation, By EDWIN PYNCHON.

Laryngeal Manifestations Occurring in Locomotor Ataxia. A Contribution to the Study of Streptococcic Infections of the Adenoid in Adults, By ALICE G. BRYANT.

#### JOINT SESSION WITH SECTION IN SURGERY.

Intracranial Complications of Ear Disease, By JAMES F. MCKERNON.  
Intracranial Complications of Nasal Disease, By C. G. COAKLEY.

"SYMPOSIUM" ON CORRECTION OF NASAL DEFORMITIES.  
Submucous Resection of the Lateral Nasal Wall in Chronic Empyema of the Antrum, Ethmoid, and Sphenoid, By R. BISHOP CANFIELD.

A Study of the Sphenoidal Sinus, By JOSEPH A. GIBSON.  
The Present Status of the Radical Operation for Empyema of the Sphenoid Sinus, with Demonstration of a New Instrument, By ROSS H. SKILLERN.

The Treatment of Hypertrophic Rhinitis (Hay Fever), Especially with Reference to Injections with Alcohol, By OTTO G. STEIN.

Faciohypoglossal Anastomosis, By GEORGE F. COTT.  
Ear Symptoms of Cardiovascular Disease, By LOUIS F. BISHOP.

Middle Ear Sclerosis, or Atrophic Middle Ear Catarrh, By W. SOHIER BRYANT.  
Diagnosis of Functional Ear Disease, By HERMANN STOLTE.

Analgesia of the Nasal Mucous Membrane as a Prognosis in the Treatment of So Called Dry Catarrhal Deafness, By DUNBAR ROY.

Middle Ear Surgery, By PHILIP HAMMOND.  
Meatotomy Operation for Chronic Mastoiditis, By WILLIAM L. BALLENGER.

Resection of the Labyrinth and Their Significance in the Diagnosis of Suppurative Labyrinthitis, By GEORGE E. DAVIS.

A Case of Acute Mania Following Ligation of the Jugular for Otitic Symptoms, By EUGENE A. CROCKETT.

#### SECTION IN HYGIENE AND SANITARY SCIENCE.

CHAIRMAN, COLONEL W. C. GORGAS, U. S. A., ANCON, PANAMA; SECRETARY, S. T. ARMSTRONG, NEW YORK.

Chairman's Address, By Colonel W. C. GORGAS.  
Measures to Prevent Malaria on the Isthmus of Panama, By HENRY R. CARTER.

Mosquito Work and Yellow Fever, By J. H. WHITE.

Mosquito Extermination in the Tropics, By J. A. LE PRINCE.  
Tropical Sanitation, By V. G. HEISER.

# "SYMPOSIUM" ON THE NECESSITY FOR UNIFORMITY IN VITAL STATISTICS.

- Prophylaxis and Management of Leprosy, By L. E. COFER.  
 Municipal Sanitation, By CHARLES V. CHAPIN.  
 Milk as a Carrier of Infection, By JOHN W. TRASH.  
 The Necessity of Obtaining Negative Cultures from All the Inmates before Disinfecting a House for Diphtheria, By MYER SOLIS-COHEN.  
 The Ocular Tuberculin Reaction as a Means of Diagnosis and Control, By FRANK SMITHIES.  
 Early Diagnosis of Consumption as a Measure of Control. Especially the Relation of Tuberculin thereto, By W. A. EVANS.  
 The Control of Smallpox, By H. M. BRACKEN.  
 The Responsibility of Municipalities in the Ohio Valley for the Epidemics of Typhoid Fever, By W. FOREST DUTTON.  
 Choleriform Diarrhea of Cold Weather—Winter Cholera, By O. C. BREITENBACH.  
 Prophylaxis in Communicable Diseases, By M. J. ROSENBAU.  
 Examination to Establish whether a Gonorrhea is Cured, By F. C. VALENTINE.

## SECTION IN STOMATOLOGY.

CHAIRMAN, E. A. BOGUE, NEW YORK; SECRETARY, EUGENE S. TALBOT, CHICAGO.

- Chairman's Address, By E. A. BOGUE.  
 Dental Education, By M. L. RHEIN.  
 Pathology as Taught in Dental Schools, By L. G. NOEL.  
 State Reciprocity in Dental Practice Licensing, By ADELBERT H. PECK.  
 Some Practical Considerations Concerning Inflammation, By JAMES E. POWER.  
 Interstitial Gingivitis, By EDWARD C. BRIGGS.  
 Prophylaxis of the Mouth, By M. H. FLETCHER.  
 Aetiology of Face, Nose, Jaw, and Tooth Deformities, By EUGENE S. TALBOT.  
 Bone Pathology of Tooth Movement, By EUGENE S. TALBOT.  
 The Influence on the Nose by Widening the Palatal Arch, By LEE WALLACE DEAN.  
 The Relation between Deviation of the Nasal Septum and Dental and Jaw Deformities from the Rhinologist's Standpoint, By NELSON M. BLACK.  
 Diagnostic Value of Microscopical Examinations during Operations on Pathological Tissue, By VIDA A. LATHAM.  
 The Surgery of Harelip and Cleft Palate, By GEORGE V. I. BROWN.  
 Tumors Involving the Alveolar Process, By STEWART L. MCCURDY.  
 Some of the Diseases of the Salivary Glands and Their Ducts, By THOMAS L. GILMER.  
 Treatment of Mandibular Fractures, By ROBERT T. OLIVER.  
 Peripheral Causes of Facial Pains, Including Tic Douloureux, By MORRIS I. SCHAMBERG.  
 Nitrous Oxide and Oxygen Anesthesia in Dental and General Surgery, By FRED K. REAM.

## SECTION IN CUTANEOUS MEDICINE AND SURGERY.

- CHAIRMAN, M. B. HARTZELL, PHILADELPHIA; SECRETARY, M. L. HEIDINGSFELD, CINCINNATI.  
 Chairman's Address: The Nature and Causes of Eczema, By M. B. HARTZELL.  
 Nutritive and Neurotic Disturbances of the Hair, By L. D. BULKLEY and H. H. JANEWAY.  
 A Deceptive Case of Leprosy, By CHARLES J. WHITE and O. RICHARDSON.  
 X Ray Uses, Dangers, and Abuses, By W. S. GOTTHEIL.  
 The Treatment of Epithelioma by the Röntgen Rays, By G. E. PFAHLER.  
 Increasing Tendency to Recognize a Systemic Eczema and Systemic Treatment of Skin Disease, The Old and New in Cutaneous Therapy, By LUDWIG WEISS.  
 Pompholyx, a Study of Some Cases Personally Observed, By J. M. WINTERHILL.  
 Pompholyx Eruptions and Its Status among the Blemishes of the Skin, By W. F. CROFTON.  
 The Pathology of Pompholyx Eruptions, By O. C. SHURTLE.  
 A Case of Acute Ecthyma, An Acute Agent, a Chronic Lesion, By L. E. VALENTINE.

## Some Unusual Forms of Epithelioma of the Skin,

- By J. A. FORDYCE.  
 A Further Contribution to the Histopathology of Epidermolysis Bullosa, By M. F. ENGMAN and M. H. HOOK.  
 Paraffin Prosthesis. A Further Contribution on its Histopathology, By M. L. HEIDINGSFELD.  
 Multiple Hemorrhagic Sarcoma (Kaposi), By DAVID LIEBERTHAL.  
 Exhibition of Clinical Cases, By JOSEPH ZEISLER.  
 The Pigmentations of the Mucous Membrane of the Mouth, By H. G. ANTHONY.  
 Erythema Figurata Perstans, By GROVER W. WENDE.  
 Cheilitis Exfoliativa, By L. M. RAVITCH.  
 Mercurial Treatment for Late Manifestations of Syphilis, By HERMAN G. KLOPZ.  
 The Influence of the Discovery of the Pale Spirochæta on the Treatment of Syphilis, By W. F. BREAKER.  
 The Relation of the Character of the Syphilitic Initial Lesion to the Secondary Constitutional Process, By A. RAVOGLI.

## SECTION IN PHARMACOLOGY AND THERAPEUTICS.

CHAIRMAN, M. H. FUSSELL, PHILADELPHIA; SECRETARY, C. S. N. HALLBERG, CHICAGO.

- Chairman's Address: Simplicity in Prescribing, By M. H. FUSSELL.  
 Address of Chairman of Delegation from American Pharmaceutical Association, By JOSEPH P. REMINGTON.  
 Report of Secretary, By C. S. N. HALLBERG.  
 Trend of Pharmacology and Therapeutics in Relation to Chemical Research, By W. J. K. KLINE.  
 Osteopathic versus Drug Treatment, By M. CLAYTON THRUSH.  
 Work Cure, By ADDISON THAYER.  
 Physiological Assay of Some Commonly Used Drugs, By CHARLES W. EDMUNDS.  
 Sodium Cacodylate: Its Therapeutic Uses, By FRANK BILLINGS.  
 Arsenic in the Treatment of Diseases of the Skin, By MILTON B. HARTZELL.  
 The Specific Chemical Therapy of Trypanosomiasis and Spirillosis, By BENJAMIN T. TERRY.  
 Organotherapy, By REID HUNT.  
 General and Topical Applications in Advanced Laryngeal Tuberculosis, By S. SOLIS-COHEN.  
 Pneumotherapy in Pulmonary Tuberculosis, By S. SOLIS-COHEN.  
 The Use of Digitalis in Pneumonia, By THOMAS F. REILLY.  
 The Effects of Quebracho on the Respiration, By H. C. WOOD, JR.  
 Tincture Strophanthus and Strophanthin, with Especial Reference to Dosage, By R. A. HATCHER.

## Coincident Meetings.

### AMERICAN MEDICAL EDITORS' ASSOCIATION.

The thirty-ninth annual meeting of the American Medical Editors' Association was held in the Auditorium Hotel, Chicago, on Saturday, May 30th, and Monday, June 1st. The president, Dr. Charles F. Taylor, of Philadelphia, editor of the *Medical World*, in the chair. An interesting programme was carried out.

The following officers were elected for the coming year: President, Dr. T. D. Crothers, of Hartford, Conn., editor of the *Quarterly Journal of Inebriety*; first vice-president, Dr. W. A. Young, of Toronto, Canada, editor of the *Canadian Journal of Medicine and Surgery*; second vice-president, Dr. E. W. Taylor, of Boston, of the *Boston Medical and Surgical Journal*; secretary and treasurer, Dr. Joseph MacDonald, Jr., of New York, of the *American Journal of Surgery*; members of the executive committee, Dr. J. J. Taylor, of Philadelphia, editor of the *Medical Council*; Dr. W. C. Abbott, of Chicago, editor of the *Journal of Clinical Medicine*, and Dr. W. A. Jones, of Minneapolis, editor of the *Journal of the Minneapolis Medical Society*.



The banquet, which was held on the evening of Monday, June 1st, was well attended. Toasts were responded to by Surgeon General Wyman, of the United States Public Health and Marine Hospital Service; Colonel W. C. Gorgas, of the Isthmian Canal Commission; Dr. Charles A. L. Reed, of Cincinnati; Dr. W. A. Young, of Toronto; Dr. Henry O. Marcy, of Boston, and Dr. Wallace, of Chattanooga.

#### THE ASSOCIATION OF AMERICAN TEACHERS OF THE DISEASES OF CHILDREN.

The association held its annual meeting in the Great Northern Hotel, Chicago, Ill., on Monday, June 1st, at 2 p. m.

The following programme was presented:

Address of welcome, delivered by Arthur D. Bevan, of Chicago, chairman Council on Education of the American Medical Association.

Address of the president, by Dr. Samuel W. Kelley, of Cleveland, Ohio.

The Teaching of Pædiatrics as Seen by an Inspector of Medical Colleges, by Dr. Frederick C. Zapffe, of Chicago, Ill.

The Teaching of Pædiatrics in the European Schools, by Dr. H. M. McClanahan, of Omaha.

The Teaching of Pædiatrics in the Medicochirurgical College of Philadelphia, by Dr. W. C. Hollopeter, of Philadelphia.

Case Teaching in Pædiatrics, by Dr. William W. Butterworth, of New Orleans, La.

The Doctrine of Difficult Dentition, by Dr. Theodore J. Elterich, of Pittsburgh, Pa.

Anatomical Peculiarities of Infants and Children, by Richard B. Gilbert, of Louisville, Ky.

The discussion was opened by Dr. Philip F. Barbour, of Louisville, Ky.

What Conditions Demand Total Weaning and What Demand Partial Weaning of Infants during the First Two Weeks of Life? by Dr. Charles Douglas, of Detroit, Mich.

Some Points on Infants' Clothing, by Dr. Alfred C. Cotton, of Chicago.

The Urinary Infections in Children, by Dr. John Zahorsky, of St. Louis, Mo.

The discussion was opened by Dr. Isaac A. Abt, of Chicago.

Chorea in Its Relation to Tonsillitis, Rheumatism and Endocarditis, by Dr. William J. Butler, of Chicago.

Some Phases of the School Child, by Dr. J. W. Van Derslice, of Oak Park, Ill.

The discussion was opened by Dr. A. C. Cotton, of Chicago.

Uncinariasis in the Southern States, by Dr. J. Ross Snyder, of Birmingham, Ala.

The discussion was opened by H. M. Folkes, of Biloxi, Miss.

Treatment of Pneumonia in Children by the Outdoor Air Method, by Dr. Frederic W. Loughran, of New York.

The following officers were elected for the coming year: President, Dr. Charles Douglas, of Detroit; Secretary, Dr. Samuel W. Kelley, of Cleveland; Treasurer, Dr. George H. Cattermole, of Boulder, Col. Executive Committee, Dr. W. C. Hollopeter, of Philadelphia; Dr. H. M. McClanahan, of Omaha; and Dr. R. B. Gilbert, of Louisville.

#### THE AMERICAN ACADEMY OF MEDICINE.

The thirty-third annual meeting of the American Academy of Medicine was held in the Lexington Hotel, Chicago, on Saturday, May 30th, and Monday, June 1st. The president, Dr. Thomas D. Davis, of Pittsburgh, in the chair. The following programme was carried out:

I. Report of the Committee on the Best Means for the Medical Profession to Take Part in the Education of the General Public in Medical Matters through Publications, etc., by Dr. Edward Jackson, of Denver, Chairman.

II. Report of the Committee to Investigate the Teaching of Hygiene in the Public Schools; and

III. Report of the Delegate to the Second International Congress on School Hygiene, London, 1907, by Dr. Helen C. Putnam, of Providence, R. I.

IV. Report of the Committee on Conference with Educational Institutions on Medical Education, by Dr. Charles McIntire, of Easton, Pa., Chairman.

V. Report of a Special Committee to Formulate Conclusions from the Conference at Pittsburgh, January 2, 3, 1908, by Dr. John L. Heffron, of Syracuse, N. Y., Chairman.

VI. Report of the Delegate to the Annual Conference of the Council on Medical Education of the American Medical Association, Chicago, April 13, 1908, by Dr. Charles S. Sheldon, of Madison, Wis.

VII. Some Considerations of the Necessity for a Rational Curriculum for the Doctorate, by Dr. Henry Beates, Jr., of Philadelphia.

VIII. Annual Address. The Doctor and School Advice. This address was delivered by the president of the Academy, Dr. Thomas D. Davis, of Pittsburgh, Pa.

IX. Report of the Committee to Collect Data as to the Amount of Damage Done by Alcohol in Moderate Drinkers, by Dr. Woods Hutchinson, of New York, Chairman.

X. Report of the Committee to Prepare a Draft of an Act to Create a State Board of Medical Examiners, by Dr. Charles McIntire, of Easton, Pa., Chairman.

"SYMPOSIUM" ON THE PLACE OF WOMEN IN THE MODERN BUSINESS WORLD AS AFFECTING HOME LIFE, THE MARITAL RELATION, HEALTH, MORALITY, AND THE FUTURE OF THE RACE.

1. As Affecting the Home Life and the Marital Relation, by Dr. A. Stewart Lobinger, of Los Angeles.

2. As Affecting Health, by Dr. L. Duncan Bulkley, of New York.

3. As Affecting Health and Morals, by Dr. Norman Bridge, of Los Angeles.

4. As Affecting the Future of the Race, by Dr. Otto Juettner, of Cincinnati, Ohio.

5. As Affecting the Future Welfare of the Race, by Dr. Edward B. Heckel, of Pittsburgh.

6. Female Labor as a Factor in Social Life, by Dr. A. L. Benedict, of Buffalo.

The following officers were elected: President, Dr. Helen C. Putnam, of Providence. Vice presidents, Dr. Charles S. Sheldon, of Madison, Wis.; Dr. Mettler; Dr. J. K. Weaver, of Norristown, Pa.; Dr. Norman Bridge, of Los Angeles. Secretary and treasurer, Dr. Charles McIntire, of Easton, Pa. Assistant secretary, Dr. Alex. R. Craig, of Philadelphia.

## News Items.

**Change of Address.**—Dr. D. J. Milton Miller, to 1700 Pacific Avenue, Atlantic City.

**Women Physicians of Colorado Form an Association.**—The Woman's Colorado State Medical Association was recently incorporated, and every regular woman physician in the State will be asked to become a member.

**Buffalo Academy of Medicine.**—The regular meeting of the Section in Obstetrics and Gynecology was held on the evening of May 28th. The programme included a paper on The Conservation of Nervous Energy in the Parturient, by Dr. Peter W. Van Peyma, and a paper on The Treatment of Threatening and Inevitable Abortion, by Dr. William G. Taylor.

**St. John's Guild Opens Seaside Hospital.**—St. John's Guild opened the Seaside Hospital at New Dorp, Staten Island, on June 1st, when two parties of babies and little children, with their mothers, were sent to the hospital on the Staten Island ferryboats. The guild will continue to convey patients to the hospital by boat twice daily, except Sundays, until the Floating Hospital begins its trips, which will be about July 6th.

**Scientific Society Meetings in Philadelphia for the Week Ending June 13, 1908.**—Monday, June 8th, Wills Hospital Ophthalmic Society. Tuesday, June 9th, Philadelphia Paediatric Society; Botanical Section, Academy of Natural Sciences. Wednesday, June 10th, Philadelphia County Medical Society. Thursday, June 11th, Pathological Society; Section Meeting, Franklin Institute. Friday, June 12th, Northern Medical Association; West Branch, Philadelphia County Medical Society.

**The Japanese Red Cross Society.**—The sixteenth anniversary of the founding of this society was held in Hibiy Park, Tokio, on June 1st. The society now has a membership of 1,414,225, including 504 Americans, 590 Koreans, and 6,440 Chinese. The value of its property exceeds \$7,000,000. Connected with its medical staff are 212 doctors, 143 pharmacists, and 3,369 nurses, 668 male and 2,701 female. Since the Russo-Japanese war the society has put into commission two large hospital ships, in addition to the two already in use.

**Charitable Bequests.**—By the will of Frederick Roemle the German Hospital, Brooklyn, receives \$500, and the German Home for the Aged receives \$250.

By the will of Mary Ann Astor Woodcock the Methodist Episcopal Hospital, Brooklyn, receives \$5,000.

By the will of Annie Cohen the Jewish Hospital, Brooklyn, receives \$1,000.

By the will of James Henry Smith St. Luke's Hospital, New York, receives \$100,000, and the New York Orthopedic Hospital and Dispensary receives \$100,000.

**American Gynecological Society.**—The twenty-third annual meeting of this society was held in Philadelphia on May 25th, 26th, and 27th. Dr. August Martin, of Berlin, and Dr. F. Pfannenstiel, of Kiel, were guests of the society. The following officers were elected to serve for the year 1909: President, Dr. J. Riddle Goffe, of New York; first vice president, Dr. Howard Kelly, of Baltimore; second vice president, Dr. M. McLean, of New York; secretary, Dr. Le Roy Broun, of New York; treasurer, Dr. J. Wesley Boyce, of Washington, D. C. The next meeting will be held in New York in May, 1909.

**Cases of Tuberculosis Must Be Reported in New York.**—A bill has been enacted in the New York legislature providing that physicians attending cases of tuberculosis shall make a report of such cases to the local health authorities, and shall put into effect such precautions as may be prescribed by the local authorities to prevent the spread of the disease. The bill provides that a fee of \$1 shall be paid out of the funds of the local government for each physician who carries out the precautions prescribed by the authorities. The measure resembles in many particulars a law which has been in force for the past few years in Maryland.

**Appointments and Promotions at the Rockefeller Institute for Medical Research.**—The following appointments have been made to the staff of this institution: Dr. P. A. Lewis, assistant in pathology; Dr. A. J. Kessel, assistant in bacteriology; Dr. A. R. Dodge, fellow in physiology; Dr. A. O. Shaker, fellow in physiology and pharmacology.

Promotions have been made as follows: Dr. John Auer, associate in physiology and pharmacology; Dr. Don R. Joseph, assistant in physiology and pharmacology; Dr. Alexis Carrel, associate in surgery; Dr. J. W. Jobling, associate in pathology; Dr. Benjamin T. Terry, assistant in protozoology; Dr. Donald D. Van Slyke, assistant in biological chemistry; Dr. Walter A. Jacobs, assistant in biological chemistry; Dr. Bertha I. Barker, fellow in pathology; Dr. R. V. Lamar, fellow in pathology.

**The Mortality of Chicago.**—According to the report of the Department of Health, during the week ending May 23, 1908, there were reported to the department 495 deaths from all causes, as compared with 635 for the preceding week, and 641 for the corresponding period in 1907. The annual death rate in 1,000 of population was 11.92. The principal causes of death were: Apoplexy, 8; Bright's disease, 43; bronchitis, 13; consumption, 54; cancer, 26; convulsions, 5; diphtheria, 6; heart diseases, 53; influenza, 2; intestinal diseases, acute, 23; measles, 11; nervous diseases, 16; pneumonia, 57; scarlet fever, 6; suicide, 5; typhoid fever, 2; violence (other than suicide), 22; whooping cough, 2; all other causes, 141.

**Meetings of State Medical Societies for the Month of June:**

Michigan State Medical Society, annual meeting at Manistee, Mich., on June 24th and 25th.

Maine Medical Association, annual meeting at Bangor, Me., on June 10th and 11th.

Massachusetts Medical Society, annual meeting at Boston on June 10th and 11th.

Medical Society of New Jersey, annual meeting at Cape May, N. J., on June 18th, 19th, and 20th.

State Medical Society of Wisconsin, annual meeting at Milwaukee on June 24th, 25th, and 26th.

**Philadelphia Academy of Surgery.**—A stated meeting of this academy was held on the evening of June 1st. Dr. James K. Young reported a case of exploratory arthrectomy. Dr. John W. Price reported four cases of Ludwig's angina. A paper on the End Results of Fractures of the Femur Treated Conservatively was presented by Dr. A. P. C. Ashhurst and Dr. William A. Newell. Dr. G. G. Davis read two papers, one describing an operation for the cure of enuresis, and the other giving the details of a method of anastomosing the divided vas deferens. Dr. W. Estell Lee read a paper entitled The Use of Ethyl Chloride as a General Anæsthetic at the Pennsylvania Hospital, with a Report of Five Thousand Cases.

**A Hospital for the Rockefeller Institute for Medical Research.**—The board of directors of this institution announce the receipt of a gift of \$500,000 from Mr. John D. Rockefeller, to be used for the erection and equipment of a hospital in connection with the institute. The hospital will be small compared with many others in the city, as its purpose is not so much to provide accommodations for the many as to furnish the means of studying the nature and treatment of individual cases, and thus develop new and more exact methods which may be applied elsewhere upon a larger scale. The hospital will contain certain elaborate provisions for the fresh air treatment of patients, and special departments of hydrotherapy, and electrotherapeutics. It will contain private rooms, as well as public wards, and a special diet kitchen.

**Personal.**—Dr. Carl Beck, of New York, has been decorated with the Order of the North Star by the King of Sweden.

Dr. H. Sheridan Baketel, of New York, has been awarded the honorary degree of Master in Arts by Hobart College.

Dr. W. C. Jones, of Mobile, Ala., is registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

Dr. Elmer D. Barnes, of Philadelphia, is appointed vice president of Temple University.

Dr. Robert Koch, the German bacteriologist, whom the Honorable committee on his trip around the world named the famous Kaper Professor, on the island of Malindi, where he went to investigate the cause of malarial fever.

Dr. G. A. De Saenz, of New York, has been appointed instructor in bacteriology at the New York Postgraduate Medical School and Hospital. Dr. Saenz will be attached to the class of Dr. Ramon Gonzalez, and will deliver a course of lectures in general bacteriology during the present season.

**Vital Statistics of New York.**—During the week ending May 23, 1908, there were reported to the Department of Health 1,463 deaths from all causes, as compared with 1,405 for the preceding week, and 1,447 for the corresponding period in 1907. Of the total number of deaths 740 were in Manhattan, 130 in the Bronx, 507 in Brooklyn, 57 in Queens, and 29 in Richmond. The annual death rate in 1,000 of population was 16.84 in Manhattan, 20.70 in the Bronx, 17.72 in Brooklyn, 12.78 in Queens, 19.73 in Richmond, and in the whole city, 17.26. The total infant mortality was 360; under one year of age, 268; between one and two years of age, 98. There were 156 still births. Six hundred and sixty-two marriages and 2,239 births were recorded during the week.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 30, 1908:

	—May 23—		—May 30—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonaryis	420	201	341	105
Diphtheria	307	37	344	—
Measles	1,535	34	1,230	33
Scarlet fever	1,053	49	948	49
Smallpox	—	—	—	—
Varicella	144	—	262	—
Typhoid fever	32	1	12	12
Whooping cough	24	1	—	—
Cerebrospinal meningitis	12	9	—	8
To als	3,037	348	2,824	97

**Examination for Technical Assistant in Pharmacology.**—The United States Civil Service Commission announces an examination on July 1, 1908, to secure eligibles from which to make certification to fill a vacancy in the position of technical assistant, Division of Pharmacology, Hygienic Laboratory, Public Health and Marine Hospital Service, at \$150 a month, and vacancies requiring similar qualifications as they may occur in any branch of the service. Applicants must have received either the degree of M. D. or Ph. D. from institutions of high standing, and must submit evidence of ability to do research work. They must also be able to read French and German. Applicants should apply to the United States Civil Service Commission, Washington, D. C., for application Form 304 and special form, and for any further information regarding the examination.

**The Health of Pittsburgh.**—During the week ending May 16, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Chickenpox, 1 case, 0 deaths; typhoid fever, 26 cases, 2 deaths; scarlet fever, 32 cases, 1 death; diphtheria, 6 cases, 0 deaths; measles, 201 cases, 7 deaths; pulmonary tuberculosis, 21 cases, 13 deaths. The total deaths for the week numbered 143, in an estimated population of 403,330, corresponding to an annual death rate of 18.43 in 1,000 of population. During the week ending May 23, 1908, the following cases of transmissible diseases were reported: Chickenpox, 5 cases, 0 deaths; typhoid fever, 24 cases, 3 deaths; scarlet fever, 18 cases, 1 death; diphtheria, 5 cases, 0 deaths; measles, 248 cases, 5 deaths; whooping cough, 10 cases, 2 deaths; pulmonary tuberculosis, 34 cases, 8 deaths. The total deaths for the week numbered 143, corresponding to an annual death rate of 18.43 in 1,000 of population.

**Philadelphia Bureau of Health Statistics.**—During the month of April, 1908, in the Division of Medical Inspection, 3,420 inspections were made, exclusive of schools; 520 fumigations were ordered; 28 cases were referred for special diagnosis; 6,335 visits were made to schools; 998 children were excluded from school; 215 cultures were taken; 114 injections of antitoxine were given; and 190 persons were vaccinated. In the Division of Vital Statistics, 2,042 deaths, 2,880 births, and 1,180 marriages were reported. In the Division of Milk Inspection 9,780 inspections were made of 230,420 quarts of milk, of which 885 quarts were condemned. Twelve specimens were examined chemically and 1,105 microscopically. In the Division of Meat and Cattle Inspection 3,488 inspections were made; 94 were found unsanitary; 102 pieces of dressed meats were condemned, and 1,028 post mortem examinations were made, of which 72 were condemned. In the Division of Disinfection 4 fumigations were done for smallpox, 335 for scarlet fever, 309 for diphtheria, 85 for typhoid fever, 218 for tuberculosis, 41 for cerebrospinal diseases, and 4 school were fumigated. In the Bacteriological Laboratory 950 cultures were examined for the presence of bacillus diphtheriae, 376

specimens of blood were examined for the serum diagnosis of typhoid fever; 1,105 specimens of milk were examined; 174 specimens of sputum were examined; 8 disinfection tests were made; and 3,771,100 units of antitoxine were distributed. In the Chemical Laboratory 134 analyses were made.

**Maine Medical Association.**—The fifty-sixth annual meeting of this society will be held in the City Building, Bangor, on Wednesday and Thursday, June 10th and 11th. Sessions will be held at 9 a. m. and at 2 p. m. on both days. A splendid programme has been arranged, which includes eighteen papers on practical subjects by prominent members of the medical profession. The annual oration will be delivered on Thursday evening at 7:30 o'clock by Dr. Hobart Amory Hare, of Philadelphia. His subject will be Hold Fast to that which is Good in Diagnosis and Therapeutics. After the oration the annual dinner will be served at the Bangor House. The officers of the society are: President, Dr. B. B. Foster, of Portland; first vice president, Dr. Alfred D. Sawyer, of Fort Fairfield; second vice president, Dr. O. C. S. Davis, of Augusta; secretary, Dr. Walter E. Tobie, of Portland; treasurer, Dr. Arthur S. Gilson, of Portland.

**The Massachusetts Medical Society.**—The one hundred and twenty-seventh annual meeting of this society will be held in the Mechanics Building, Boston, on Tuesday and Wednesday, June 9th and 10th. Tuesday afternoon will be devoted to the reading of scientific papers, and on Tuesday evening the Shattuck lecture will be delivered in Paul Revere Hall. On Wednesday morning the annual oration will be given, and at 1 p. m. the annual dinner will be served. There will be pathological and commercial exhibits on both days, and the Society for the Relief and Control of Tuberculosis will have a large exhibition of appliances used in the outdoor treatment of tuberculosis. The District Committee for the Prevention and Control of Tuberculosis will meet in Paul Revere Hall at 3 p. m. on Tuesday. Additional information regarding the meeting may be obtained by addressing Dr. George S. C. Badger, chairman of the committee of arrangements, 48 Hereford Street, Boston.

**The Northwestern Medical Society of Philadelphia.**—The members of this society held a clinical conference on the evening of June 1st. Dr. S. W. Newmayer read a paper entitled Defective Vision and the Mentally Subnormal Child. Dr. Wendell Reber opened the discussion. Dr. J. O. Arnold reported a case of recurrent pseudopyosis. Dr. Nathan McManus reported two interesting cases of typhoid fever. Dr. William McKeage reported a case of tonsillitis followed by sudden death. Dr. E. E. W. Given read a paper entitled A Plea for a More Liberal Diet in Typhoid Fever. Dr. C. S. Barnes presented a preliminary report of a case of hydrophobia. Dr. H. Hudson read a paper on An Unusual Series of Hip Joint Diseases in One Family. Dr. Carl Lee Felt exhibited some interesting nose and throat cases. Dr. Luther C. Peter exhibited patients showing the result of Calmette's ophthalmoreaction, and patients with interesting eye symptoms in multiple sclerosis and hysteria. Dr. J. Thompson Schell exhibited a patient with a dislocated tuberculous shoulder, and reported a case of Cesarean section with a double indication.

#### Society Meetings for the Coming Week:

**MONDAY, June 8th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, June 9th.**—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Schenectady, N. Y.; Practitioners' Club of Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine).

**WEDNESDAY, June 10th.**—New York Pathological Society; Medical Society of the Borough of the Bronx; Brooklyn Medical and Pharmaceutical Association; Richmond County, N. Y., Medical Society.

**THURSDAY, June 11th.**—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society (annual); Blackwell Medical Society of Rochester, N. Y.

**FRIDAY, June 12th.**—New York Academy of Medicine (Section in Otolaryngology); Eastern Medical Society of the City of New York.



## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL

May 28, 1908.

1. The Hospital in Relation to the Community.  
By ABNER POST.
2. A Case of Intravesical Cyst of the Ureter: Dilatation of the Ureter with very Slight Dilatation of the Renal Pelvis and Containing Twenty-eight Movable Calculi; Bacteriuria; Alkalinuria; Phosphaturia.  
By E. A. CODMAN.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 30, 1908.

1. Incomplete Myxœdema (Hypothyroidæa).  
By ARTHUR R. ELLIOTT.
2. An Analysis of Five Hundred Cases of Spinal Infantile Paralysis.  
By JOSEPH COLLINS and THEODORE H. ROMEISER.
3. Spondylitis Deformans: With Clinical Reports of Five Cases.  
By THEODORE DILLER and GEORGE WRIGHT.
4. A Visit to Stirling Asylum.  
By JULIA C. LATHROP.
5. How a Great State is Handling the Tuberculosis Problem.  
By ALBERT PHILIP FRANCINE.
6. The White Man in the Tropics.  
By C. L. G. ANDERSON.
7. Use of Gonococcic Vaccine in Twenty-six Patients.  
By EDGAR G. BALLENGER.
8. Beriberi without a Definite Rice Factor.  
By JOHN NIVISON FORCE.
9. Hypernephroma of the Kidney.  
By AUGUSTUS A. ESHNER.

#### 1. Incomplete Myxœdema (Hypothyroidæa).

—Elliott says that the diagnosis of a well marked, fully developed case of myxœdema is readily made owing to the striking character of the symptoms. The appearance of the patient is so peculiar that the disease can be recognized at a glance. It is quite otherwise when the disease is encountered in its early stages or in atypical form. Slight evidences of the condition may readily be overlooked. The profound nutritional changes, which are so striking in cases of more complete development, are absent, or present only in modified degree. Most of the cases of hypothyroidæa are encountered in women at, or approaching, the climacteric, and the symptoms are usually ascribed to the menopause. The predominance of myxœdematous states in the female is well attested by statistics, the ratio being 7 to 1. This undoubtedly is due in great measure to the repeated hyperfunction and irritation of the thyroid resulting from the vicissitudes of woman's reproductive life. A history of hyperthyroidæa in earlier life is not without value from the ætiological standpoint. Hun and Prudden point out that the great majority of women who suffer from myxœdema have borne children, and only a small proportion are unmarried. This may point to a secondary atrophy following puerperal hyperthyroidæa. In no other way can the great disproportion in frequency between the two sexes be explained than by interpreting many of the cases in the female as due to secondary atrophy induced by the thyroid hyperfunction of pregnancy and lactation. A few cases both of the fully developed and modified forms of myxœdema have been reported in which the apparent starting point was an acute infection. It is very doubtful whether such cases are true instances of postinfective myxœdema, although such a possibility cannot be denied. It is more probable that the disease had previously existed in a latent form and

that the acute infective toxæmia provoked an exacerbation. Hypothyroidæa and myxœdema may develop following Graves's disease, sometimes years afterward. Glandular hyperæmia and hyperfunction have here passed over into a state of secondary atrophy with hypofunction.

2. Spinal Infantile Paralysis.—Collins and Romeiser remark that the epidemic occurrence of anterior poliomyelitis is firmly established. The dependence of the disease on infection may therefore be legitimately assumed. The epidemic that prevailed in New York in the summer and autumn of 1907 afforded the authors unusual opportunity to study the disease, and present in tabulated form the analysis of 327 cases from that epidemic and 173 cases observed previous to that time. The figures relative to the age are very striking; 95 per cent. of the patients were under 5 years, 70 per cent. were between 1 and 3 years, and 33 per cent. during the second year. The vulnerable age is, therefore, from 1 to 3 years. In regard to paralysis that accompanies lesion of the epidemic cases of 1907, it was most frequently of the lumbar enlargement, next often of the cervical and dorsal cord, but not infrequently bulbar. There were all possible degrees and combinations. Two isolated facial "nuclear" paralyses were observed during the height of the epidemic. Paralysis of the diaphragm was observed in one instance only, accompanying forced inspiratory efforts of the intercostal muscles. No definite or constant relation was observed between the degree or duration of fever and the severity or extent of the paralysis, but it was distinctly made out that in all quadriplegias there had been a distinct febrile stage, whereas it was chiefly in the monoplegias that a history of "no fever" or "slight" was obtained. Trauma, such as a fall, or physical exhaustion is sometimes, though not often, a definite antecedent. One child fell out of the window. Another, two years old, walked the unusual distance of three miles just previous to the onset of the fever, and in several instances there was a history of profound fatigue. In general, physical shock or overexertion plays a minor rôle in the ætiology and is at most a predisposing factor. Occasionally a fall while walking is the first indication of a preexistent paralysis. A striking feature is the fact that by far the greater number of children were in the best of health at the time of onset, many of them without previous illness of any moment. In regard to the onset it may be said that the disease develops with and without warning, but usually with vomiting and fever. In many instances the child had gone to sleep apparently well. Sometimes the paralysis was evident the next morning, but usually from two to four days afterward. In few cases only was it noted that the fever continued after the appearance of the paralysis. As the somnolence, pain, and hyperæsthesia (especially marked on active or passive movements) are accompanied in many cases by immobility, it is often days and sometimes a week before the paralysis is noted. The ~~onset~~ <sup>onset</sup> time and order of onset and even initial distribution of the paralysis is not often determinable with the exactness which the statistician requires for reliable conclusions. Both the ascending and the descending Landry types of paralysis were observed in a few instances.

3. **Spondylitis Deformans.**—Diller and Wright say that the ætiology of spondylitis deformans has not yet been fully determined. The disease is about three times as common in men as in women, and it occurs most frequently between the ages of twenty-five and forty-five. Habits involving exposure to changes in temperature, hard work, and poor hygiene generally are important predisposing causes. Heredity and trauma appear to play a rôle in some cases. Finally it seems probable that some toxic or infectious agent acts as an important factor in many cases. As regards the symptoms, these are referable, as would be expected, to the spine, and to other joints involved in the same osteoarthritic process, to the spinal nerves. The onset is gradual and insidious, very rarely acute, though this may occur. The first symptoms noted are pain and stiffness in the spine, in the earlier stages, most noticeable after a period of rest, as when the individual is getting out of bed or out of a chair. At times this may be felt only on nodding the head or on stooping. The pain may be in the spine itself or referred to the nerve distribution, accompanied also by anæsthesias, paræsthesias, hyperæsthesias, and trophic disturbances. Pains early in the disease are characteristic; later as movement in the spine is limited or lost, and there has been a contraction and ossification of the exostosis, pressure on the nerve roots is relieved and pain may practically disappear. With the gradual extension of the process, movement in the spine becomes more and more limited and finally *nil*, so that the sufferer is unable to move his spine at all or even nod his head, a condition well meriting the oft applied term "poker back." Depending on the seat of onset this stiffness may be limited to the cervical, thoracic, or lumbar region, and progress no further. Beside the spine, any other joints may be involved, more especially those of the shoulder and pelvic girdle. The ribs by reason of ossification of the costovertebral articulations may lose their normal range of motion, which is noticed early by the patient on attempting a deep inspiration. Of the treatment the authors observe that once the diagnosis is made they believe that the patient should be put into the hands of a competent orthopaedic surgeon. The patient needs most painstaking care, both as to his general and local condition. The general health should be improved to the highest possible degree and the faulty action of any organ in the body corrected. Any possible source of infection should be removed, and to this end a careful examination should be made of the nasopharynx, the gastrointestinal, and genitourinary tracts, and the skin. On account of the danger of upsetting the stomach, there is little place for drugs. Tonics, fresh air, sunlight, good nutritious food, rest, and restfulness should comprise the armamentarium. As regards the local treatment, in the early stages some method of fixation for the spine should be used, either of plaster or steel. This prevents the irritation of the diseased vertebræ and relieves pain and stiffness. Later, as the process has subsided, passive motion and massage may be used with benefit. The spine in old cases should not be fixed, for here our object should be to ward off by massage and movements the tendency to complete ankylosis. The authors conclude that an infection of some kind, apparent or hidden,

plays an important rôle in the ætiology of this disease. Except for clinical purposes, we are not yet warranted in classifying this disease into two separate and distinct types. The probability is that spondylitis deformans is not a distinct entity, but a clinical term covering many perhaps ætiologically and pathologically distinct diseases in which spinal stiffness is the most prominent symptom. Proper treatment in early cases, as a rule, brings good results; in later cases it relieves distressing symptoms. There is need of clinical records covering the subsequent history of these cases, for further developments may throw new light on the ætiology and exact diagnosis. There is great need of additional evidence from the postmortem table.

#### MEDICAL RECORD.

May 30, 1908.

1. *Melæna Neonatorum*, with Report of a Case Cured by Transfusion, By SAMUEL W. LAMBERT.
2. The Distinctive Diagnosis of Meningococcus Cerebrospinal Meningitis from Other Types of Cerebrospinal Meningitis, By HENRY W. BERG.
3. A Plan for Reducing Infant Mortality in New York City, By WILBUR C. PHILLIPS.
4. The Correlation of Eyestrain and the Functional Neuroses, By HOMER E. SMITH.
5. Disturbances of Gastric Secretion; a Practical Study, By M. GROSS.
6. Drainage of Wounds, By R. W. KNOX.
7. Some Observations on the Ophthalmotuberculin Reaction, By THEODORE B. SACHS.

1. *Melæna Neonatorum.*—Lambert reports such a case. The baby was a girl, born of healthy parents. Subcutaneous bleeding extended down the neck over the muscles, across the median line to the other ear across the coronal suture over the frontal bone, and forward under the left ear to the angle of the jaw. The bleeding from the nose was continuous and quite profuse. A dark meconium stool gave a very positive reaction for blood, but the urine was of normal color. The baby was of waxen pallor. The diagnosis of melæna was made, and treatment instituted upon the theory of its being an intestinal infection. One dose of thirty minims of castor oil and two grain doses of calcium lactate every two hours was given during the night. The scalp hæmatoma increased in size and tenseness, and the paleness of the skin increased, but the temperature gradually fell from the maximum of the attack at 104.4° F. till it reached 97.4° F., the nasal bleeding became less constant, and the baby nursed regularly. Adrenalin was tried in the nose, but without effect. It was decided to attempt a direct transfusion of blood from the father of the infant by end to end anastomosis of the two bloodvessels after the manner devised by Dr. Carrel, of the Rockefeller Institute. This was done. The right popliteal vein of the baby was sutured to the left radial artery of the child's father, without anæsthetic to either patient, and enough blood was allowed to flow into the baby to change her skin from a pale transparent whiteness to a brilliant red color. No measure of the amount of blood was possible, but the evidences of a sufficient quantity were manifold. She began to cry lustily and to struggle against the bandages, which held her strapped to an ironing board. The wound in the leg up to this time had oozed a slight amount of pale, watery blood, which did not clot well. It began to bleed freely and the blood prompt-



ly clotted. The nosebleed stopped instantly. The pulse became full and strong and slowed down, and the respirations were deep and full. As soon as the wound was sutured and dressed, the baby was fed an ounce of milk, which she took ravenously and retained, and immediately went to sleep. Convalescence from the operation was uninterrupted except for a slight infection of the wound. There was no evidence of hæmolytic action at any time, and all the symptoms of melæna ceased at once. The hæmatoma was absorbed rapidly, except for a slight discoloration of the upper lid of the right eye. The stools became of normal character two days after the operation. The wound is healed, and the child appears to be a normal child of its age to-day.

**2. Distinctive Diagnosis of Meningococcus Cerebrospinal Meningitis from Other Types of Cerebrospinal Meningitis.**—Berg observes that in a general way the microscopic appearance of the fluid yields some indications as to the bacteriological character of the meningeal process. Thus a purulent turbid fluid speaks for meningococcus cerebrospinal meningitis; a comparatively limpid, clear fluid containing flocculi or fibrinous shreds or a slender white coagulated column, branching out at the top and base like a slender pillar supporting a capital in a test tube half filled with clear cerebrospinal fluid indicates tuberculous meningitis. The diagnosis resting upon such macroscopic appearances, however, rests upon but a slender reed, and to clinch it the bacteria should be found by staining or culture. In almost all cases of cerebrospinal meningitis, as distinguished from toxic pseudomeningitis, the normal tension of the fluid in the sub-arachnoid space is increased, and the fluid issues through the trocar under increased pressure; while this rule is not uniform, it is safe to state that increased pressure indicates an abnormal and not a sterile cerebrospinal fluid. For the purpose of bacteriological diagnosis of the disease during life, the meningococcus must be sought for in the cerebrospinal fluid obtained by lumbar puncture. It can be demonstrated by culture and microscopically. Cultures made from fluid obtained by lumbar puncture early in the disease will give positive results in a very large proportion of cases. Whether the agglutinating reaction will be found to be sufficiently reliable and exclusive to use the method for diagnostic purposes after the manner of the Widal reaction in typhoid fever, remains to be seen. The diplococcus can also be found in the nasal discharges of patients suffering from the disease, both microscopically and by culture. If lumbar puncture is done early in the disease, a cloudy fluid will be obtained, containing pus cells in which the organisms are found; later in the disease, with a clearer cerebrospinal fluid, the result may be negative. Diplococci are more apt to be found in fluid obtained during the acute stage or during an exacerbation. When the case is one of toxic pseudomeningitis, the fluid obtained by lumbar puncture is sterile and clear. This, then, is the one reliable and decisive factor in the distinctive diagnosis of these two conditions. When, however, a cerebrospinal meningitis of the meningococcus type is to be distinguished from a cerebrospinal meningitis of other bacteriological types mentioned, subjective and objective,

symptomatology is frequently not a decisive aid in the differential diagnosis. In cerebrospinal meningitis of the tuberculous type, there is generally a longer prodromal period; there is no leucocytosis unless suppurating processes are complicating the tuberculous meningitis; there are more frequently signs of chronic basilar meningitis, resulting in paralysis of the third, fourth, seventh, and bulbar nerves in tuberculous meningitis, while in meningococcus meningitis the opisthotonos is apt to be more marked and more frequent, and yet after all in these various types of meningitis the conclusive distinguishing factor will be the finding of the bacteriological organism which is the causative factor in the given case of meningitis.

**4. The Correlation of Eyestrain and the Functional Neuroses.**—Smith says that the ocular conditions which give rise to eyestrain may be refractive, accommodative, or muscular. The result is loss of neuricity. The effects are remote and reflex, and may be expended upon any organ, group of organs, the nervous system as a whole, or its separate divisions. It is the little refractive errors which give rise to the greatest trouble; poor vision and eyestrain are not concomitant conditions, but exactly the reverse. It is imperative to have the eyes of all children of school age examined under atropine; not only may health and comfort be conserved, but their whole future may rest upon this simple thing. Refractive errors of high degree should be corrected, not because of any reflex disturbances, but to save the eyes from disease and to give their possessor better vision. The investigation of all obscure nervous phenomena should begin with the eyes; often it will be necessary to go no further. Typical sick headache is pathognomonic of eyestrain; if it is not cured in 99 per cent. it is the fault of the refractionist.

#### BRITISH MEDICAL JOURNAL

May 16, 1908.

1. The Anatomy of the Pancreas in Relation to Its Diseases (Banks Lecture), By A. W. M. ROBSON.
2. Fracture of the Patella Treated by Mobilising the Lower Fragment, By J. L. THOMAS.
3. A Case of Ectopic Gestation with Unusually Early Symptoms, By E. A. SEARLE.
4. A Method of Obtaining Rapid Healing of Acute Abscesses, By J. PHILLIPS.
5. Tumor of the Orbit Removed without Enucleation and without Loss of Sight, By G. APTHOMAS.
6. Appendicitis Complicated by Hepatic Abscesses, By G. P. BLETHLEY.
7. The Influence of Pregnancy upon Certain Medical Diseases and on Certain Medical Diseases upon Pregnancy (Goulstonian Lectures, III), By H. FRENCH.

**1. Diseases of the Pancreas.**—Robson states that pathological changes in the pancreas may originate in any of its constituent parts. Inflammation starting in the ducts is at first of a catarrhal nature analogous to cholangitis, with which it is frequently associated. If the infective catarrhal condition is acute in character it may go on to diffuse suppurative catarrh or to a localized suppuration ending in abscess. If the infection is less virulent, it may not assume the more immediately dangerous suppurative form; but a chronic inflammation may extend to the parenchyma of the gland, leading to an increase of the connective tissue, eventually resulting in a condition resembling that seen in cirrhosis of



the liver. An increase of fibrous tissue may occur primarily around the bloodvessels as the result of changes in them or in their contents, and give rise to a cirrhotic condition. In some instances it is probable that, as a result of toxic substances circulating in the blood, the islands of Langerhans become first affected, as in amyloid disease of the gland. On the other hand, the acute infective parenchymatous inflammations known as acute hæmorrhagic, suppurative, or gangrenous pancreatitis, give rise to the most terrible and rapidly fatal diseases that the surgeon can be called on to treat. The various inflammatory conditions may be classified as follows: 1. Catarrhal inflammations. (a) Simple catarrh, acute and chronic. (b) Suppurative catarrh. (c) Pancreolithic catarrh. 2. Parenchymatous inflammations. *Acute.* (a) Hæmorrhagic pancreatitis. (1) Ultra-acute, in which the hæmorrhage precedes the inflammation, the bleeding being profuse and within and outside the gland. (2) Acute, in which inflammation precedes the hæmorrhage, which is less profuse and is distributed in patches throughout the gland. (b) Gangrenous pancreatitis. (c) Suppurative pancreatitis (diffuse suppuration). *Subacute.* Abscess of the pancreas (not diffuse suppuration). *Chronic.* (a) Interstitial pancreatitis. (1) Interlobular. (2) Interacinar. (b) Cirrhosis of the pancreas. Pancreatic calculi are rare and are apparently the result of catarrh of the ducts with stagnation of secretion, and instead of calculi being formed the ducts may be actually lined with calcareous material. The presence of lime salts renders pancreatic calculi opaque to the x rays, a valuable point in diagnosis. The ultimate effect of pancreatic lithiasis is toward complete destruction of the gland by a process of interstitial pancreatitis ending in fibrosis. Surgery offers a reasonable chance of cure if operation is done early. Cancer of the pancreas is much more common than was previously supposed; formerly secondary growths in the liver were thought to be primary. In most cases cancer of the pancreas is painless, especially in its early stages. When the body or tail of the gland is affected the only evidence of disease may be failure of health and loss of strength, together with signs of disturbed metabolism, as revealed by examinations of the fæces and urine; for obstruction of the ducts by a neoplasm brings about chronic inflammatory changes in the gland beyond the obstruction. When the head of the gland is affected the common bile duct becomes obstructed, and jaundice, rapidly becoming intense and absolute, manifests itself, producing characteristic signs of the disease—rapid loss of flesh and jaundice of painless onset, with distention of the gallbladder—conditions which may be simulated by chronic interstitial pancreatitis. In the latter case the pancreatic reaction in the urine will be of assistance in diagnosis. Cancer or sarcoma of the head of the gland is necessarily rapidly fatal, and incapable of marked relief. Even palliative operations of short circuiting the obstruction by cholecystenterostomy are peculiarly fatal in malignant cases.

4. **Treatment of Acute Abscesses.**—Phillips contends that in almost every case of acute abscess there need not be left any source of irritation to continue to act for a considerable time, and that, unless dead bone or some other irremovable irritant is pres-

ent, something not unlike primary union is obtained. Method. 1. Cleanse the skin as in operating on sterile tissues. 2. Make an incision long enough to permit of the pus being freely evacuated and the pyogenic membrane rubbed clean and smooth with gauze wrapped around the finger. 3. Having emptied the abscess cavity as completely as possible, pack it tightly with gauze (1 to 1,000 mercury bichloride gauze, dry) and apply a wool dressing and bandage as firmly as possible. 4. At the end of forty-eight hours remove the packing and dress the wound as if it were a simple incision; that is, do not pack or drain at all, but simply fix a gauze and wool dressing firmly in place with a bandage. This dressing will require changing only once in three or four days until the incision is soundly healed, and it will be found that the sides of the abscess cavity unite promptly and that there is no outpouring of pus from it. From the time when the packing is removed it is practically a simple incised wound that is being treated. The writer asserts for this method that it results in rapid healing; that the constitutional symptoms are gotten rid of almost at once; that as the dressing requires doing so seldom the doctor can do it himself and so avoid the risk of a secondary mixed infection; and, finally, it effects quite a marked economy in dressings.

## LANCET.

May 16, 1908.

1. The Connective Tissue in Carcinoma and in Certain Inflammatory States that Precede Its Onset (Hunterian Lectures, I). By V. BONNEY.
2. The Influence of Pregnancy upon Certain Medical Diseases and of Certain Medical Diseases upon Pregnancy (Goulstonian Lectures, II). By H. FRENCH.
3. Juvenile Tabes Dorsalis: Notes of Five Cases. By S. STEPHENSON.
4. A New Method of Restoring the Continuity of the Bowel in Cases of Excision of a Growth Low Down in the Sigmoid Flexure. By J. P. L. MUMMEY.
5. The Diagnosis of Perforating and of Chronic Duodenal Ulcer. By SIR J. F. H. BROADBENT.
6. A Method of Administering Solids in Cases of Gastrostomy. By A. E. MAYLARD.
7. The Electrical Treatment of Atonic Conditions of the Digestive System. By R. MORTON.
8. Note on Two Cases of Chronic Dysentery Treated with Forster's Antidysenteric Vaccine. By E. A. R. NEWMAN.
9. Note on a Case of Functional Paraplegia with Associated Paralysis of the Bladder. By A. ROSE.

1. **Connective Tissue and Cancer.**—Bonney in the first of his Hunterian lectures on connective tissue and cancer makes a general survey of the connective tissue changes in primary carcinomata. *Lymphocytes* are a conspicuous feature of the cell proliferation surrounding an early carcinoma, being specially aggregated at the tips of the epithelial processes. Their origin is very difficult to decide, and they certainly take no part in the formation of the stroma of the growth. There is no increase in the lymphocytes in the blood until a late stage of the disease. *Plasma cells* are the most striking objects seen in the connective tissue around a cancer. They are rarely in contact with the epithelial cells. The writer thinks they originate from certain elongated small nuclei, found in resting connective tissue. It is probable that the plasma cells, together with the fixed connective tissue cells, constitute the framework of the stroma on which a collagenous deposit

subsequently occurs. *Endothelial cells* (those lining blood and lymph vessels) play but a small part in carcinoma. Polynuclear leucocytes and giant cells are also only slightly in evidence. *Elastic tissue* disappears in all areas of connective tissue cell proliferation, whether this is associated with a definite inflammatory state or with the connective tissue changes that are going on in a carcinomatous area. This disappearance is permanent—i. e., there is no regeneration of the elastic fibres when the cell proliferation has departed and fibrosis has supervened. This applies equally to the older parts of the stroma of primary carcinoma and the fibrotic stage of chronic granulomatous inflammation. In certain conditions, however, of chronic irritation which fall short of producing cell proliferation in the connective tissues, yellow elastic tissue may be increased by the deposition of a granular elastin around the old fibres. This is seen in some simple irritative states as well as in isolated areas in the stroma of carcinoma.

## 2. Pregnancy and Certain Medical Diseases.

—French, in the third of his Goulstonian lectures, takes up the influence of pregnancy on the commoner fevers. Generally speaking, the pregnant state seems to confer some degree of immunity, the reverse being true of the puerperium. *Typhoid fever* may begin at any period of the pregnancy, and its course is precisely similar to its course in other cases. Pregnancy has no influence on the severity of the illness, nor upon the prognosis as regards the mother. Premature ending of the pregnancy may occur at any time, this depending more on the month of the pregnancy than on the day of the fever. The mother seems to suffer very little from labor; the additional strain does not make her worse, and she experiences considerable relief. The uterus involutes just as usual, and the fever runs its ordinary course. Turning now to the fœtus, it has been definitely shown that typhoid bacilli can cross the placenta, reach the child, and be recovered from the child's tissues after birth. It is not yet known whether the child produces its own agglutinins or receives them from the mother. In a few cases definite ulceration of the fetal Peyer's patches has been noted, but such macroscopic lesions are quite the exception. It is impossible to say if the child will have a natural immunity to typhoid fever if it lives, but there is considerable evidence that such a child will suffer in other ways. If the child's life is a material consideration it is very risky to allow it to remain in utero beyond three weeks from the beginning of the typhoid fever. With each week of the fever the chances that the child will become infected with typhoid bacilli rapidly increase. *Smallpox* is transmissible from the mother to the fœtus. The degree to which the latter is affected is very variable. The stage of the eruption in the child may be almost identical with that in the mother. The eruption goes through a pustular stage in the unborn child just as it does in the adult, and the lesions are even larger. The duration of the eruption on the skin of the child may be much longer than usual. The father may have smallpox at the time of conception, the mother may show no sign of the disease, and yet the child may have it in utero. Cases of fetal scarlet fever, measles, whooping cough, cholera, malaria

and even cerebrospinal meningitis have been recorded. Diphtheria is particularly virulent in pregnant women. The laryngeal form of the disease is very common, and the mortality is great if antitoxine is not used. Plague is no worse in pregnancy than in ordinary cases, except that it usually terminates the pregnancy. If lobar pneumonia develops early in the pregnancy, the prognosis is about the same as regards the mother as for other patients of the same age. But if the pneumonia develops during the second half of pregnancy, the probability is that the latter will be terminated in two thirds of the cases, and the chances of the mother surviving will be greatly diminished. Diabetes mellitus is by no means incompatible with pregnancy, and there is seldom any reason for interference.

5. **Duodenal Ulcer.**—Broadbent states that duodenal ulcer may be distinguished from gastric ulcer by the seat and character of the pain, the indefinite relation of both pain and vomiting when this occurs to ingestion of food, and the absence of hæmatemesis. Melena in association with pain in the right hypochondriac region is very significant. A history of chronic indigestion occurring after middle life may suggest malignant disease of the stomach, but the chronicity and intermittency of the symptoms which may have lasted some years, and absence of severe emaciation and cachexia, usually enable a correct diagnosis to be made. In doubtful cases a test meal is of great value; in duodenal ulcer there is often excess and seldom absence of free hydrochloric acid. In all cases, before considering operation, care should be taken to exclude the possibility of gastric crises from locomotor ataxia.

## LA PRESSE MEDICALE

April 26, 1908.

1. Prophylaxis of Nervous Diseases of the Dietetic Foundation, By P. LONDE.
2. Epidemic of Paratyphoid Fever, By COLLIN and L. FORTINEAU.

1. **Prophylaxis of Nervous Diseases.**—Londe declares that there are four sorts of ætiological factors in the production of mental and nervous diseases: 1, Heredity; 2, accidental causes, including emotions, traumatism, physical and mental overwork; 3, specific diseases; and 4, digestive troubles or non-specific diseases. In the fourth class of cases, which includes a large variety of different diseases, attention to the diet has proved of marked prophylactic value.

2. **Paratyphoid Fever.**—Collin and Fortineau use the term paratyphoid fever to denote an infection distinct from that of enteric fever, produced by paratyphobacilli.

## LA SEMAINE MEDICALE

April 26, 1908.

Paralysed Addison's Disease.

## MUENCHENER MEDIZINISCHE WOCHENSCHRIFT

April 28, 1908.

1. Paralysed Physiological Experiments on Men and Animals, By WEISS.
2. New Facts as to Virus in the Treatment of Paratyphoid Processes, By MICHOU and PIERRE.
3. Concerning Recent Views Towards the Improvement and Simplification of Disinfection of the Skin, By von BALTUS.

4. The Symptomatology and Etiology of Barlow's Disease, By ESSER.
5. The Question of Metatyphus, By NIETER.
6. Dietetic Nutrient Preparations Before the Forum of the Specific Precipitation, By HORIUCHI.
7. The Meat Juice "Puro," By GERET.
8. The Treatment of Perityphlitis, By ALBU.
9. The Question of Sanatorium Treatment and the Indications for the Same, By FRANKENBURGER.
10. A Case of Poisoning After the Use of Thiosinamin, By GROSSE.
11. The Direct Inspection of the Mucous Membrane of the Stomach, By RIEHL.
12. A New Test for the Comparison of Sources of Actinic Rays, By AXMANN.
13. Technique of X Ray Photography, By DAVIDSOHN.
14. A Simple Aid to Comfort During Labor, By HEKZBERG.
15. An Improved Hypodermatic Syringe, By FAULHABER.
16. Concerning Karell's Treatment of Serious Circulatory Disturbances and the Treatment of Obesity (Concluded), By JACOB.
17. The Genesis of Gallstones, By BACMEISTER.
18. Obituary of Professor Gustav von Hüfner, By BURKER.

2. **Treatment of Purulent Processes.**—Müller deals with the theoretical and experimental part of the subject of controlling purulent processes by the addition of large quantities of blood serum and fluids rich in antiferments to the focus of suppuration, while Peiser speaks of the clinical aspects of the same subject. They allege that this method is a simple, effective increase of the physiological protective powers of the organism.

5. **The Question of Metatyphus.**—Nieter is convinced by the result of his researches that the typhus and metatyphus bacilli that have been described are accidental, and that there is no real difference between them.

8. **Treatment of Perityphlitis.**—Albu deals with the medical treatment of acute perityphlitis, and then of the chronic form. In the treatment of acute perityphlitis he considers that, in the hands of the experienced physician, opium is certainly less dangerous than castor oil, but the traditional dogma of the textbooks that perityphlitis should be treated with opium he considers obsolete.

9. **Sanatorium Treatment.**—Frankenburger refers entirely to the treatment of tuberculosis in this paper.

11. **Direct Inspection of the Mucous Membrane of the Stomach.**—Riehl remarks that, by means of the gastroscope, with the stomach filled with water, it is possible: 1. To see clearly the greater part of the mucous membrane of the healthy stomach, and study the normal coloring, the folds, and the movements of the walls of the stomach; 2. to illuminate the greater part of the lesser curvature and the region of the pylorus; and 3. to observe the appearance of cancer, which, in a carcinoma of the lesser curvature, presents a greenish surface. An examination of the stomach should be preceded by an application of a ten per cent. solution of cocaine to the throat.

16. **Karell's Treatment.**—Jacob, after reporting a series of cases of obesity treated in the way described last week, says that this method is contraindicated only in cases in which there is degeneration of the cardiac muscle, whether from coronary sclerosis, arteriosclerosis of the bulb of the aorta, or

chronic inflammatory processes in the cardiac muscle, or fat, so far advanced that even under the most favorable conditions the heart cannot recover.

#### BERLINER KLINISCHE WOCHENSCHRIFT

April 27, 1908.

1. Pericardial Friction Sounds with Synechia of the Pericardium, By ERICH RICHTER.
2. Concerning the Results of Modern Investigations into Sympathetic Ophthalmia, By GEORG LENZ.
3. Interference with Respiration and with the Introduction of Food by a Large Thymus in a Child Ten Weeks Old. Operation. Recovery, By WILLY HINRICHS.
4. Oxidation of Sugar, By GEORG ROSENFELD.
5. The Care of Tuberculosis (Sanatoria?), By AUFRICHT.
6. Regarding the Question of the Permanent Results of Sanatoria, By B. FRÄNKEL.
7. Wassermann's Syphilis Reaction, By J. BAUER.
8. Concerning Local Sensitiveness of the Conjunctiva to Tuberculin, By SIGISMUND COHN.

1. **Pericardial Friction Sounds with Synechia of the Pericardium.**—Richter reports a case in which a diagnosis during life of fresh pericarditis was made because of the appearance and disappearance of pericardial friction sounds, but on autopsy the pericardial sac was found to have been totally obliterated by adhesions which showed no signs of recent inflammation.

2. **Sympathetic Ophthalmia.**—Lenz says that recent anatomical studies of sympathetic ophthalmia have demonstrated that there is a specific anatomical picture which renders possible a distinction of this from other forms of chronic uveitis, that only such eyes as present this specific picture are sympathetic, that the specific infiltration of the first diseased eye is identical with that of the second eye to be involved. Finally he states that, while important advances have been made in the knowledge of sympathetic ophthalmia, much still remains obscure, and with many an injured eye we are in doubt whether there is danger of sympathetic inflammation or not.

4. **Oxidation of Sugar.**—Rosenfeld in this contribution considers the liver as the central organ of metabolism.

8. **Local Sensitiveness of the Conjunctiva to Tuberculin.**—Cohn states that a single instillation of a one per cent. solution of old tuberculin while it does not induce a visible reaction does cause a hypersensibility which is manifested in two ways: 1, By an ability to react to a second instillation of a one per cent. solution of tuberculin with evident signs of inflammation; 2, by an ability to draw tuberculin from the circulating blood and then to react to this. These peculiarities are strong locally and confined to the conjunctiva which has been used for instillation. A lapse of at least five days is usually necessary for the development of these peculiarities. The maximum of the hypersensitiveness is reached about the beginning of the third week. It is possible, but not proved, that the artificial hypersensitiveness is a sign of latent tuberculosis.

#### LA RIFORMA MEDICA

April 6, 1908.

1. On Very Light Forms of Malta Fever in Naples, By ARNALDO CANTANI.
2. On the Therapeutic Uses of Viscum, By CARLO FEDELLI.
3. Contribution to the Study of the Pathogenesis of Cystic Kidney (Concluded), By DOMENICO TADDEI.



**1. Mild Form of Malta Fever in Naples.**—Cantani studies the very mild cases of Malta fever which came under his observation recently in Naples. Shaw was the first to describe in detail an ambulant form of Malta fever. This author examined 525 dock laborers on the island of Malta and found that seventy-nine showed a positive agglutination reaction. In twenty-two of these laborers, Shaw found the micrococcus of Malta fever in the blood and the urine. The ambulant form of Malta fever has been prevalent in Naples for some time, and Cantani urges the necessity of bacteriological examinations in suspicious cases, although he realizes that in the mild cases the patient will rarely submit to medical treatment. Most cases which he had under observation occurred in several members of one family. Thus he reports five cases in one family, of which three were of medium gravity, and one was fairly severe. In another family, a young woman was attacked first, her fever lasting forty days; then followed two sisters, then a brother. Several other similar examples are reported by the author, the total cases numbering thirteen, and in each case the bacteriological examination of the blood showed the agglutination reaction. Ambulant cases of Malta fever are much more frequent than many physicians suppose. As we receive annually a large number of immigrants from Naples, some of them may import Malta fever, even in this attenuated form, and it might be well for the health authorities in the various ports to be on the lookout for these cases.

**2. Therapeutic Uses of Mistletoe.**—Fedeli reviews the literature which has recently been published concerning the revival of mistletoe as a therapeutic agent. A number of articles have been published on this subject, particularly that of Gauthier (*Gazette des Hôpitaux*, October 17, 1907). The preparations used by Gauthier were an aqueous extract of mistletoe in doses of from 20 to 30 c.c. in twenty-four hours; a syrup, in doses of from 10 to 15 teaspoonfuls in twenty-four hours, etc. *Viscum album* has been found by Chevalier and Gauthier to lower the blood pressure, to accelerate the pulse, and in large doses to kill by paralyzing the heart and causing hemorrhages in the gastrointestinal tract, the endocardium, etc. Gauthier recommends mistletoe in arteriosclerosis with high tension pulse. Fedeli, in the present article, reports an interesting case of severe acute nephritis in a physician, in whom he used the extract of mistletoe, beginning with 6 c.c. and increasing to 30 c.c. daily. The effect was excellent, the albumin diminishing rapidly until, at the end of the month, there was but a trace. It does not appear clearly, however, whether the recovery was due to the mistletoe or to the milk diet which the patient maintained. In another case, with a history of uræmic attacks, the extract of mistletoe was administered with good results. In a third case of very severe nephritis in a young man who had slight arteriosclerosis, hypertrophy of the left ventricle, œdema, scanty urine, rich in albumin and casts, the extract of mistletoe was given in increasing doses, with the result that the albuminuria rapidly diminished. This patient died of uræmia. While the number of cases in which mistletoe was used was small, the author thinks that in selected cases *Viscum album*

will give good results in the treatment of nephritis. The remedy acts best in cases in which there is a certain degree of increased arterial pressure and of arterial spasm. In some cases, in which the lesions are too far advanced, especially in cases of chronic acute nephritis, not much benefit can be expected. On the other hand, in cases in which parenchymatous lesions predominate, *Viscum album* will be found to have a favorable effect.

April 13, 1908.

1. Observations on an Involution Form and on Cultures of *Trypanosoma Brucei*, By GENARO FUSCO.
2. Syphilitic Fever? By ANGELO CECONI.
3. A Case of Dupuytren's Disease, By A. B. GIANASSE.

**1. Cultivation of Trypanosoma.**—According to Fusco, the best medium for the cultivation of trypanosoma is a mixture of three parts of blood and one part of a two per cent. solution of sodium oxalate. In this medium, the red blood corpuscles remain unaltered for a long time at a temperature of 22° C. The trypanosoma in this medium preserves its characteristic shape for some time and rarely shows the rounded involution forms which are so frequently seen in other culture media. Some involution forms, however, with a large and a small nucleus each, and with a long filament, are noted in these cultures. Here and there isolated macronuclei are found. In a mixture of one part of a two per cent. solution of ammonium oxalate and of three parts of guinea pig's or white rat's blood, the trypanosoma develops in rounded forms with a large and small nucleus and a very long filament, while the protoplasm is but faintly staining and the large nucleus appears fragmented. In this medium the red blood corpuscles remain unaltered for a long time. If these involution forms of trypanosoma, which are met with in the blood and the organs of animals that died of trypanosoma infection, and in these various culture media be compared with the bodies studied by Leishman in kala-azar, it will appear clearly that there is no difference between them. Under the name of kala-azar or dumtum fever, there is a disease which flourishes in India, especially in the neighborhood of Calcutta, and is characterized by severe emaciation, an irregular remittent fever, and an enormous enlargement of the spleen. At first these cases are taken for malaria, yet no parasites of malaria can be found, nor does quinine relieve the symptoms. The patients suffer from a progressive muscular atrophy and a blackish pigmentation of the skin, as well as from occasional œdemas of the feet and lungs. Leishman found in the spleens of the patients that had died from this disease a large number of bodies bearing characteristics of the trypanosoma, but which he named the piroplasma of Donovan, which name was later changed to *Leishmania Donovanii*. The exact nature of this body has not yet been determined, but Rogers was able to transform Leishman's bodies into trypanosomas in the course of cultivation for ninety-six hours. From these studies it appears very probable that Leishman's bodies are involution forms of trypanosoma. The present author proves that identical bodies exist in the blood and the splenic pulp of animals that died of trypanosoma infection, and also in various culture media in which trypanosoma grows. In other words, Leishman's bodies, under special culture conditions, may

assume the appearances of trypanosoma, and *vice versa*.

### Proceedings of Societies.

#### THE ASSOCIATION OF AMERICAN PHYSICIANS.

*Twenty-third Annual Meeting, Held in Washington, May 12 and 13, 1908.*

The President, Dr. JAMES TYSON, of Philadelphia, in the Chair.

(Continued from page 957.)

**Nonfatal Coma in the Course of Diabetes.**—Dr. C. N. B. CAMAC, of New York, reported a case of well marked diabetes in an adult who had been under observation for six months. The patient became irascible, and accompanying this phenomenon the urine became lower in specific gravity and the quantity of glucose excreted was somewhat lessened. Diabetic acid disappeared and oxybutyric acid did not appear; but the coma, which was fully developed, was not accompanied by an increase of the urinary ammonia until the consciousness was returning; then it increased quite decidedly. Later the patient became hemiplegic, the blood pressure rose to between 170 and 180 mm., and death ensued. At the necropsy intracranious pancreatitis, chronic nephritis, cerebral softening, and general arteriosclerosis were the important lesions discovered.

Dr. S. SOLIS-COHEN, of Philadelphia, referred to a case in which the patient recovered from coma and lived twenty years. Six years before death glucose disappeared from the urine and was replaced by albumin. He referred to several cases in which recovery from coma had occurred.

Dr. JAMES EWING, of New York, said that he interpreted the case reported by Dr. Camac as one of genuine diabetic coma without acidosis.

Dr. THEODORE C. JANEWAY, of New York, said that it was difficult to judge whether the case was one of coma from diabetes, from uræmia, or from gross cerebral disease.

**The Atrioventricular Bundle, with a Report of a Case of Acute Ulcer on the Interventricular Septum.**—Dr. WALTER B. JAMES, of New York, exhibited a specimen in which there was a good sized ulcer involving the heart muscle in the region of the interventricular wall, which would involve the bundle of His. The patient was a man, aged sixty years, who had suffered from malignant endocarditis. He had a slow pulse, and simultaneous jugular and carotid tracings showed dissociation; the ventricles were beating at a rate of 50 a minute and the auricles at a rate of 100. There was at no time a Stokes-Adams syndrome. The speaker was of the opinion that many cases were reported as examples of heart block which, on critical analysis, appeared to be cases of extra systole. Reduplication of the first sound of the heart was the first indication of myocardial disease or of endocardial disease, or of both, in such diseases as acute rheumatism, for example.

**Intraventricular Systole.**—Dr. H. A. STEWART, of Baltimore, exhibited an instrument designed to give tracings of the events taking place at the valve orifices during their closure. By the use of this in-

strument he had been able to record some tracings in dogs, and they showed that the aortic orifice was closed during diastole, at least in part, by muscular action. It was further found by careful dissection that the aortic valve leaflets were attached to the ventricular muscle, and that this muscle was active in closing the aortic opening. He described the development of an aortic diastolic murmur in the course of certain diseases, such as typhoid fever and exophthalmic goitre, which disappeared as the convalescence of the patient progressed. Such a murmur he would interpret as depending upon the failure of the muscle to properly occlude the aortic opening during diastole.

**Heart Sounds Heard Early in Diastole.**—Dr. WILLIAM S. THAYER, of Baltimore, described a sound which he had often heard in early diastole while listening to the hearts of dogs which were being experimented upon. He had also heard similar sounds in examining children, and in quite normal individuals. The sound was soft and was associated with a visible shock, and sometimes with a palpable shock; it was increased by turning the patient on the left side. In five out of six cases the aortic murmur was accompanied by an "h" wave on the jugular tracing. The murmur described was similar in character to a murmur heard early in diastole in cases of mitral stenosis and in cases of galop rhythm. It was probably an event closely associated with the rapid entrance of the blood into the ventricle early in diastole. Dr. Thayer considered that the best hypothesis for the explanation of the sound was that during the first inrush of blood through the mitral and tricuspid orifices the valves were suddenly brought into tension, thus giving rise to the sound described. It was not uncommon in the normal heart or in the hearts of young individuals in early diastole after the second sound occurred.

Dr. A. A. ESHNER, of Philadelphia, said that he had heard such a sound as that described by Dr. Thayer. He had thought that the condition of the entrance of the blood into the ventricles during diastole was proper for the production of such a sound.

Dr. THAYER said that an analogous sound could be heard in cases of aortic insufficiency.

**Anæmia in Children.**—Dr. M. H. FUSSELL, of Philadelphia, reported the case of a boy, aged thirteen months, who had had a severe intestinal disturbance at the age of eight months. He was pallid and had an abdominal tumor, which was proved to be an enlarged spleen, enlarged lymph nodes, with myelocytes in the blood. The patient died. He considered the case to be one of the anæmia infantum pseudoleuchæmia of von Jaksch. He reported the case of a girl, aged seven years, who vomited blood. She was anæmic, and had an enlarged heart with a mitral presystolic and a mitral systolic murmur. The child died after a large hæmorrhage from the stomach. The examination of the blood showed 1,275,000 erythrocytes, 6,000 leucocytes, and twenty per cent. of hæmoglobin. At the necropsy the liver was found enlarged, pale, and pink in color; there was thrombosis of the hepatic vein; the spleen was enlarged; there were dilated œsophageal veins, from which the hæmorrhage had occurred. In this case the diagnosis was that of splenic anæmia dependent upon sepsis. The third patient was very anæmic,

presented a lemon yellow color, and suffered from rhachitis. There was an enlarged liver with an enlarged spleen. The blood examination showed 1,600,000 erythrocytes, 24,160 leucocytes, and twenty-four per cent. of hæmoglobin. There were forty per cent. of polymorphonuclear neutrophils, 40.1 per cent. of lymphocytes, and two per cent. of myelocytes in the circulating blood. The patient died of right apical pneumonia. The examination of the bone marrow showed a marked increase in the lymphocytes. This case was looked upon as an example of anæmia infantum pseudoleucæmia.

Dr. J. P. CROZER GRIFFITH, of Philadelphia, said that in his opinion the so called von Jaksch's anæmia was infantile leucæmia.

**Splenic Anæmia, Splenectomy, Recovery.**—Dr. MORRIS J. LEWIS, of Philadelphia, reported a case of splenic anæmia in which splenectomy had been done with recovery, and in which he had had the opportunity of studying the blood for seven years, four years before the removal of the spleen and three years after the operation. The patient had had a moderate anæmia, with continuous symptoms of dyspepsia. There was a sudden profuse hæmorrhage, for which gastroenterostomy was done with benefit on the theory that an ulcer had caused the bleeding. Later, splenectomy was done and the operation was followed by pleural effusion, pericarditis, and abscess in the wound. These inflammatory complications interfered with the accurate study of the blood, but there was marked eosinophilia, which persisted three years after the removal of the spleen. There was but little change in the percentage of lymphocytes in the blood.

Dr. JAMES B. HERRICK, of Chicago, and Dr. A. B. BLACKADER, of Montreal, referred to cases of splenectomy.

**The Relation of Urobilinuria to the Presence of Bile Pigment in the Blood.**—Dr. LEWIS A. CONNER and Dr. J. C. ROPER, of New York, had found that as a rule the amount of urobilin in the urine corresponded to the amount of bile pigment in the blood serum. In order to determine the amount of bile pigment in the blood, they employed a modified Gmelin's test as recommended by Gillert and Herscher. They found that in certain cases very high amounts of bile pigment in the blood were not accompanied by any urobilin in the urine. In certain cases of pneumonia there was urobilin in the blood serum without bile pigment. This phenomenon might be due to some action of the pneumococcus.

Dr. JAMES EWING, of New York, said that in puerperal eclampsia urobilin was found in the blood serum. He attributed the occurrence to a disorder of the hepatic function.

**The Relation of the Auditory Centre to Aphasia.**—Dr. ADOLPH MEYER, of New York, demonstrated the lesions found in the auditory centre in the superior temporal convolution of the cerebrum in certain cases of aphasia with the aid of admirable lantern slides and photographs of reconstructions. The specimens showed that in certain cases of aphasia there was an extensive lesion in the cortical auditory centre.

**The Pathology of Exophthalmic Goitre as Related to Clinical Symptoms, Being a Study of**

**Nearly 300 Cases Operated on by Dr. C. H. Mayo.**—Dr. LOUIS B. WILSON, of Rochester, Minn., exhibited numerous lantern slides showing the gross and microscopical appearance of the thyroid body, and the appearance of the patient suffering from exophthalmic goitre of varying degrees of severity. He divided the operative cases into the following groups: 1, A small intraalveolar parenchyma increase, with a small amount of thin secretion. 2, A large amount of intraalveolar increase, with a large amount of thin secretion. 3, A large amount of intraalveolar parenchyma increase, with a large amount of thin secretion and beginning degeneration. 4, Old intraalveolar parenchyma increase, with a large amount of thick secretion and advanced degeneration. 5, A small amount of multialveolar parenchyma increase, with a small amount of thin secretion. 6, A large amount of multialveolar increase, with a large amount of thin secretion. 7, A large amount of multialveolar parenchyma increase, with a large amount of thin secretion and beginning degeneration. 8, Old multialveolar parenchyma increase, with a large amount of thick secretion and advanced degeneration.

Dr. WILLIAM H. THOMSON, of New York, said that Graves's disease and exophthalmic goitre were not synonymous.

Dr. WILLIAM H. WELCH, of Baltimore, said that it was well known that the dogs in the Great Lake region showed parenchymatous changes in their thyroid glands, which disappeared on feeding the animals with iodine. In the neighborhood of Baltimore such changes were rarely met with.

Dr. J. G. ADAMI, of Montreal, said that the paper was an admirable one from the point of view of correlating the clinical with the pathological manifestations of enlargement of the thyroid gland with exophthalmos and tachycardia.

Dr. WILSON said he hoped that in time we should get away from the terms exophthalmic goitre and Graves's disease, and should designate all cases presenting the symptoms of enlarged thyroid, exophthalmos, and tachycardia as cases of hyperthyroidism.

**Erythromelalgia, Raynaud's Disease, and Allied Conditions in Their Relation to Vascular Diseases of the Extremities.**—Dr. B. SACHS and Dr. L. BUEGER, of New York, exhibited lantern slides to illustrate the opinion that Raynaud's disease and erythromelalgia were due to thrombosis of the veins of the lower extremities. The proper name for the condition, according to the writers, was thromboangitis obliterans. The two diseases were closely related to each other and to gangrene and intermittent claudication. There were, furthermore, some cases of loss of muscular power in old persons, which were diagnosed as cases of senile paraplegia, which were due to interference with the circulation in senile bloodvessels. The process was an ascending obliterative one, which began in the tributaries and the branches of the dorsalis pedis and plantar vessels and ascended until all the arteries and veins became occluded. In many of the vessels the histological preparations showed that the central clot was tunneled by small new vessels, which prevented the occurrence of gangrene. There was, in addition to the thrombotic process, perivascularitis with



proliferation of the connective tissue, matting vessels and nerves together. In other cases there was associated atheroma.

(To be continued.)

### Letters to the Editors.

#### THE WHITMAN BRACE.

126 EAST THIRTY-FOURTH STREET,  
NEW YORK, May 25, 1908.

#### To the Editors:

In an article entitled *The Restoration of the Normal Balance of the Foot*, by Dr. Abbott and Dr. Pingree, which appeared in the last issue of the *Journal*, an illustration of a Whitman brace is presented showing how, when unsupported by the shoe, it permits the front of the foot to slide away from it. As this brace can only be used in a shoe, the pertinence of the illustration is not apparent. Dr. Whitman has always insisted upon a proper shoe as an essential adjunct of the brace, and that the foot does not fall away from the brace when properly applied may be demonstrated by observation, more particularly by the imprint which is made by it on the inner margin of the entire foot.

The brace advocated by Dr. Abbott and Dr. Pingree is, from the Whitman standpoint, defective in that it does not provide lateral support; thus it cannot control the inward bulging significant of abduction, which is the characteristic of all grades of weak foot. The writers say that, if the sole plate is sufficiently arched and if the foot may be so balanced upon it that it does not slide away, abduction is prevented. Granting this, for the sake of argument, it is prevented indirectly by pressure on the soft tissues of the sole. It seems far more reasonable to prevent abduction directly, by lateral support, and thus to relieve the sole from abnormal pressure of the arch of the brace. Thus both lateral and direct support may be utilized to check deformity. Lateral pressure has another great advantage in that, on the one hand, it prevents the toeing out which is one of the principal predisposing causes of the weak foot, and, on the other hand, it induces the instinctive drawing away of the foot from this pressure toward a better attitude. This attitude, which, when confirmed by posture and by exercise, assures the cure, is aided by the slight leverage action of the brace, if properly adjusted. The lateral support and the leverage action are the distinguishing features of the Whitman brace, and that it is superior to those of the simple or negative type favored by the writers is confirmed, not only by observation of its effects, but by the testimony of intelligent wearers of the brace as well.

The advantage of taking the cast by the Whitman method is that the entire foot is reproduced instead of the irregular fragment illustrated in the article. Thus the changes to be made in the cast, upon which its fit and efficiency in some degree depend, may be made more intelligently. Overcorrection of the deformed foot, objected to by the writers, is, as in the treatment of any other deformity, considered an essential step in functional cure. It may be assumed that the majority of those

who use the Whitman brace have the advantage of having learned the details of its application by actual demonstration, after which the principles of treatment, of which it is an essential part, may be much better appreciated.

JOHN CARLING.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Bacteriology of Diphtheria.* Including Sections on the History, Epidemiology, and Pathology of the Disease, the Mortality Caused by It, the Toxines and Antitoxines, and the Serum Disease. By F. LOEFFLER, M. D., LL. D.; ARTHUR NEWSHOLME, M. D., F. R. C. P.; F. B. MALLORY, M. A., M. D.; G. S. GRAHAM-SMITH, M. A., M. D., D. P. H.; GEORGE DEAN, M. D.; WILLIAM H. PARK, M. D., and CHARLES F. BOLDUAN, M. D. Edited by G. H. F. NUTTALL, M. D., Ph. D., Sc. D., F. R. S., Quick Professor of Biology in the University of Cambridge, Fellow of Christ's College, and G. S. GRAHAM-SMITH, M. A., M. D., University Lecturer in Hygiene, Cambridge. Cambridge: University Press, 1908; London: H. K. Lewis; Leipzig: F. A. Brockhaus; New York: G. P. Putnam's Sons; Bombay and Calcutta: Macmillan & Co., Ltd. Pp. xx-718. (Price, \$7.50.)

This comprehensive treatise opens with several single page biographical sketches of the men whose names are so intimately associated with the history of diphtheria, namely, Bretonneau, Loeffler, Behring, and Roux. The text proper is divided into six sections, each written by an accepted authority, as follows: History of the disease, Professor Loeffler; epidemiology, Arthur Newsholme; pathology, Frank Mallory; the diphtheria bacillus, G. S. Graham-Smith; immunity, George Dean; mortality and serum treatment, William H. Park and Charles F. Bolduan.

The historical account, by Loeffler, quickly brings the reader to that wonderful epoch in medicine signalized by the discovery of the diphtheria bacillus, its toxine, and its antitoxine. The logical development of this phase of the subject is well set forth, and the important work done in this country is duly credited.

Newsholme, in his study on the epidemiology, concludes that "diphtheria is relatively more a continental than an insular disease," a statement which the reviewer believes is open to question. The author also gives interesting data on the epidemic and pandemic outbreaks of the disease, and then inquires into the reason for these occurrences. He finds this in the relation of the disease to rainfall, and says that "diphtheria only becomes epidemic in years in which the rainfall is deficient, and the epidemics are on the largest scale when three or more years of deficient rainfall immediately follow each other." It is interesting to note that Park and Bolduan, in discussing the same point, are rather skeptical concerning such a connection.

The section on the pathology of diphtheria, by Professor Mallory, is very complete, and is based on a study of 251 cases of the disease which came to autopsy in the Boston City Hospital. The general distribution of the local lesion was about the same as in other large series of cases. It is remarkable that a definite membrane occurred in but 148

of the 251 cases. Diphtheria bacilli could almost always be found microscopically in early cases when a definite membrane was present. They were not found in living tissue or on the surface of normal epithelium or even in those places which would be regarded as the primary lesion of the disease. Mallory therefore believes that the beginning of the lesion is probably due to the toxic action of bacilli growing in the fluids of the mouth or throat. When necrosis is once produced, the necrotic tissue and the membrane on its surface form a suitable culture medium. In this series of cases it was found that eighty per cent. of the patients who had been intubated showed bronchopneumonia. In cultures made from the lungs, streptococci were just about as frequent as diphtheria bacilli.

The section on the diphtheria bacillus, by G. S. Graham-Smith, is a veritable mine of information, and constitutes a welcome discussion of our present knowledge of the subject. The author points out the difficulties which have arisen in consequence of the loose nomenclature, and particularly owing to the indiscriminate use of the term "pseudodiphtheria bacillus." He then gives a minute description of the diphtheria bacillus and of Hoffmann's bacillus, and their relation to one another. In a special chapter on the diagnosis he also considers other diphtherialike organisms, among them the xerosis bacillus. Hoffmann's bacillus is held to be a distinct species, and not merely a nonvirulent variety of the diphtheria bacillus. There is an instructive table showing the action of diphtheria bacilli from various sources on different sugars and carbohydrates in the serum water medium of His and in broth. Space does not permit of even a mention of all the other excellences of this section.

Dean gives a scholarly account of immunity in diphtheria, first tracing the development of the subject to the time of the discovery of the diphtheria toxine. He then discusses the toxine in detail, and gives a clear picture of Ehrlich's conceptions of the nature of the diphtheria poison. The production of antitoxine is discussed very fully, and mention is made of Gibson's method of concentrating the antitoxic globulins. Ehrlich's theory concerning the toxine-antitoxine reaction receives considerable attention, and the conflicting views of Ehrlich, Arrhenius, and Bordet are clearly set forth. Dean wisely refrains from expressing an opinion as to which is nearest the truth.

The final section, by Park and Bolduan, gives a scientific and clear exposition of the manner in which statistics may be used to study the influence of treatment on the mortality from diphtheria. The various sources of error in previous computations are pointed out and avoided in the present study. This is based on the mortality returns from nineteen large cities, both here and abroad, and comprises statistics embracing a total population, in 1905, of over 23,000,000. One of the curves is particularly interesting. It shows the sudden drop in mortality which occurred in 1895, when antitoxine had just been introduced. The same authors have a chapter on serum sickness, and report excellent results following the use of concentrated and purified antitoxine made according to the Gibson process. In their discussion on the theory of the serum

rashes they refer to the work of Pirquet and Schick.

The book closes with an excellent bibliography, extending over more than sixty pages and well arranged typographically. Altogether this volume presents a convenient storehouse of authoritative information on diphtheria, and should accordingly be heartily welcomed by scientific workers everywhere. The reviewer recommends the book to all who wish to obtain accurate data on this important subject.

*Bier's Hyperæmic Treatment in Surgery, Medicine, and the Specialties. A Manual of Its Practical Application.* By WILLY MEYER, M. D., Professor of Surgery at the New York Postgraduate Medical School and Hospital, etc., and Professor Dr. VICTOR SCHMIEDEN, Assistant to Professor Bier, University of Berlin, Germany. Illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 209. (Price, \$3.)

Although many essays have appeared in our medical periodicals, and still many more papers on this subject have been read before medical societies, treating of Bier's *Stauungshyperæmie*—hyperæmic treatment, as translated usually; dammed circulation, as proposed by Ewart, of England—there has not been published so far an authoritative full account of the treatment. The profession will certainly welcome this addition to our literature.

Bier stated some years ago: "Hyperæmic treatment, used by Nature so extensively in combating all kinds of lesions, is destined to be far more employed than has hitherto been done." Our authors say rightly that it should not be assumed that the millennium has been introduced with this treatment. The physician must strictly follow the directions as laid down by Bier and his school, must be absolutely sure of the pro and contra indications, and must be thoroughly familiar with the technique. Then, and then alone, good results will be achieved. Hyperæmic treatment is not a panacea, and because it has been accepted as such by many, failures have been so often reported.

The profession will now have the means of trying this method of treatment exactly, and may accept or decline it.

*Surgery: Its Principles and Practice.* By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M. D., LL. D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume III. With 562 Text Illustrations and 10 Colored Plates. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 1132.

The first chapter in the present volume is on the surgery of the head, by Dr. Harvey Cushing, who gives an admirable presentation of the subject and states most truly that the prevailing impression in regard to the dangers and general utility of cerebral surgery, which hampers its advance, is due, in large measure, to the unsuccessful attempts of the untrained and inexpert.

The surgery of the neck is described by Dr. E. Wally Andrews, who favors Cole's method in operating in this region.

Albert Kocher reviews the diseases of the thyroid gland, and believes that surgical is superior to any other form of treatment in exophthalmic goitre, his own experience giving eighty-five per cent. of recoveries, while in simple goitre the largest share of treatment belongs to the internal.

The surgery of the nose and its accessory sinuses

is described by Dr. Harmon Smith in a brief and practical manner.

Dr. George E. Brewer has written the chapters on the surgery of the larynx and trachea and of the thorax.

The surgery of the breast is described by Dr. John M. T. Finney, who advises the complete extirpation of benign tumors, cysts, and malignant growths.

Mr. Edmund Owen is the author of the chapter on the surgery of the mouth, teeth, and jaws.

The surgery of the tongue is reviewed by Dr. John C. Da Costa in a somewhat brief fashion.

Dr. John C. Munro is the author of the chapters on the technique of abdominal surgery, on the surgery of the abdominal wall, and on the surgery of the peritonæum and retroperitoneal space. Necessarily these subjects are treated with brevity.

The surgery of the œsophagus is described by Dr. George Gottstein, who gives some interesting illustrations of findings of the œsophagoscope.

The chapter on the surgery of the stomach, by Mr. A. W. Mayo Robson, is one of the most satisfactory in the volume.

The chapter on the surgery of the liver, the gall-bladder, and the biliary duct is by Dr. William J. Mayo and Dr. Charles H. Mayo, and is a succinct presentation of the subject.

Mr. B. G. A. Moynihan is the author of the chapters on the surgery of the pancreas and of the spleen.

*Diseases of the Nose, Throat, and Ear.* Medical and Surgical. By WILLIAM LINCOLN BALLENGER, M. D., Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois, etc. Illustrated with 471 Engravings and 16 Plates. Philadelphia: Lea & Febiger, 1908. Pp. viii-17 to 905.

This work, which includes also the relation of the accessory sinuses to diseases of the eye, is thoroughly abreast of the times in taking into consideration the latest advances of medical science, especially in pathology and surgical technique, almost encyclopædic in scope, and, if any criticism was to be made, rather more than necessarily full in detail. This completeness is welcome and valuable in the chapters on treatment and operations, and the work will be found an excellent reference handbook for this reason. There is rather too much theory and a tendency to generalizing in the chapters on aetiology, pathology, and principles of treatment, which somewhat lessens its value for the student and its usefulness as a textbook. The practical chapters are by far the best, and it is to be noted that Ballenger has given us an excellent account of major operations in this special field, such as extirpation of the larynx, excision of the external carotid, osteoplastic resection of the upper jaw, and the external operation for pharyngeal abscess, which are often relegated to general surgeons by specialists who are not fully sure of themselves. The illustrations are very numerous and some of them are excellent. This applies particularly to the diagrams and instructive schemata, and to the half tone cuts. Others, notably the many woodcuts from rather mediocre line drawings, are uniformly on too small a scale, and must, if judged by the present high

standard of medical illustrations, be said to be inferior.

*Christian Science, the Faith and Its Founder.* By LYMAN P. POWELL, Rector of St. John's Church, Northampton, Massachusetts. New York and London: G. P. Putnam's Sons, 1907. Pp. xviii-261.

The author's purpose has been to write a book in which the average man who is not a Christian Scientist can find the things he wants to know about its theory and practice. He concludes that the good in that cult is the good in other religions, and needs therefore no special emphasis; that the evil is distinctive and needs analysis and publicity to make it evident; and, finally, that it is perilous for people to commit themselves to this crude faith, that is "repudiated with indignation by historic Christianity and with contempt by science, without a clearer understanding than is common of its insecure foundations and its inevitable implications." The author has made a most painstaking and comprehensive study of the subject, and his presentation of the facts is cogent and forceful.

*Gonorrhœa. Its Diagnosis and Treatment.* By FREDERICK BAUMANN, Ph. D., M. D., Professor of Genitourinary Diseases in the Reliance Medical College and Instructor in Dermatology and Venereal Diseases in the College of Physicians and Surgeons, Chicago. Fifty-two Illustrations in the Text. New York and London: D. Appleton & Co., 1908. Pp. xii-206.

This book is a very good manual of the diagnosis and treatment of the gonorrhœal infections of the genitourinary tract of the male. The subject is treated of in a concise and clear manner. Gonorrhœa in the female is only so far taken into consideration as it affects the urethra (Chapter xiv). A very short chapter treats also of the "vaccination" therapy of gonorrhœa.

On page 125 is reproduced an illustration taken from the German, which still contains German nomenclature. Could not this be changed into English in future editions?

*Die Praxis der Hautkrankheiten.* Unna's Lehren für Studierende und Aerzte, zusammengefasst und dargestellt von IWAN BLOCH, Berlin. Mit einem Vorwort von Dr. P. G. UNNA in Hamburg. Mit 92 Abbildungen. Berlin und Wien: Urban & Schwarzenberg, 1908. Pp. 698. (Price, 18 marks.)

This volume represents, as its title indicates, a collection of the teachings of Professor P. G. Unna in the field of dermatology, and the field is covered very thoroughly. The work is prefaced with an historical review of the recognition and treatment of affections of the skin from the earliest times, the author making a brief reference to conditions in the different epochs in history. The physiological anatomy of the skin and hair is treated of concisely, yet comprehensively, in the opening chapter, the text being illustrated with numerous excellent engravings. The morphology, biology, and pathogeny of the skin and tissues are considered in the opening chapters, practically the rest of the book being devoted to diagnosis and treatment. For those who are familiar with the German language and who desire to inform themselves regarding approved modern methods of treatment, this encyclopædic work should prove especially helpful. It is particularly rich in formulas, as might be expected when the number of both internal and external applications



for the treatment of skin diseases is considered. It is a book which can be unhesitatingly commended to the general practitioner as well as to the specialist.

*Geschichte der Laryngologie in Würzburg.* Von Professor Dr. Otto SEIFERT, Würzburg: A. Stuber, 1908. Pp. 68. (Price, 3.50 marks.)

This little book is an interesting historical sketch of the development of the study of laryngology at the University of Würzburg, and it may well be applied to all German universities.

*Die Erkrankungen der weiblichen Geschlechtsorgane.* Von Hofrath Prof. Dr. R. CHROBAK und Hofrath Prof. Dr. A. VON RUTHORN in Wien. II. Theil Die Missbildungen der weiblichen Geschlechtsorgane. Mit 90 Abbildungen und 2 Tafeln. Wien und Leipzig: Alfred Hölder. Pp. 272.

This section of the author's extensive work on gynecology is devoted, as the title indicates, to the deformities and anomalies of the sexual organs, both external and internal. It is very copiously illustrated, and some of the illustrations are very good. The surgical methods for remedying these abnormalities are also given, and at the end of each chapter is a very extensive bibliography which shows the enormous literature which is available upon this subject.

#### BOOKS PAMPHLETS, ETC., RECEIVED

Linné's Dietetik. Pa Grundvalen af dels hans eget Originalkast till Föreläsningar: Lachesis Naturalis Quae Tradit Dietam Naturalem. Och dels Lärjungeanteckningar efter dess hans Föreläsningar: Collegium Dieteticum. Pa Uppdrag af Medicinska Fakulteten i Uppsala. Ordnad och utgifven af A. O. Lindfors. Uppsala: Akademiska Bokhandeln (C. J. Lundström), 1907. Pp. 248.

Bref och Skrifvelser af och till Carl von Linné. Med Understöd af Svenska Staten utgifna af Upsala Universitet. Första Afdelningen. Del I. Stockholm: Aktiebolaget Ljus, 1907. Pp. 341.

Experimentella Undersökningar af Ledningens Natur i den hvita Nervsubstansen. Akademisk Afhandling af Gustaf Fr. Göthlin. Uppsala: Almqvist & Wiksells Boktryckeri A. B., 1907. Pp. 406.

Beiträge zur Entstehung der Geschwülste. Dritte Ergänzung zur "Geschwulstlehre für Aerzte und Studierende." Von Hugo Ribbert, ordentlicher Professor der allgemeinen Pathologie und pathologischen Anatomie, Direktor des pathologischen Institutes in Bonn. Mit 19 Abbildungen. Sechs beginnende Karzinoome der Gesichtshaut eines Mannes. Bonn: Friedrich Cohen, 1908. Pp. 31.

Zur Differentialdiagnose der Poliomyelitis anterior acuta (Myotonia congenita (Oppenheim) und Polynucleuritis). Inaugural-Dissertation zur Erlangung der Doktorwürde an der Friedrich-Wilhelms-Universität zu Berlin. Von J. Victor Haberman, A. B., M. D., ehemals vol. Assistent an dem Eppendorfer Krankenhaus zu Hamburg und an der königlichen Charité zu Berlin. Berlin: S. Karger, 1908. Pp. 48.

Der Tod aus Altersschwäche. Von Dr. Hugo Ribbert, ordentlicher Professor der allgemeinen Pathologie und pathologischen Anatomie, Direktor des pathologischen Institutes der Universität Bonn. Bonn: Friedrich Cohen, 1908. Pp. 85.

Medizinisches Literatur-u. Schriftsteller-Vademecum, 1907-1908. Herausgeber: H. Albert, Bibliograph. Hamburg: Franke & Scheibe, 1908. Pp. 648.

Thirty-second Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains. For the Year Ending October 31, 1907.

Report of the State Board of Managers of Reformatories. Thirty-second Annual Report of the New York State Reformatory at Elmira, and the Seventh Annual Report of the Eastern New York Reformatory at Naperville. For the Fiscal Year Ending September 30, 1907.

The Harvey Lectures. Delivered under the Auspices of the Harvey Society of New York 1906-7. By Prof. A. E. Wright, Professor C. A. Herter, Professor W. T. Porter, Professor J. G. Adams, Dr. S. J. Meltzer, Pro-

fessor F. G. Benedict, Professor E. B. Wilson, Professor George S. Huntington, Professor W. T. Councilman, and Professor Friedrich Müller. Philadelphia and London: J. B. Lippincott, 1908. Pp. 314.

The Sanitation of Recreation Camps and Parks. By Dr. Harvey B. Bashore, Medical Inspector for the Pennsylvania Department of Health. First Edition. First Thousand. New York: John Wiley & Sons. London: Chapman & Hall, 1908. Pp. xi-109.

State Board Questions and Answers. By R. Max Goeppe, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic; Assistant Visiting Physician to the Philadelphia General Hospital. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 684. (Price, \$4.)

Adenomyoma of the Uterus. By Thomas Stephen Cullen, Associate Professor of Gynecology in the Johns Hopkins University, Associate in Gynecology in the Johns Hopkins Hospital. Illustrated by Hermann Becker and August Horn. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 270. (Price, \$5.)

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending May 29, 1908:

Places.	Date.	Cases.	Deaths.
California—Los Angeles.....	May 29.....	2	0
California—San Francisco.....	May 29.....	6	0
District of Columbia—Washington.....	May 9-10.....	8	1
Illinois—Chicago.....	May 9-10.....	1	0
Illinois—Danville.....	May 10-11.....	1	0
Indiana—Fort Wayne.....	May 9-10.....	2	2
Indiana—Indianapolis.....	May 10-11.....	3	0
Iowa—La Fayette.....	May 11-13.....	2	0
Iowa—Cass County.....	May 13.....	12	0
Iowa—Ottumwa.....	May 9-10.....	1	0
Kansas—Kansas City.....	May 9-10.....	4	0
Kansas—Topeka.....	May 9-10.....	3	0
Kentucky—Covington.....	May 9-10.....	2	0
Louisiana—Minden.....	May 10-11.....	10	0
Louisiana—New Orleans.....	May 9-10.....	7	0
Michigan—Grand Rapids.....	May 9-10.....	1	0
Michigan—Port Huron.....	May 9-10.....	5	1
Michigan—Saginaw.....	May 9-10.....	3	0
Minnesota—Winona.....	May 9-10.....	1	0
Missouri—Kansas City.....	May 9-10.....	18	0
Montana—Butte.....	May 9-10.....	3	0
Nebraska—South Omaha.....	May 9-10.....	1	0
New York—New York.....	May 9-10.....	3	0
North Carolina—Charlotte.....	May 9-10.....	1	0
Ohio—Bowling Green.....	April 23-May 25.....	1	0
Ohio—Cincinnati.....	May 9-10.....	9	0
Ohio—Dayton.....	May 9-10.....	1	0
Ohio—Newark.....	May 9-10.....	1	0
Ohio—Starnesville.....	Feb. 21-May 18.....	99	0
Tennessee—Knoxville.....	May 9-10.....	1	0
Texas—Galveston.....	May 9-10.....	12	0
Washington—Seattle.....	May 9-10.....	1	0
West Virginia—Parkersburg.....	May 9-10.....	0	0
Wisconsin—La Crosse.....	May 9-10.....	0	0
Wisconsin—Milwaukee.....	May 9-10.....	2	0
Foreign—			
Araby—Alex.....	May 9-10.....	1	0
Brazil—Rio de Janeiro.....	May 9-10.....	1	0
Canada—Montreal.....	April 23-May 18.....	35	11
Canada—Quebec.....	May 9-10.....	4	0
Canada—Winnipeg.....	May 9-10.....	1	0
China—Hong Kong.....	May 9-10.....	1	0
China—Shanghai.....	May 9-10.....	1	0
France—Paris.....	May 9-10.....	1	0
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## YALDE LEVER. Foreign.

Brazil—Manaus.....	April 11-18.....	1
Brazil—Para.....	April 19-26.....	3
Mexico—Laguna.....	May 18.....	1

## Chile. Foreign.

French Indo China.....	March 28-April 12.....	26
India—Bombay.....	April 14-21.....	3
India—Calcutta.....	April 4-11.....	221
India—Madras.....	April 11-17.....	3
India—Rangoon.....	April 4-11.....	1

## Phague. Insular.

Philippine Islands.....	April 4-11.....	4
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## Phague. Foreign.

Brazil—Rio de Janeiro.....	April 12-19.....	1
Chile—Antofagasta.....	April 11-18.....	20
Chile—Arica.....	April 11-18.....	Present.
Chile—Iquique.....	April 11-18.....	12
China—Hongkong.....	March 28-April 11.....	19
India—General.....	April 4-11.....	10,999
India—Bombay.....	April 14-21.....	3,490
India—Calcutta.....	April 4-11.....	142
India—Rangoon.....	April 4-11.....	16
Japan—Osaka.....	April 4-11.....	5
Porto General.....	April 11-18.....	87
Venezuela—La Guayra.....	March 1-May 7.....	80
		Estimated.

## Army Intelligence:

Official list of changes in the stations and duties of officers of the medical corps of the United States Army for the week ending May 16, 1908:

- CHAMBERLAIN, W. P., Captain. Granted an extension of twenty days to his leave of absence.
- CHURCH, J. R., Captain. Granted leave of absence for one month, about June 1st.
- GRUBBS, R. B., Captain. Ordered to Fort McIntosh, Tex., for duty, at the expiration of his present leave of absence.
- HARVEY, P. F., Colonel. Detailed to represent the Medical Department of the United States Army at the meeting of the American Medical Association, Chicago, Ill., June 2d to 5th.
- MUNSON, E. L., Major. Detailed to represent the Medical Department of the United States Army at the meeting of the American Medical Association, Chicago, Ill., June 2d to 5th.
- POWELL, W. A., Captain. Relieved from duty at Jefferson Banks, Mo., in time to sail July 5th from San Francisco, Cal., for the Philippine service.
- RAYMOND, T. U., Major. Ordered to perform the duties of chief surgeon, Department of Colorado, during the absence on leave of Lieutenant L. A. LaGarde, in addition to duty as surgeon, Fort Logan, Col.
- RUSSELL, F. F., Captain. Ordered to London, England, for a course of study in the British Army Medical School on the treatment of typhoid fever.
- SILER, J. F., Captain. Relieved from duty at Fort Des Moines, Ia., and ordered to Fort Slocum, N. Y., for duty.
- VOSE, W. E., Captain. When relieved from duty at Fort Slocum, N. Y., ordered to Fort Des Moines, Ia., for duty.

The following officers of the medical corps are detailed as chief surgeons at the respective manœuvre camps:

- Chief Surgeon, Department of California, at Atascadero Ranch, Cal.
- Chief Surgeon, Department of Colorado, at American Lake, Wash.
- Chief Surgeon, Department of East, at Pine Camp, Jefferson County, N. Y.
- Chief Surgeon, Department of Gulf, at Chickamauga Park, Ga.
- Chief Surgeon, Department of Lakes, at Fort Benjamin Harrison, Ind.
- Lieutenant Colonel J. M. Banister, at Fort Riley, Kan.
- Lieutenant Colonel A. H. Appel, at Fort D. A. Russell, Wyo.
- Chief Surgeon, Department of Texas, at Leon Springs, Tex.

The following officers of the medical corps are ordered to accompany troops from their respective posts to duty at the manœuvre camp, Pine Camp, Jefferson County, N. Y., June 15 to July 15, 1908:

- KENDALL, W. P., Major. Fort Ethan Allen, Vt.
- PEED, G. P., Captain. Fort Ontario, N. Y.
- PIERSON, R. H., Captain. Fort Niagara, N. Y.
- WEEF, F. W., Captain. Plattsburg, N. Y.

## Navy Intelligence:

Official list of changes in the stations and duties of officers of the medical corps of the United States Navy for the week ending May 30, 1908:

- CASTO, D. H., Assistant Surgeon. Detached from the *Maine* and ordered to the naval station, Guam, L. I.
- CATHER, D. C., Passed Assistant Surgeon. Commissioned a passed assistant surgeon on July 9, 1907.
- HOLEMAN, C. J., Assistant Surgeon. Detached from the naval training station, San Francisco, Cal., and ordered to the *Charleston*.
- LANE, H. H., Assistant Surgeon. Appointed an assistant surgeon from May 5, 1908.
- McMURDO, H. B., Acting Assistant Surgeon. Ordered to the naval training station at San Francisco, Cal.
- MAYERS, G. M., Passed Assistant Surgeon. Ordered to continue treatment at the Naval Hospital, Mare Island, Cal.
- MUNGER, C. B., Assistant Surgeon. Detached from the *Supply* and ordered to the *Maine*.
- OLD, E. H. H., Assistant Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered to Washington, D. C.
- REED, E. M., Assistant Surgeon. Detached from the *Charleston* and ordered to the navy yard, Mare Island, Cal.
- WARNER, R. A., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from May 3, 1908.

## Births, Marriages, and Deaths.

## Born.

CRUMP.—In Pittsfield, Massachusetts, on Tuesday, May 12th, to Dr. Irving Crump and Mrs. Crump, a son.

## Married.

BOTTOMLEY—KENNEY.—In Boston, on Wednesday, June 3d, Dr. John Taylor Bottomley and Miss Mary Agnes Kenney.

EMERSON—SKILTON.—In Boston, on Wednesday, May 27th, Dr. William Robie Patten Emerson and Miss Edna Skilton.

KANAR—RYDER.—In Albany, New York, on Tuesday, May 19th, Dr. William P. Kanar and Miss Margaret Edythe Ryder.

TOWNSEND—ADEE.—In Westchester County, New York, on Wednesday, June 3d, Dr. Raynham Townsend and Miss Julia Stanton Adee.

## Died.

ARCHIBALD.—In Slaughtersville, Webster County, Kentucky, on Monday, May 25th, Dr. L. A. Archibald.

BELL.—In Hampton, Virginia, on Sunday, May 17th, Dr. William S. Bell, aged eighty-four years.

COREY.—In Fredonia, New York, on Monday, May 25th, Dr. M. S. Corey, aged eighty-one years.

DAVIS.—In West Edmeston, New York, on Tuesday, May 26th, Dr. A. C. Davis.

DAVIS.—In Chicago, on Tuesday, May 19th, Dr. Wilson H. Davis, aged sixty-five years.

GALVIN.—In Louisville, Kentucky, on Monday, May 25th, Dr. Robert Emmett Galvin, aged forty-one years.

HAZARD.—In Cincinnati, on Sunday, May 24th, Dr. James Henry Hazard, aged sixty-two years.

HOPKINS.—In Brooklyn, on Saturday, May 23d, Dr. George Gallagher Hopkins, aged sixty-five years.

HORTON.—In Hammondsport, New York, on Sunday, May 24th, Dr. John T. Horton, aged fifty-one years.

HYLAND.—In New Amsterdam, New York, on Tuesday, May 26th, Dr. Thomas G. Hyland, aged fifty-one years.

LYON.—In Wheaton, Illinois, on Sunday, May 24th, Dr. Ellen Hancock Lyon, wife of Dr. H. N. Lyon.

McGINLEY.—In Chicago, on Tuesday, May 19th, Dr. James B. McGinley, aged forty-eight years.

PETTIS.—In Detroit, Michigan, on Friday, May 22d, Dr. A. J. Pettis, aged thirty-eight years.

RAYNER.—In Philadelphia, on Thursday, May 21st, Dr. Thomas Buckley Rayner, aged seventy-four years.

TROWBRIDGE.—In Buffalo, New York, on Wednesday, May 20th, Dr. Grosvenor R. Trowbridge, aged forty-five years.

# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

VOL. LXXXVII, No. 24.

NEW YORK, JUNE 13, 1908.

WHOLE No. 1541

### Original Communications.

#### HYGIENE AND MANAGEMENT OF PREGNANCY.\*

By AUSTIN FLINT, JR., M. D.,  
New York.

That part of the subject which has been assigned me by the president is a large one, if considered in detail. I shall therefore take it up in a general way from the standpoint of the general practitioner and try to emphasize those points which, in my experience, are often neglected.

In recent years many important advances have been made in the management of pregnancy which are far reaching in their results, for the welfare of both mother and child. It is not too much to say that most of the complications of labor and the puerperium can be forestalled and the dangers materially lessened by proper prophylaxis.

The first point to impress on physicians generally and on patients is the wisdom of assuming charge of the patient as soon as the diagnosis of pregnancy is made. Too often the patient postpones the employment of a physician until pregnancy is well advanced.

It will be more convenient to consider the management by dividing pregnancy into three periods of three months each. The first period comprises the time from the beginning of pregnancy until the end of the third month. I am accustomed to explain to patients that during this time it is necessary to observe the ordinary rules of health. The changes in the maternal organism are so manifold and the dividing line between health and disease is so ill defined that derangements, which in the non-pregnant condition are unimportant, may in the pregnant state give rise to pathological conditions which seriously affect the health of the mother and child.

Under ordinary circumstances a patient may be allowed to lead her usual life without restriction. She should be encouraged to take exercise in the open air, limited to walking; eat regularly, but only of plain food, and keep regular and early hours. As a rule, a pelvic examination is not necessary during this period.

Vomiting is the only symptom which needs careful investigation. When slight and limited to the morning, no treatment is necessary beyond some care in diet and perhaps some of the simple tonics. When vomiting is marked and persistent, an at-

tempt should always be made to discover its origin. A convenient working rule is to recognize three distinct types, neurotic, reflex, and toxæmic.

The neurotic is the most frequent and ordinary type, and may be distinguished by the exclusion of reflex irritation and toxæmia. It ordinarily begins at about the sixth week and continues until the beginning of the fourth month. Regulation of diet and removal of constipation, with the administration of five grain doses of cerium oxalate, will ordinarily improve the condition. In some cases pepsin, bismuth, or small doses of cocaine will produce excellent results. If vomiting is persistent, a pelvic examination and an examination of the urine should always be made.

The reflex type of vomiting is due to some pathological condition of the pelvic organs, a backward displacement of the uterus being the most common. Corrections of this condition and holding the uterus up by a suitable pessary is followed by a prompt cure. I am one of those who believes in the good effects of dilatation of the cervix, originally recommended by Copeman, although it is said that the good effects are often due to suggestion. The results of local treatment in cases where there is erosion and laceration of the cervix are often most satisfactory. Ovarian cysts demand removal, and an early operation should be advised.

If no pathological condition can be found on examination the case probably belongs to the toxæmic type.

**Toxæmic Type.**—Here the condition is properly called pernicious vomiting. It must be recognized that pernicious vomiting often begins as an ordinary neurotic or hysterical vomiting, and the patient may become toxæmic secondarily.

The recent work of Stone, Ewing, and Whitridge Williams has marked the most important advances in our knowledge of the management of pregnancy. Until then we knew very little about the pathology of pregnancy and what pernicious vomiting really meant. The diagnosis is made by the results of a chemical examination of a twenty-four hour specimen of urine. The presence of albumin and casts is significant of renal irritation only. In toxæmia of pregnancy, there is a profound disturbance of metabolism, indicated by a diminution of the total nitrogen and a relative increase of ammonia nitrogen. Williams has shown that the "ammonia coefficient" in the last half of pregnancy varies between four and five per cent., but in toxæmic vomiting it rises to ten, twenty, or even thirty per cent.

As soon as the diagnosis of toxæmic vomiting is

\*Read before the Medical Society of the County of New York at a conference on Obstetric Prophylaxis.



made the uterus should be emptied. In hyperemesis it is better to interfere too early than too late. The indication is based as much on the clinical picture as on the urinary findings. I have long taught that when vomiting is accompanied by weekly loss of weight, progressive exhaustion, and failure of the usual medicinal measures no time should be lost in emptying the uterus.

The change in the nitrogen distribution in the urine is an absolute indication for early abortion. The operation should be followed by copious enemas of saline solution, and little if any food given by mouth. Gastric lavage sometimes gives great relief.

In the second period of pregnancy I consider regular systematic examination of the urine as the most important part of the management. This should be done every second week up to the last month, when the interval should be every week.

The danger of the occurrence of eclampsia increases as pregnancy advances, and the only way that we can be forewarned of danger is to insist upon regular examinations. It is not necessary to go into details of management under abnormal conditions.

**Diet.**—During this period a full diet may be allowed, interdicting only wines and the more indigestible and richly flavored articles of food.

The patient should be instructed in regard to the value of beginning regular walking exercise, so that it can be continued without fatigue during the next period.

**Third Period.**—This is the time when prophylaxis is productive of best results. The points to be considered are: 1, Pelvic mensuration; 2, physical examination; 3, diet; 4, exercise; 5, care of the breasts; 6, examination of the urine.

**First.**—Pelvic examination is now the routine, almost as much in private practice as in hospitals. It is the only way that a diagnosis of pelvic contraction can be made. When we remember that contraction occurs in from twelve to fourteen per cent. of all cases the importance of careful measurements can be appreciated.

About six weeks before the date of confinement the patient should be instructed to stay in bed, and a physical examination, including the pelvic measurements, should be made.

I have found that there is seldom any objection on the part of the patient when its importance is explained. In cases where the pelvic measurements are small, six weeks allows ample time for interference.

A diagnosis of position and presentation can easily be made at this time and confirmed by subsequent examinations made from time to time, up to the beginning of labor. The size of the uterus, quantity of amniotic fluid, and the size of the child should be estimated. In primipara especially, and in all cases where the child seems large, good results follow a restriction of diet. In ordinary cases the restriction need be merely general, the patient being cautioned not to overeat. When real dystocia is feared the diet may be cut down to the smallest possible quantity in twenty-four hours. As pregnancy advances the relative size of the head

and the pelvic brim should be tested from time to time by trying to push the head down by external pressure. (Muller's test.)

For many years occasional mention has been made in obstetric literature in regard to the value of regulating the diet in pregnant women, with the object of preventing the overgrowth or full development of the child, and so preventing difficult labor.

This regulation was formerly limited to a reduction of the proteids, and I have unquestionably obtained good results by this method. A year or two ago my attention was brought to the results of the more scientific regulation of the diet, as recommended by Prochownik. Recognizing the high mortality in premature children when labor was induced for pelvic contraction, Prochownik applied the principles of dieting, which he had previously used for reduction of weight in adults, for the purpose of reducing the weight of children born at term. This procedure was employed as a substitute for the induction of premature labor in cases of moderate pelvic contraction. The results were favorable in all instances.

In cases of moderate pelvic contraction, or when dystocia from other causes is anticipated, Prochownik's diet should have a wider use. Contrary to previous ideas, this diet eliminates as far as possible all fluids and carbohydrates, allowing proteids and green vegetables, but these only in limited amounts. Then to fourteen ounces of fluids during the twenty-four hours was the original allowance. This is a diet which I have never strictly carried out, but have often approximated in cases where I have feared a difficult delivery. I can speak well of its value in preventing oversized children, and so far have never seen any ill effects. I have always been extremely careful to watch the urine closely, and increase the fluids whenever there seemed to be any kidney irritation. I have occasionally found a trace of albumin in the urine, but it has always been transitory, and disappeared after a temporary increase in the amount of fluids taken by mouth.

The general health of patients should be carefully supervised. An abundance of fresh air and walking exercise is of the greatest value. Beginning with a walk of at least half a mile during the middle third of pregnancy, the daily walks should be increased to two miles during the last two months, and this can usually be accomplished without fatigue. Nothing will favor preliminary softening of the lower uterine segment and allow the head to sink down through the pelvic brim as well as these daily walks. It is not unusual to find the head in the excavation of the pelvis and the cervix soft and partially dilated a week or ten days before the onset of labor, even in primipara.

During the last third of pregnancy the patient should be instructed in regard to proper clothing. An abdominal binder or corset should be worn, so as to hold the uterus up, and hold the long axis of the child in the axis of the pelvic inlet.

The corset or abdominal supporter not only contributes materially to the woman's comfort, but its use is almost necessary during the time of exercise

if we wish to produce a preliminary softening of the lower uterine segment. In cases in which this softening is marked a short first stage may confidently be expected.

A factor in labor which can never be definitely prognosticated is the quality of the labor pains. In a vigorous woman, with good muscular development and in good health, nothing need be done in the nature of trying to improve the strength of uterine contractions. On the other hand, if the health is below par, if the patient says that she tires easily and cannot walk as far as she should, and especially if the pulse is weak, moderate doses of strychnine, with small doses of quinine, should be given regularly three times a day for the last six or eight weeks. This plan has been used by many observers with results that seem variable. There is no doubt that, in suitable cases, it is a most valuable aid. I have made use of it in a number of multipara, with histories of prolonged labor, and have invariably found that it caused stronger pains, a shorter labor, and guarded against the danger of postpartum hemorrhage, or a relaxed flabby uterus after the birth of the child.

Care of the Breasts.—At the time when the regular physical examination is made the condition of the breasts and nipples should always be ascertained.

The old saying that "every healthy woman should nurse her own child" is as true now as it was years ago. When no attention is paid to the preparation of the nipples nursing is an ordeal which is justly dreaded by a woman about to become a mother. When properly prepared for, nursing should not only be painless, but usually proves to be a source of intense satisfaction to all concerned.

Beginning about six weeks before the calculated date of confinement, the nipples should be painted over with a solution of tannic acid in glycerin every night and at the same time be manipulated and drawn out for a few minutes at a time. It is said that manipulation of the nipples may cause premature uterine contractions, but I have not seen this in any of my cases. The patient should be instructed to so arrange the clothing that the nipples are not pressed upon. The recommendation that the nipples should be bathed occasionally in some astringent, such as alcohol or bay rum, is also of value.

Examination of the Urine.—It is especially important that regular examination of the urine should be made. This should be done at least once a week for the last six weeks, in order to be forewarned as much as possible in regard to the ever increasing danger of eclampsia.

A physician does not perform his duty to his patient who does not make it a rule to personally see her at frequent intervals during the entire period of pregnancy. It is impossible to treat the pregnant condition in any other way.

Every one who has had even a moderate obstetrical experience knows that a large number of cases which were formerly regarded as physiological really are pathological. As an example, it is only necessary to remember that toxæmia is now known to be the cause of the vomiting in many

cases which were formerly regarded as physiological "vomiting of pregnancy."

As an illustration that a woman may suddenly, with hardly any warning, develop a serious condition in pregnancy, the following unusual case is briefly reported:

CASE.—K. M. was admitted to Bellevue Hospital on April 28, 1905. She was a primipara at term and apparently in her usual health and had had no previous illness. Two days after admission, she complained of slight pains in the abdomen, but it was considered to be of trifling moment. She was given free catharsis and felt considerably better. May 3d (three days later), she again began to complain of pain in the abdomen and back, and in addition vomited after meals. She was put to bed on a milk diet and a twenty-four hour specimen of urine examined with negative results. She then developed headache, slight vertigo, vomiting, and pain in abdomen, which continued until May 9th, when she was transferred to my service at the Emergency Hospital. The urine on examination on May 7th showed a faint trace of albumin, specific gravity 1.013, total quantity thirty-eight ounces, and urea 4.5 grains to the ounce; no casts. Pulse was 80, regular, of good quality and normal tension. On the day she was transferred, it was noticed for the first time that she was slightly jaundiced. Physical examination was negative, excepting that "liver percussion showed dullness in sixth space, and dull tympany to free border of ribs; edge not felt," whereas on admission it was noted as "dull in fourth space, flat in fifth space." This showed a distinct diminution in the size of the liver, which was significant of a possible acute yellow atrophy.

She was put under chloroform and the cervix dilated. In the afternoon, although there were moderately strong pains, she did not progress rapidly, and in the evening the cervix was again manually dilated, followed by immediate version and delivery of a female child. After delivery, the general condition was good, but she did not sleep, and four hours later vomited some dark brown material. On May 10th (the next day), condition was fair, she complained of headache through the day; was given a calomel series and saline irrigations of colon. On the 11th, vomiting continued. In the afternoon phlebotomy was performed, and six ounces of blood withdrawn, followed by a saline infusion of 1,200 c.c., which improved her condition markedly. She slept quietly, pulse 96, regular, full, of good force and size. During the evening she had a sudden attack of syncope and became pulseless, with shallow and rapid respiration. She was given oxygen, stimulation, etc. *No cyanosis.* Colon was again irrigated with six gallons of saline and she improved slightly. She was conscious and rational, but the jaundice deepened rapidly. During the night she had muscular twitching of the face and extremities, and early in the morning became mildly delirious, and complained incessantly of thirst and pain in the abdomen. Her condition became gradually weaker during the day; pupils contracted and pulse almost imperceptible. The jaundice became more marked and there was a distinct uræmic odor. She died about 3 p.m.

The diagnosis of acute yellow atrophy of the liver was confirmed by a careful autopsy by Dr. Norris, the report of which is too long to be quoted.

The urine examinations on May 10th were characteristic. Amount 1,000 c.c., specific gravity 1.010; highly colored, with a heavy sediment of mucus and epithelial cells. The total nitrogen was 7.25 grammes, ammonia nitrogen 0.725 gramme; urea, 4.32 grammes; and uric acid, 0.52 gramme. "Considerable leucocytes and bacteria, which form a large part of the rest of the nitrogen."

This case was studied by Dr. Lwing and Dr. Beebe, and the pathological findings incorporated in papers by them, but so far has not been reported clinically.

The lesson it teaches, namely, the necessity of careful urinary and physical examinations in all cases of pregnancy, is obvious.

## SUPRAPUBIC PROSTATECTOMY IN TWO STAGES.

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The operation described in the title has given me such a sense of security in dealing radically with so called bad operative risks that I wish to describe the method in detail and to illustrate its enormous advantages with the aid of a few histories. No matter how feeble the patient, or how desperate the emergency, one may feel sure that by operating in two stages by the suprapubic route our patient is incurring the absolute minimum of hazard.

As in the modern teaching of mathematics the student is made to deduce the rule after having worked out the problem, so it may be instructive here to recount some typical histories and to deduce from them the principles which shall govern us in the treatment of similar cases.

CASE I.—J. M., fifty-nine years old, had been suffering for many years with symptoms of prostatic obstruction. There were periods of acute prostatism during which the frequent use of the catheter was necessary, but for months at a time he would worry along with occasional catheterization and urination by overflow. Finally he set the day for operation, but twenty-four hours before the time appointed a rather severe bleeding began. His physician tried every means at his command to relieve him, but acute hæmorrhage resulting in prostration with great pallor and small pulse threatened his life, and operation with incomplete preparation had to be performed.

Under light chloroform narcosis a suprapubic cystotomy easily emptied the distended bladder of its contents—urine and a large quantity of blood clot. In Trendelenburg's posture, a bleeding vessel at the most prominent part of an enlarged middle lobe was easily seen and touched with the actual cautery. A few gauze packings and tube siphonage completed the procedure. There was no more bleeding. The patient soon recovered from the shock of the rapid depletion, and in four days was once more lightly anesthetized, and the prostate enucleated through the original wound.

The man had been told that the second anæsthesia was for the purpose of removing the gauze packings from his bladder, and not until he was well on toward recovery did he learn that the operation had not been completed at the first sitting.

It seems probable that prostatectomy at the time of the first operation during the shock of the recent hæmorrhage would have proved fatal.

CASE II.—W. S., sixty-three years old, had for two years complained of symptoms of obstruction due to enlarged prostate. The urine had been cleared by urotropin and there was no history of hæmorrhage. Several attacks of retention. Suprapubic cystotomy under local anæsthesia was followed by the usual relief which drainage of the bladder affords, the patient being out of bed on the second day and walking about after the third day. One week later, in chloroform anæsthesia, the prostate was enucleated. Hæmorrhage was very slight. Packings and tube as usual. The patient sat up out of bed the next day, and in three days was permitted to walk a little. The urine did not become clear of blood, however, a considerable oozing gradually going on, so that at the end of another week he had become quite anæmic and had to go to bed again. Astringent washes and efforts to secure hæmostasis by the more usual means were unsuccessful, so two weeks after the prostatectomy it was necessary to anesthetize once more, elevate the pelvis of the patient and look into the bladder. The picture was an extremely interesting one. The prostatic wound seemed to have completely healed, a deep and wide sulcus having taken the place of the bulging organ at the base of the bladder. The bleeding came from an arteriole in the mucous membrane of the right side of

the bladder, close to the depression where the prostate had been. This arteriole was not in a part of the mucosa which had been wounded during operation, but lay in an otherwise healthy fold at least an inch to the right. It is possible that the tube had caused the abrasion. The point was touched with the Paquelin. Hæmorrhage was instantly checked, and the patient was sent to bed without any intravesical packing, and with the tube so short that it barely entered the suprapubic wound in the bladder. Recovery was now rapid and uneventful.

The beautiful and perfect exposure with the suprapubic incision, aided by Trendelenburg's posture, made it possible to save this man's life.

CASE III.—I was called to see Isaac W., seventy-five years old, his bladder distended to his umbilicus, his pulse hard, tongue dry, and his arteries degenerated. He was cyanotic, and his sensorium was clouded. Catheterization was difficult, and the surroundings of the patient were such that instead of emptying the bladder and then partly filling it with salt solution, I adopted the more ancient custom of leaving one half the urine within the viscus, advising an immediate removal to the hospital for operation.

This man's condition was truly alarming, and confidence in his resisting power was still further lessened by his gaunt and hollow eyed appearance. On arrival at the hospital he was stimulated with strophanthus and judiciously catheterized until the next day, when cystotomy, under local anæsthesia, was performed. Hæmorrhage was practically absent. No vessel had to be tied. After even this slight operation his condition became so critical that for several days his death might have been hourly expected. Gradually, however, he improved, and by the end of the second week he was out of bed and on his feet. I attribute much of his weakness to the fact that he had been bedridden for two weeks before he came under my observation, a serious error in the treatment of this disease in the aged.

After the expiration of two weeks the second stage of prostatectomy was performed under short general anæsthesia. Forty-eight hours afterward he was out of bed and made an uninterrupted though rather slow recovery, the wound being entirely healed in four weeks from the time of the second operation.

Had this man succumbed after the first operation, the cystotomy, the prostate not having been touched, it seems reasonably certain that his death would all the more have been inevitable had the entire operation been performed at one time. Death after the first operation could certainly not have been ascribed to suprapubic prostatectomy.

It is hardly necessary to multiply histories of this kind. They are so similar that little is to be learned from the repetition, except that each succeeding case may be approached with greater and greater confidence. The patient is taking his risk in instalments, as it were, and, instead of being put once in great jeopardy, he has been put twice in comparatively little danger.

The advantages of the operation may be summed up about as follows:

1. The dangers of serious hæmorrhage are minimized, both on account of the lapse of time between the two stages, and also because the functional rest of the bladder after cystotomy greatly reduces the congestion of the mucous membrane.

2. The total time of operation, including both stages, is considerably shortened, the time of general anæsthesia being reduced not one half, but probably three quarters. The combined time of the actual operative procedures is rarely more than seven minutes and often less than five. Shock, which is a combination of the effects of hæmorrhage and length of operation, is therefore greatly reduced. Patients who succumb after the cystotomy would almost certainly have died following cystotomy plus prostatec-



tomy; in fact, a death following cystotomy could not be ascribed to prostatectomy in two stages.

3. The exploration of the bladder by sight and touch at the time of the cystotomy is most perfect, and the surgeon has time between operations to lay out his plan of attack and to get his patient in excellent physical condition. The suprapubic incision and the Trendelenburg posture permit of the most careful scrutiny of every part of the interior of the bladder, and the operator is given an opportunity of observing from within the actual conditions and causes of the obstruction. Preliminary cystoscopy is not only unnecessary, but extremely ill advised, for cystoscopy in the class of individuals under discussion is by no means without danger. To show how unnecessary and even misleading cystoscopy may be in these cases I present:

CASE IV.—A. W., aged seventy-six, had hæmaturia and dysuria for a number of months. Cystoscopy by another surgeon demonstrated rather doubtfully the presence of an enlarged prostate, the left lobe being principally involved. I planned a two stage prostatectomy, but at the preliminary cystotomy an isolated, ulcerated tumor of the vesical wall was clearly demonstrated and was recognized as a malignant growth. The tumor was the size of a silver quarter and occupied a position in the left lower part of the bladder, above and anterior to the urethral opening.

I made a wide excision of the tumor through all the coats of the viscus, reuniting the bladder walls with sutures of catgut within and silk without. The suprapubic wound was permitted to drain. The prostate was not enlarged.

The histological report by Dr. Mandelbaum, pathologist to the hospital, was "squamous celled carcinoma."

The patient made a good recovery, dying of a relapse about a year and a half later. This relapse did not show itself for more than a year, during which the patient remained well.

It will be noted that cystoscopy, though performed by a competent man, was of little value, while cystotomy, the pelvis of the patient being well elevated and the interior of the viscus exposed with blunt retractors, left no room for error.

4. Preexisting cystitis is cured by drainage and urinary antiseptics before the prostatectomy proper. Days or weeks may be required, but we shall have gained two important factors of safety, a comparatively aseptic field and a comparatively healthy man. The hæmorrhagic cystitis following the sudden relief of an over distended bladder has also usually disappeared by the time we are ready for our second step.

5. Relief of back pressure on the kidneys with readjustment to normal conditions before prostatectomy.

6. When the operation is performed at one sitting there is necessarily a considerable pushing away of the bladder from the abdominal wall, sometimes opening up the space of Retzius. This is unnecessary if a simple cystotomy is performed, and at the end of five or six days firm adhesions have taken place, sealing the space and avoiding infection.

7. Injury to the rectum is practically unknown. I have never caused such injury in performing suprapubic enucleation of the prostate, nor do I know of any surgeon who has been unfortunate enough to meet with this accident. It is comparatively common in the perineal operation.

8. The power of performing the sexual act is rarely interfered with in suprapubic operations upon the prostate, while it is often lost after even slight operations in the perineum. I have several cases in which sexual—not reproductive—power has even been increased after the operation.

One disadvantage of suprapubic prostatectomy, whether in one or two stages, is that, although it is an extremely safe operation, the convalescence is apt to be rather slow, the patients usually remaining in the hospital about four weeks.

I have never seen a permanent suprapubic fistula after this method of prostatectomy. One case, however, gave me considerable trouble.

CASE V.—T. A., sixty years old, had been operated upon some years before by a surgeon who had performed a suprapubic cystotomy by a transverse incision, severing a considerable portion of the recti. At this time the prostate, though enlarged, was merely cauterized. The fistula closed very slowly. Temporary relief was followed by a return of his prostatism with almost complete retention and considerable cystitis.

I operated by a median sagittal incision, removing the prostate in the usual way. The fistula at the crossing of the two cicatrices did not close for several months, but eventually there was final and complete recovery.

#### *Description of the Method.*

If the case is not an urgent one, two days of preparation are advisable. In addition to the usual catharsis and general preparation it is well to give ten minims of tincture of strophanthus every six hours and ten grains of salol three times a day. If catheterization is easy the bladder should be completely emptied every three hours, day and night, for the two days. The patient's bladder is emptied on the operating table and the catheter left in place.

Under local anæsthesia a median incision of from two to three inches through the skin and aponeurosis is made, the recti are retracted and the bladder distended with air through the catheter by means of an ordinary atomizer bulb worked by an assistant. The finger of the operator detects with ease the tense, elastic wall of the bladder, and with a blunt instrument or with the finger the reflection of the peritonæum is easily stripped upward and held there by a blunt retractor. There is little, if any, likelihood of dangerous pneumatic pressure, first, because the patient will give the alarm, and, second, because the air leaks out in considerable quantity alongside of the catheter, so that from time to time the pumping up will have to be repeated. With a sharply curved needle with silk, the entire thickness of the bladder is caught in a temporary traction suture, first on one side and then on the other. A short sagittal incision between these two ligatures, held taut by an assistant, opens the viscus and permits of digital exploration. This opening may then be stretched with the fingers and the patient placed in Trendelenburg's posture. Retraction completely exposes the interior. The catheter at once indicates the location of the internal urethral opening. The time consumed, without the slightest haste, will not be more than two or three minutes, and I have frequently entered the bladder by this method in one minute *without hurrying*. The operation is extremely easy. Usually no blood vessels require ligation.

After the exploration and the removal of calculi if any are present, a rather large drainage tube is inserted, the silk traction ligatures are left in place,

I use the word "drainage" instead of "prostatectomy" because I believe that the recurrence of the tumor is more common at its original site than after its removal. I have seen several cases in which I would suggest that this distinction should be made in the report.

the space of Retzius is walled off by packings, a snug bandage is applied, and the patient is sent back to bed. The next day he should be made to sit up in a chair. If much cystitis is present the bladder should be washed out through the tube two or three times a day. In four or five days urotropin or some similar formaldehyde preparation should be given instead of the salol; cardiac stimulants as needed. In three days the patient may be permitted to walk about, still securely bandaged. He will probably be wet and uncomfortable, but happy in his relief from the burden of the catheter.

In from five to ten days, rarely longer, the second step of the operation may be performed. Complete relaxing anæsthesia for five or six minutes is required. If the abdominal muscles of the patient are not relaxed the operation is difficult; if they are relaxed, it is easy. Trendelenburg's position is not essential. If the opening has become small by granulation it should be quickly stretched digitally. With a pair of blunt pointed scissors, in the most prominent part of the prostate, on the posterior lower wall of the bladder, over the middle lobe, if there is one, a rather deep incision is made. The finger of either hand searches for the planes of cleavage, and the tumor is shelled out. This is rather easily accomplished. The absence of distinct cleavage is suggestive of carcinoma. This part of the operation can best be performed with the ungloved finger. If one finger cannot do the work properly, use two; if one hand becomes tired, use the other. The assistant should raise the prostate through the rectum toward the operator. Considerable force may be necessary in detaching the prostatic tumor from its bed. When working near the deep urethra the exercise of a little care and the avoidance of undue haste will prevent injury to the urethra. In those cases in which the entire mass comes away in one piece, tunneled by the urethra, it will be seen on microscopical examination that the lining of the urethra has been drawn out of the opening in such a way that no mucosa will be found. If the diseased prostate consists of a number of adenomatous masses it may be necessary to remove them separately. One should be pretty sure to remove the greater part or as much as possible of the enlargement. At times it happens that the prostate is too large to be extracted through the suprapubic wound in one piece, although it may have been detached and lies loose within the bladder. It should then be divided and taken away in several pieces rather than to enlarge the vesical incision.

The bladder should now be flushed out with hot water and the prostatic portion packed with gauze *outside* the mucosa in such a way as to obliterate as far as possible the opening from which the prostate came. A considerable portion of the mucosa will at once become adherent to the walls of the depression, leaving only a small part to be filled in by granulations. This is much better than to pack the raw prostatic cavity, as was formerly practised. A few more packings of gauze, carefully distinguished for future identification from those which go to the prostatic region, are now placed in the bladder, and the patient sent to bed with a heavy sand pad over the lower abdomen. The next day the upper vesical

packings are taken out and a tube put in. In forty-eight hours the remaining packings may be removed.

During convalescence from the second stage of the operation the testicles should be well supported, but in a certain number of these patients epididymitis develops, and it seems to be impossible to avoid this complication. At the end of forty-eight hours the patient may sit up in bed, and in three days may be out of bed. The urine contains blood for several days after the operation. The first urine by the natural passages will probably be passed in from ten days to two weeks after the prostatectomy; occasionally, when the suprapubic wound was rather large, urination may not occur for a longer time. It should not be necessary to pass any instrument into the bladder by way of the urethra, but it is of great importance that the viscus be thoroughly flushed out twice a day through the wound for the first week after the prostatectomy.\*

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#### PRESENT DAY LIMITATIONS OF OUR CONCEPTION OF PARANOIA.\*

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In opening the discussion this evening I desire to present to you certain clinical view points which in my experience have helped me in this complicated question of the paranoid states. At the outset let it be understood that I make no pretense of trying to solve the paranoia problem. We all know that the origins of paranoid delusion formation are extremely complicated, and it is not my intention to attempt a complete psychological analysis, notwithstanding its great importance, and in spite of the fact that it is probably only through such complete psychic analyses that we may ultimately come to understand some of the more subtle distinctions in this field of psychiatry.

I shall not attempt a complete historical résumé of the paranoia problem, interesting and instructive though it may be, but shall consider only those later day conceptions which are still subjects of controversy.

Terms are often idle subjects of discussion, for, were we to confine our ideas of the term to its earliest application, we would find that in the original Hippocratic form the word *paranoia* was used both as synonymous with dementia and with the entire subject of insanity; just as, in the times of Pinel, works on psychiatry were called treatises on mania.

But it is not so much with the word *paranoia* that we would deal as it is with the later day conceptions of what groups of cases we are to place in this class, allowing for the gradual modifications which have come about in later interpretations.

The modern conceptions of paranoia, as I shall

\*Dr. Follen Cabot, professor of genitourinary surgery in the New York Postgraduate Hospital, and Dr. H. Goldenberg, genitourinary surgeon to Mount Sinai Hospital, have both assured me of their great satisfaction with this method and both of these gentlemen have been able to test its merits in comparison to those of other operations.

\*Read before the New York Neurological Society, May 5, 1908, in opening the discussion on the subject.

\*This advice would seem superfluous. It has, however, been found to be necessary.

speak of them, have clustered about the understanding of what English psychiatrists termed for many years partial insanities, or moral insanities, or monomanias; the French as partial or systematized delusions; and the Germans under the general term *Verrücktheit*, and *Wahnsinn*. Esquirol, as early as 1820, gave us the term monomania, but Laségue, in 1852, under the title *délire de persécution*, was perhaps the first to fairly set in motion the more detailed study of this general group of cases, which, culminating with the classical study of Magnan in 1882 (*Le Délire chronique à évolution systématique; générale et partielle*), received, so far as the French school is concerned, its final definite form. Arnaud's treatment of the group in Ballet's monumental treatise does not go beyond the conceptions of Magnan.

In Germany we can go as far back as 1818, when Heinroth utilized the term paranoia, but his psychiatry is so mingled with ecclesiastical metaphysics that it is impossible to pick out just what he did mean. Snell in 1865 and Griesinger in 1868, working along similar lines to the French observers, described the types of *Wahnsinn* and primary *Verrücktheit*, while Sanders in 1868 also described an original *Verrücktheit*, in which we see the general beginning of the crystallization of our present day idea of paranoiac form of dementia præcox and paranoia cases, out of the mass of delusional patients with relatively unimpaired intelligence. Krafft-Ebing in 1879 again took up the old Greek term paranoia, applying it to the systematized delusions in general and following Magnan closely, and was an adherent of the view that the disease existed only in a chronic form. Mendel, on the other hand, in 1893, assumed a more general position, and described acute and chronic paranoias, which, as I believe, is responsible for most of the confusion in our interpretations of what should be understood by paranoia.

Of the modern students of psychiatry, Cramer and Ziehen represent the same tendency, and, like Mendel, they regard the superficial symptom picture, instead of applying the severe clinical criteria, which have contributed to establish the ideas of Kraepelin on a much broader foundation. It is this same attitude, namely, the overvaluation of certain symptom groups, which regards depression as the equivalent of melancholia, excitement, as synonymous with mania, and therefore delusional formation and hallucinations are deemed sufficient to establish the group of paranoia. Thus, from this point of view, a narrow, symptomatic test, we have acute and chronic paranoias, paranoias with and without hallucinations, primary and secondary paranoias, curable and incurable paranoias, in all of which the chief criterion is the presence of ideas of influence, of ideas of observation, of ideas of persecution, etc., which become united into a delusional system, more or less consistent and stable, according to the type under observation. We thus have such diverse conditions as postalcoholic delusional states called acute paranoias, and if the alcoholic hallucinations persist, acute hallucinatory paranoias. A similar interpretation exists for posttyphoid delusional

states; for postinfluenzal toxæmias, and throughout the long list of toxic and infectious diseases, in which mental involvement appears, as it frequently does, as a disorder in the elaboration of ideas, leading to delusional interpretations of the surroundings.

Further, in the manic depressive group of insanities, particularly in the hypomanic phases, we may find at times a well marked delusional system, which is fairly stable. These are classed by the followers of Mendel and Ziehen as acute, or as periodic paranoias, and contribute to the class of paranoias which recover.

In the same category one must bear in mind cases of early paresis, of epileptic insanity, of hysterical insanity, of senile deterioration, etc., which may show a picture, at some time in their course, of delusional formation in which ideas of reference, of observation, of persecution, are the most striking features. Viewed from the narrow standpoint of symptom picture alone, these patients are classed, by the authors mentioned, as acute or chronic paranoias, whereas the fundamental and essential disorder is something quite different and the paranoid complex merely an episode.

On the other hand, we have seen the ideas of Kraepelin develop along an entirely different line. "The symptom picture of to-day," he says, "changes slightly to-morrow." Therefore delusions and hallucinations are not to be regarded as pathognomonic of any one mental disorder; no one symptom, or small group of symptoms, can be so regarded; and he insists on the full consideration of all the facts of the case; a true clinical summing up of the whole situation in terms of onset, course, and termination before we are in a position to satisfactorily classify our patients. Thus, at least ten years ago, at one bold stroke, he demolished the artificial barrier that was supposed to separate the so called intellectual disorders from those involving the emotions, and distributed the acute delusional and hallucinatory patients, with relatively intact intelligence, into more natural groups, as determined by ætiology, course, and outcome. Paranoia almost disappeared.

"Of what use to us," he says, "is the analysis of the whole group of disorders of intelligence, with its finest variations, if through it we cannot at the same time learn whether the patient will get well, whether he will be periodic, or simply demented, or whether he will become crazy in the old sense?" "Concerning these important matters we must come to definite diagnostic conclusions which satisfy us and clear our conceptions." "There is no doubt that no advance steps can be made if the universal disease paranoia, which, according to many alienists, includes seventy to eighty per cent. of all the insane, is regarded in this manner." "We know very well that delusion formation and hallucinations occur in the recoverable and irrecoverable cases, in the acute and in the chronic forms, in the simple and the periodic forms of insanity, and of themselves, offer no definite key to the prognosis of any single case."

Kraepelin's application of this idea reduced the paranoia group in the old sense, as he himself



states, from seventy to eighty per cent. of all insanities in asylums to about ten per cent.—which seem to have fundamental characteristics in common.

However, he even went further and excluded from this group those cases which terminated, in the great majority of patients, in a rapidly progressive dementia, and in whom hallucinations played a prominent part, thus reducing paranoia as described by him to less than one per cent. of the cases, found in hospitals for the insane.

Whether Kraepelin is justified or not in his grouping of the large bulk of these cases under dementia præcox future observation and experience alone will determine. It is very likely that it comprises several groups of closely allied disease processes which in the present state of our knowledge we are unable to distinguish.

Thus summing up the position assumed by Kraepelin, we are reduced to the consideration of two groups of cases, the one a comparatively large assemblage of so called secondary paranoias or paranoid forms of dementia præcox, showing the typical intellectual deterioration, the disorder of attention, and blunting of the emotional tone with more or less systematized delusional formation; and a still narrower and numerically smaller group in which the delusional formation is unaccompanied by the other attributes of intellectual impairment. So far as the acute cases are concerned we have seen that they can be excluded, for the most part, and apportioned to their fundamental groups as indicated.

It appears to me that this restricted group of paranoid forms, making up perhaps about ten per cent. of our cases, can be regarded to clinical advantage as some of the French writers, especially Magnan has done, but with slight modifications; not that it is any more scientific, but rather because it possesses certain clinical advantages. This class may be divided into two general groups with transition forms—first, those cases in which there is progressive mental deterioration and in which hallucinations play a prominent rôle, and, secondly, a nondeteriorating group in which hallucinations are not characteristic, and heredity plays a strong part.

Within this first group certain further forms stand out clinically, and I see certain subdivisions which are fairly clear, as follows: (a) Chronic delusional insanity as described by Magnan. This is a well known type, and by many alienists and writers is taken as a model for the description of paranoia in general, and other forms are given as slight modifications. It was first described in a masterly fashion by Magnan, who insisted that this form must not be confounded with apparently similar states and must not be taken as the representative of the whole group. He taught that in diagnosing this form, not only certain symptoms, but the whole clinical picture—its development, regular characteristic course, and termination—must be taken into consideration. He divided it into the well known stages of development, delusional formation, transformation of personality, and dementia. It is gradual in onset and slowly progressive. Hallucinations are always present at some stage of the disease, and play a fairly impor-

tant rôle. Into this type fall the kings, emperors, and prophets of the insane asylums who fantastically decorate themselves.

(b) A second group is closely allied to the former, but differs from it in that it shows many of the characteristic symptoms of dementia præcox. The onset is acute, the delusions are shifting, fantastic, and bizarre, and lack logical formation. Mental reduction soon supervenes, especially in the affective sphere. Transformation of personality, if it appears at all, comes on soon and at times very suddenly. In addition, many dementia præcox symptoms appear, such as mannerisms, negativism, stereotypy, etc. Hallucinations are commonly present, and play a strong part in the disease.

(c) A small group might be made of those cases in whom the delusional state is circumscribed and apparently wholly dependent upon hallucinations and somatic, false perceptions. I refer to a group of persons who apparently are able to go through life for many years occupying responsible positions without suffering any marked mental reduction. The delusional system is very limited; the patient apparently pays little or no attention to it, except episodically, when he is stimulated by the hallucinations and false perceptions.

A brief summary of the following case might be taken as illustration of this last group:

CASE I.—Miss R., forty years old; unmarried; from rather neurotic stock. One brother is said to be "nervous," probably insane. She is a refined and cultured woman and for the past fifteen years has been able to support herself without much outside assistance. For the past few years she has been a teacher in the public schools of this city, which calling she has followed with apparent success. About fifteen years ago she experienced strange sensations in her back and about her sexual organs, as well as in her abdomen. She describes these strange sensations as being similar to shocks of electricity passing through her body, especially up and down her "nerve trunk," as she terms it. This strange feeling would at times take the form of internal language or words. She at first supposed she was suffering from a physical disorder, but when she began to hear words and this internal language, she became somewhat apprehensive and consulting a specialist, endeavored to get an explanation. She states that she could get no satisfactory explanation from the professional man. At the same time her attention was attracted by her reading to spiritualism and other mystic influences. She at once decided to investigate these cults, hoping that they would perhaps throw some light on her trouble. She consulted spiritualists and others who concern themselves with occult matters. These authorities gave her a ready explanation of her condition, stating that spirits were having communion with her to some purpose and that her experience was not in any way out of the ordinary. It was also explained to her that perhaps evil spirits were working to carry out the designs of some persons who were unfriendly to her. After considerable thought she accepted this, as it seemed to satisfy her more than any other explanation she could find. At any rate, she formed the circumscribed and limited delusion that perhaps some one who was unfriendly to her for some reason, and who possessed power in this mysterious sphere, had been annoying her. She states, however, that although she was very much concerned and worried about the affair at first, she soon regarded it lightly and did not permit it to interfere with her daily routine life, except when these mysterious influences would become very marked, when it was impossible for her not to take notice of them. This state of affairs continued for from fifteen to eighteen years, during which, as has already been stated, she taught school and was able to get along without assistance. She is an intelligent, refined, cultured woman, a good conversationalist, and shows a good deal of ability and knowledge in discussing current topics, and unless she chooses to speak

about her delusional ideas she shows no symptoms of mental trouble, but impresses those with whom she comes in contact as of more than average intelligence. When she talks of her delusions in her endeavor to explain her experience, she becomes excited and almost incoherent. However, as soon as the subject is changed, she calms down and again becomes rational and reasonable. Her delusional system has not shown any tendency to spread, is limited and circumscribed, and has remained so for many years. Her false ideas appear very fantastic when regarded in a superficial way, but really, it is a plausible explanation when measured by the doctrine of the cult, which in itself is fantastic.

This class of patients may be regarded the same as those in the first group. Perhaps the general progress of the disease was checked in some unknown way, and this diseased condition remains intact without having spread further. The only reason for grouping these patients as a separate one is for clinical and therapeutic convenience.

2. The second large group comprises the so called nondeteriorating or degenerative insanities of the French writers. They differ from the former group in that they do not terminate in dementia, hallucinations are not present, and they invariably show marked hereditary taint. The subdivisions of this group are:

(a) Chronic progressive paranoia as described by Kraepelin, which comprises less than one per cent. of asylum cases, although represented in a much larger proportion in the general population. The salient features of this group given by him are that the delusional system is "enduring," "unshakable," and "increasingly progressive with complete retention of the order of thought process." The delusions are reasonable and logical, and are based in part on facts which are distorted and incompletely observed. No distinct hallucinations occur—at least I have never personally met with them in my experience. False perceptions and misinterpretations of the environment with retrospective memory disorder are the basis of the delusional concepts. After many years some slight mental weakness may supervene, but there is never any marked deterioration. Many are capable of carrying out business and professional undertakings with a certain degree of success. Many paranoiac reformers, litigants, platonic lovers, and regicides fall into this group.

(b) A second subgroup can be made of those individuals who have a psychopathic constitution and who under adverse conditions develop a paranoid complex. These persons are eccentric, one sided, unstable individuals, and might be termed potential paranoiacs. Occasionally they may be brilliant and talented in some one direction. A person of this type, after some disappointment or failure or after some occurrence which intensifies his natural tendencies and weaknesses, readily develops the paranoid complex in a typical psychogenetic manner, as has been so ably demonstrated by Dr. Meyer and Dr. Hoch.

Their system of delusions, however, unlike the preceding group, is not broad, progressive, and comprehensive, but is limited to a particular subject and its immediate ramifications. They readily misinterpret and misconstrue ordinary facts in the light of their delusions, but never show hallucinations. If any hallucinations are present they are

due to extraneous influences, such as alcohol or intercurrent disease, etc. The main deviations of this type, then, from those of the true paranoia group are such that the delusional system is limited and is the outgrowth of the patient's former tendencies, intensified by adverse conditions, which, when removed, permit of a symptomatic recovery. The following case is typical of this group:

CASE II.—Male, forty-one years of age; married; tailor; of neurotic taint; mother had slight attacks of depression; father's sister had a psychosis for many years; one brother was eccentric. The patient was a good student, but was erratic, unstable, and lacked application. He graduated from the public school. He states that he had been highly sensitive and unduly suspicious; that frequently while at school he thought his friends and schoolmates were against him on the least provocation, but he would soon discover his mistake and correct it. At twenty-two he fell in love, but his affections were not reciprocated because of a rival. Later, the patient married the girl in question and they lived together for nineteen years. His wife was loyal and affectionate. After marriage, on the slightest provocation, he would involuntarily, as he himself says, become jealous and suspicious of her, and imagined that she loved his former rival more than him. He frequently misinterpreted her statements, but after some remonstrance on her part he would admit that he was mistaken. At times he would be sullen and quiet. However, with a great deal of tact on the part of the wife, they got along fairly well until four years ago, when his wife developed some uterine disease and could not perform her marital duties as often as her husband desired. She appeared, moreover, to have developed an aversion in this matter, which caused many quarrels. The name of the former rival would be repeatedly mentioned, and on some occasions the wife would unwisely refer to the rival in a commendatory way. Thus the suspicion and fear that had lain dormant in his mind for many years began to shape itself into delusions. The wife, because of incompatibility, left him to live at her mother's home, which happened to be in the neighborhood where her former suitor lived. Such a coincidence confirmed his fears that something was going on between his wife and former rival. He engaged detectives to follow her and this man. On many evenings he would conceal himself in the neighborhood and spy upon them. He never obtained any evidence beyond the fact that the man once or twice passed the house in which his wife lived. But this was enough to confirm his suspicions. He wrote many threatening letters to the man, accusing him of improper conduct, adducing, in proof of the fact, the passing of his wife's house and other facts equally insignificant and irrelevant. A reconciliation with his wife was effected with many promises on his part, but the condition gradually became worse. He would come home unexpectedly at different hours, search the house, accuse his wife because the furniture was slightly disarranged, become suspicious of his food, misinterpreted every movement of his wife, however insignificant, as being indicative of her guilt.

He was brought to the hospital after a violent outbreak. He had a fixed delusional system regarding the infidelity of his wife which he endeavored to support with facts which were as absurd and insignificant as those just cited. There was no alcoholic history and no hallucinations were present. He was an excessive smoker. His friends interfered, and it was arranged that he was to be removed from his wife, and with some pleasure was discharged from the hospital with the understanding that he was to report from time to time. Soon after this his wife underwent a general obstetrical operation for the uterine disease, at which the patient had never believed. This seemed to arouse him and gave the new basis to the capacity of his delusional system. The new basis, however, from his own mind, led to the gradual development of his delusional system, and he in the delusional mood and has since remained accurately well.

(c) The third subgrouping includes those individuals who are constitutionally inferior, who, under the stress of adverse conditions as here out-



lined, are attacked with a paranoid complex. Constitutional inferiority is here considered as a lack of full mental development rather than the condition of disequilibrium, which is present in the psychopath. These patients, owing to limited intelligence and education, when placed in an environment favorable to the development of paranoid ideas, form a delusional system of a very limited type, due to their lack of full critical power. These delusions are based on actual facts and occurrences which are misinterpreted, and the relations of the different occurrences are misjudged. No hallucinations occur unless due to extraneous influences.

They differ from the preceding group in that they make no successful effort at explanation when confronted with the inconsistency of their ideas, but simply make the positive statement that such are the facts. Their delusional system is more limited, and shows no tendency to further progress. They are more amenable to treatment, and with proper preventive measures their false ideas can be made to disappear. As a type of this group the history of the following case may be given:

CASE III.—Male, twenty-four years old; colored; limited education and intelligence. His mother had given birth to an illegitimate son, whom she left in the care of her parents in a southern State when she came to New York. Later she married, and the patient is the first fruit of the marriage. A few years after her marriage the husband discovered her early history, and after considerable friction became reconciled to take the child from his grandparents and care for him at home. He was brought up as the elder brother of the patient, and turned out to be a rather unruly and reckless boy. His conduct, in addition to the friction between his father and mother, prompted the mother to put him into a home, where he was kept until he was eleven years old. He was then left to shift for himself, and naturally bore considerable enmity towards her. The patient frequently met his halfbrother, who was above the average in intelligence, and they became quite friendly. The elder brother, taking advantage of his brother's simplicity, poisoned his mind against their mother, stating that she was cruel and had abused and abandoned him to an institution; he also told his younger brother that he was treated in this manner because the patient's father was not his father, and his mother, to conceal her shame, had taken steps to dispose of him.

The patient then became quite unruly himself, worked irregularly, stayed away from home a great deal, so that his mother thought it necessary to discipline him. Her action was misinterpreted by the patient, who, remembering the case of his halfbrother, began to become very suspicious, and conceived the idea that his mother was trying to do to him what she had done to the brother. Unfortunately, by way of intimidation, she declared that unless he behaved she would be compelled to place him in an institution. During his interviews with his halfbrother, who lived away from home, he narrated his experiences at home and was assured by his halfbrother that he was about to receive the same kind of treatment that he had. This fact intensified his suspicion still more, until he began to misinterpret every action made by his father and mother as being unfriendly toward him. He naturally became more unruly and disobedient. Matters went so far that it was impossible to get along with him at home, and his parents placed him in an institution. This unfortunate step more firmly fixed the ideas of persecution which were already forming. In the light of the experience of his halfbrother he finally came to the conclusion that his mother was not his right mother. Thus, he formed a delusional trend, fairly well systematized but very limited. While in the institution he was a model inmate, worked regularly, and was very obedient and careful in his observance of the rules of the institution. As soon as he was taken home, however, he immediately began to show his suspicions, misinterpreting every act on the part of his mother, father, and little brothers, distorting the facts in the light of his de-

lusions. This condition was intensified by the conduct of the family, which, of course, was one of resentment and severity. His suspicions increased, until he would not eat with the family, and sometimes he would wait until some one else had tasted the food before he would partake of it.

As his mother thought he was probably mentally unbalanced, the patient was first brought to the hospital for examination four years ago. At that time he showed a limited system of delusions, that his mother was mistreating him, that she was trying to get rid of him and place him in an institution; that he was not treated like the other children in the family; and that he overheard many conversations between his father and mother relative to himself which convinced him that they were about to do away with him. He stated that he had taken precautions to protect himself and that he had at times refused to eat. He firmly believed that his mother was not his own mother and that this was the reason he was being treated in this manner, and as a proof of his contention he cited the case of the elder halfbrother. When his ideas were attacked, his defense was extremely weak; he made no intelligent attempt to defend his mode of reasoning, simply asserting that these things were so. He was sent home with some advice, but shortly returned, as it was impossible for him to get along at home. Finally an arrangement was made whereby he was to stay away from home, and not to communicate with his family in any way whatever. A place was found for him where he worked for over a year without having any trouble whatever, and he gave perfect satisfaction. His employers were much pleased with his work and could see no sign of mental derangement or even peculiarity. At this time his mother, thinking that he was quite well, wished to take him home, forgetting her former promises. She induced him to go back and live with the family. For several months he seemed to get along, but his ideas of injury again took possession of him and so dominated him that during one of his excited periods he attacked his mother, for which he was committed to the Work House. He remained there six months and proved to be a model inmate; but upon examining him there, I found that his delusions were not only intact, but much more fixed and intensified. After he left the Work House his mother again induced him to live with them. Within a few weeks he became excited again, reacted to his former false ideas, and had to be committed to the hospital. At this examination his delusional trend had not only increased, but he was more convinced than ever that his mother was not his right mother, because she had committed him to the Work House. He again agreed to live entirely away from his family, and for several months has been working, perfectly contented and happy. His employers are much pleased with the work he is doing. He has kept away from his home and has not shown any animosity toward his parents.

The tentative groupings here suggested have been of great aid to me in clinical work, especially in the question of prognosis and treatment. To the layman paranoia is the most widely known of the insanities, and likewise with it, is associated the idea of incurability. Physicians are also convinced of its hopelessness, and we all share this preconceived idea of certain cases in the paranoia group, so that we pay comparatively little attention to them in a therapeutic way. They are usually immediately sent to hospitals for the insane, where they form a large part of the permanent population and receive scant medical care. It is usually considered a waste of time to pay much attention to this class of cases. There is no doubt that for most of the groups of cases herein noted a chronic progressive process is at work, but are not some of those afflicted amenable to treatment, and cannot their condition at least be ameliorated? Or can we not by prophylactic measures in one predisposed to the disease prevent an outbreak?

For example, the group of psychopathic paranoiacs where the delusional formation is psychogenetic, or endogenous in the sense of Friedman,



can undoubtedly be benefited by treatment in the way of judicious regulation of the patient's life, looking particularly toward the removal of the causes of irritation, which have given rise to his false ideas. In some of these cases sanatorium treatment is advisable, whereas in others it would only intensify and aggravate the condition.

In the case of the young colored man here reported, hospital treatment, I am certain, would have settled and fixed the ideas, just as his remaining in the midst of the irritating conditions at home would have aggravated them. His condition, while at the workhouse, clearly demonstrated this.

The same applies to the case of the jealous tailor who was a psychopath and who was attacked with a delusional system in close relation to his former life and personal traits. It is possible that incarceration in a hospital would have intensified and fixed his ideas more firmly.

The same holds true in a restricted way of the deteriorating group to which the case of the school teacher belongs. She will perhaps eventually deteriorate so that it will be necessary to care for her in an institution. However, she has been getting along fairly well for many years, except at intervals, when her somatic false perceptions, upon which her delusions seem dependent, become stronger. Under supervision, at the time of her periodic outbreaks, it might be possible for her to get along outside of an asylum for many years. In other words, in the clinical grouping, as here suggested, an attempt is made to distinguish those cases for which, perhaps, something can be done, and avoid the mistake on our part of regarding the whole group as made up entirely of the severer and more hopeless forms.

What is the relation of the genuine chronic paranoia in the Kraepelin sense to these milder types? Is it possible that they differ only in degree? Can anything be done for the so called chronic progressive paranoia in the early stages and before it has made much progress? These are questions that recur to me very frequently. I cannot recall one single case of this type of paranoia, in which psychoanalysis of the delusional system did not show, that at its very inception conditions most favorable to the development of the disease were present. One can almost invariably find that most of the unfortunate occurrences followed in rapid succession, and that the patient was treated by his friends in the very way he should not have been for the amelioration of the abnormal ideas in their formative stage.

A grouping of this kind has another advantage from the medicolegal standpoint. Most of the insane patients who come in conflict with the law present paranoid ideas. As there seems to be much difference of opinion among alienists as to what the term paranoia stands for, for the reasons already discussed, there are apt to be decided differences of opinion expressed from the witness stand. For one the term paranoia means the whole group, for the other only one subdivision of the group. One who has one of the milder types in mind, which at times recovers, contends that a patient suffering from paranoia may recover; where-

as the other, having in view the chronic form, insists that it never recovers and is progressive. Some have in mind the paranoid ideas expressed by a senile alcoholic, and term it paranoia; others observed paranoid ideas in a manic depressive and call it paranoia; while still others, observing a patient suffering from mild alcoholic hallucinosis with paranoid ideas, term it an acute hallucinatory paranoia, in the Mendelian sense, and so the confusion goes on. Thus, for lack of a proper agreement as to what each alienist means, when he uses the term paranoia, there results the confusion of the court and jury, to the discredit of the medical expert in general.

In summarizing it may be said:

First—That the grouping of paranoia from only a symptomatic point of view is unscientific and untenable.

Second—That when measured by complete clinical criteria the paranoia group is reduced to about ten per cent. of all insanities which seem to have some fundamental characteristics in common.

Third—That this restricted group is composed of two essentially different types, namely, deteriorating and nondeteriorating or degenerative, which should not be confounded.

Fourth—That these two general groupings, owing to our present limited knowledge, may only empirically and arbitrarily be divided into other subgroups: (a) For clinical and therapeutic convenience. (b) To bring about an understanding among the alienists in order to avoid confusion in medicolegal questions.

## NEURALGIA.

*Its Specific Treatment with Chloroform Subcutaneously.\**

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The importance and scope of the subject of neuralgia is so extensive that with the limited time at my command I wish to bring to your attention especially the method employed by me for the past ten years in the treatment of this painful malady. The great variety of neuralgias treated and the technique employed make the method practically original. It is a fact, however, that isolated cases of neuralgia have been previously treated with chloroform, though generally at present it has fallen into disuse.

While the subcutaneous injection of chloroform is exceedingly easy of application, all patients will not submit to it. The method produces certain reactions, such as redness, swelling, etc., which seem alarming to some. In acute neuralgia, where the cause is easily determined, general medical treatment will usually prove effective. Where, however, after all palliative methods have been unsuccessful, the patient will be willing to submit to almost any treatment which will relieve him of his suffering—in these cases the treatment with chloroform will prove almost always successful, in fact certain. It is for this reason I have termed the method specific.

\*Read before the Section of Medicine at the New York Academy of Medicine, April 27, 1908.

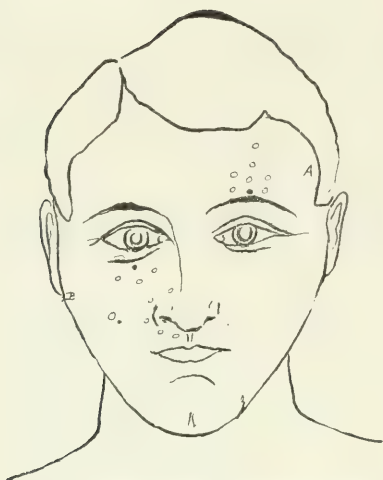


FIG. 1.—A, Deep injection; B, superficial injection.

In considering the ætiological factors in neuralgia we may mention anæmia; exposure to cold and wet; change of seasons; vitiated atmosphere; periodic, malarial and nonmalarial; inhalation of irritating gases; inhalation of anæsthetics; neuritis; organic and inorganic poisons, alcohol, lead, etc.; autotoxæmia; syphilis.

I wish to direct attention to a frequent type of neuralgia, "the periodic." Quinine will cure many of these cases, others will respond to the coal tar remedies. Where these attacks, instead of appearing at the same time every day, seem to be deferred



FIG. 2.—Infraorbital and maxillary branches involved.

to a time later and later each day, we can assure the patient his neuralgia will quickly cease; these are the cases where the coal tar remedies prove more successful than does quinine.

Autotoxæmia, particularly of the intestinal type, is one of the most prevalent causes of not only neuralgia, but rheumatism, and frequently we find both diseases coexistent. Fortunately in these cases the same remedies prove equally efficient in both diseases.

Some of my cases treated with chloroform can hardly be classed as pure neuralgia, as lumbago, which more properly is a muscular rheumatism and neuralgia combined. Some of the most brilliant results with the method of chloroform injection have been secured in lumbago.

The classes of neuralgia subjected to the chloroform treatment may be stated as follows: Trifacial neuralgia; supraorbital neuralgia, first branch; in-

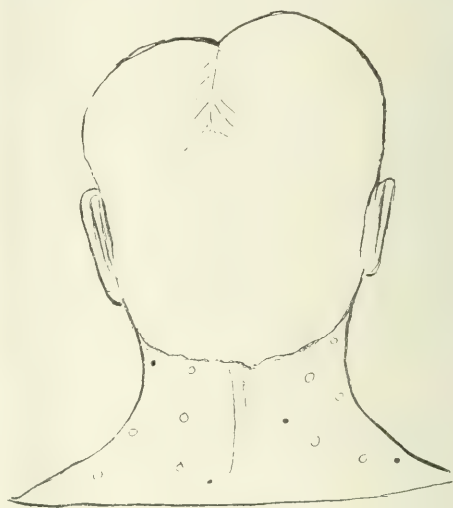


FIG. 3.—Torticollis

fraorbital neuralgia, second branch; mandibular neuralgia, third branch. Torticollis. Brachial neuralgia. Intercostal neuralgia. Sciatica. Lumbago. Inguinal neuralgia. Coccygodynia. Plantar neuralgia. Tendinous neuralgia.

*Technique.*—This consists in injecting pure chloroform, in quantity varying from two to ten minims, into the site of the neuralgic area with an ordinary sterilized hypodermic syringe with aseptic precautions.

#### Results.

Facial neuralgia.—In general practice one does not see facial neuralgia every day. It is about the most distressing sight one is called upon to witness. My experience covers seven cases treated with chloroform; of these three were of the supraorbital nerve, one infraorbital branch, and three of the infraorbital and maxillary branches combined. The treatment resulted instantly in almost absolute ces-



FIG. 4.—Intercostal neuralgia.

sation of pain. One patient, who has kindly presented himself for demonstration, had received some months previously injections with osmic acid. Another patient, who left the city before I had fully applied the treatment, wrote me from a Mediterranean city that all pain ceased from the first injection (infraorbital), the second injection (maxillary) caused some pain when chewing, which lasted only a few days. The procedure in all of these cases was to inject two to five drops in five or six sites about one half to one inch apart in the painful area. Neuralgia of the fifth pair has always been difficult to account for; the teeth have always been looked upon as an ætiological factor, the patients having one or more teeth removed, only to find the pain still persist. The probable explanation is, while the teeth

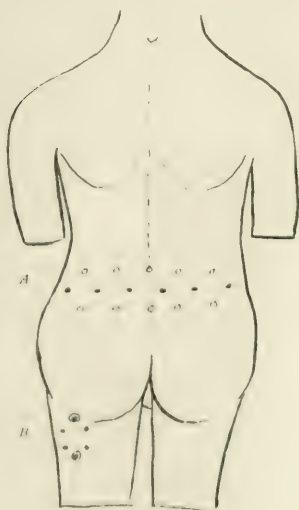


FIG. 5.—A, Lumbago. B, Sciatica.

may at times be the cause of pathological changes in the nerve filaments, the neuritis progresses long after the original cause has ceased. In the cutaneous cases it seems to me that only small parts of nerve filaments are the seat of neuritis and reflexly cause involvement in large sections of contiguous nerves, out of all proportion to the extent of the filament involved. The fact that chloroform acts as a curative agent would indicate that the above explanation is the correct one, and how it acts I will presently state.

Torticollis is an exceedingly painful condition. Five injections were made in each of my two cases, with rapid but not instantaneous recovery in each case.

Brachial neuralgia.—I have treated three patients with complete relief immediately after fairly deep as well as superficial injections.

Intercostal neuralgia.—I have had seven patients; all these were relieved immediately. Injections were made into the skin, as well as deep between ribs, with needle of syringe pointing from behind forward and upward, or from before, backward and upward.

Sciatica.—I have treated five patients with this



FIG. 6.—Proximal neuralgia.

method; three of these required repeated injections, with perfect cure. One patient, while greatly benefited, refused to have subsequent injections. One patient received no benefit—in fact, was temporarily worse; it is interesting to note that this patient had not solely sciatica, but a phlebitis, involving both limbs and including the veins of the pelvis. Sciatica was greatly improved as a result of improvement of the phlebitis with the treatment with the waters at Bagnole del Orne, France.

Lumbago.—I have had patients come to my office almost creeping, to leave within a half hour perfectly free from pain and perfectly erect; these had no recurrence of lumbago. Up to the present time fourteen patients have been treated by me with chloroform, eleven had but one series of injections. One I am unable to locate, he was improved at the time; and one was a somewhat peculiar case. This patient had not a typical lumbago, but muscular



pains over the entire back; he was injected repeatedly, with more improvement than he had received in sixteen years, as he stated. His treatment took about a month; for obvious reasons he did not return. I concluded he had the lumbago habit.

Inguinal neuralgia.—Two patients; superficial injections, with perfect results.

Coccygodynia.—I have treated three patients with this method; one of these cases was a male. This patient could not sit, and from his history he must have injured himself while riding a bicycle; his symptoms indicated a true coccygodynia. A deep injection in the region of the coccyx relieved the condition completely and permanently. Both female patients required more than one injection; in one two, in the other six injections were made, with no return of the trouble.

Plantar neuralgia.—This is an exceedingly painful condition in the sole of the foot. I have seen several of these patients, but have had the opportunity of applying the injection method in but one. The patient was considerably benefited. He left the city, but I subsequently heard from him that while he remained as free from pain as at the time the treatment was applied, his condition was at a standstill. The injections made in this patient were subcutaneous. I believe had it been possible to make several injections, some deep, this patient would have been completely cured.

Tendinous neuralgia.—A fairly large number of patients recovering from attacks of acute rheumatism, with absence of elevation of temperature, complain of pain and stiffness about the joints. As near as I could determine, this pain is located in the tendons about the joints; it persists for a variable time. Small injections of chloroform are made into the tendons as near as possible, with generally beneficial results; the patients all became well; no doubt with time they would have done so without the injections. This procedure was employed by me in thirty-two patients.

Explanation of the effects produced.—Neuralgia is said to be a cry of the nerves for blood. If this is so, chloroform, by causing an inflammation (I might say a reparative inflammation), evidenced by redness and swelling, determines a new supply of blood to the nerve filaments through the formation of new capillaries. While other agents have been used for injection in certain neuralgias, my results have been universally satisfactory with chloroform. Any persistent pain which has not yielded to other medication, chloroform is recommended with almost certainty as proving efficacious.

#### Conclusions.

The nearest approach to a specific in neuralgia is, in my opinion, chloroform.

The method has in my hands proved to be devoid of any untoward effects, both immediate and remote.

Chloroform injected locally has no systemic effects. It has a local anæsthetic effect, which is desirable.

Superficial injections often act with certainty, even when the pain seems to be deep seated.

## THE MODIFIED BLOOD CLOT IN MASTOID SURGERY.\*

BY SAMUEL McCULLAGH, M. D.,  
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Although the value of the blood clot method of healing wounds has been proved both in general and mastoid surgery, it is strange how little attention has been paid to it by aural surgeons if an opinion may be formed from published reports, or rather the lack of them. Undoubtedly the explanation is not far to seek. At first thought, to a surgeon, perhaps nothing could seem more irrational and foredoomed to failure than the proposal to sew up the wound made in the Schwartz operation and expect healing by what is practically first intention. The approach to so radical a departure from surgical principles is usually made in a spirit of doubt and with the expectation of failure. Should such be the outcome no feeling of surprise is experienced, the expected having happened, but rather a feeling of relief that no untoward result has followed, and a hasty return is made to the old method. The writer feels that with care in the application of technique and selection of cases the mastoid wound should be perfectly healed within a week to ten days in at least seventy-five per cent. of cases so treated. Fallacious as most prophecies in the field of medicine have been, except those as to its progress, it seems as though the ideal mastoid operation has been attained. Doubtless, improvements in the method of exenterating the bone will come, and, doubtless, fewer cases will come to operation, but for those cases which do it is hard to see where, with the exception noted, further advance is possible.

The writer will confine his remarks in this paper to a consideration of this method as applied to the Schwartz operation only. He has nothing new to suggest. His object is merely to reiterate and emphasize the points already made by those who have discussed this subject. In rather a cursory examination of the literature so few authors have reported cases treated by this method and the papers of those who have used it are so highly eulogistic that it is a cause of great wonder that a method that will shorten the convalescence from a mastoid operation from four to even twenty weeks and dispense with the necessity of dressings should not have been more eagerly tried out thoroughly and given its true standing in aural surgery.

The factor militating most against a more extended trial is, undoubtedly, the knowledge that it is impossible to render the wound aseptic and that blood serum is a very good culture medium. We seem here to have ideal conditions for the propagation of bacteria—heat, moisture, a good medium, and bacteria. Every surgeon has seen so many wounds break down, where the prospect for healing by first intention was so bright, and experience had taught him to expect it, that it is not to be wondered at that he looks askance at the proposition under consideration. Reik (1) has thoroughly discussed this phase of the subject in his paper on The Blood Clot Dressing in Mastoidectomy, Physiologically Considered. He says: "The nor-

\* Presented as a candidate's thesis to the American Laryngological, Rhinological and Otolological Society.

mal human blood possesses bactericidal power, varying in degree in its antagonism to different microorganisms; this property of the blood is greater after it is drawn from the vessels than while circulating intravascularly; the microbe destroying substance is found in the serum, but is produced by the leucocytes; certain chemical changes in the blood may be induced either to increase or diminish its bactericidal power, and this property of the blood naturally diminishes after the clot is forty-eight hours old.

This microbe destroying substance, according to Vaughn and McClintock, is nuclein. The bactericidal power seems to be present in freshly drawn blood only when it is alkaline in reaction. The nuclein acts only in an alkaline serum. If alcohol be added to the blood, the bactericidal property is destroyed through the precipitation of the albuminoid constituent. Bichloride of mercury likewise has a deleterious influence on the bactericidal property of the blood serum."

The fact of this bactericidal action of freshly drawn blood being recognized, it is easy to understand how absolute asepsis is not a *sine qua non* for the successful outcome of the blood clot method. This statement should not be taken to indicate that the slightest lapse from the strictest antiseptic precautions should be allowed either before, during, or after the operation. In fact, they should be redoubled.

Regarding the manner of healing, Reik further says: "The blood flowing into the wound cavity rapidly clots and the fibrous framework of this clot constitutes the scaffolding on which the new tissue is built. Fresh granulations spring from the wall of the cavity and grow out into the clot, forming new fibrous connective tissue, the nature of which is further altered to accord with the character of the surrounding cavity walls; that is, if the wound is made in bone, osteoblasts are sent out from the bony walls or periosteum to convert the fibrous substance into osseous tissue. Just how early this osteoblastic activity commences is not known, but such cells have been observed to form within forty-eight hours after the operation, and it is certain that granulation tissue grows more rapidly into a healthy blood clot than into space. It is plain then that Nature may be greatly aided in the reconstruction of destroyed tissue by providing an excellent framework on which to build, and leaving her only the task of furnishing vascularity and new tissue cells."

*Technique.*—The writer will omit any reference to the preliminary preparation of the patient, as it differs in no way from that usually employed. Neither will anything be said of the operation itself, except that this method of after treatment obviates the necessity for the removal of any healthy bone from the posterior wall of the canal. It may be well here to urge the necessity for gentle treatment of the periosteum, care being exercised that the incision through it shall be a clean one and that it is not maltreated by rough dissection. The use of the hoe-shaped periosteotome is indicated for this step of the operation. All ragged edges should be trimmed off before the insertion of the suture. Marked infiltration of the soft tissues overlying the

bone is no contraindication to suturing, as union by first intention will take place when this is present.

*No antiseptics should be used at any stage of the operation on the bone.* If moist sponges are desired they should be wrung out of normal salt solution.

Silver wire and silk worm gut are the materials of choice for suturing. The writer has used the latter entirely. A heavy grade is not necessary, as with the method of suturing employed there is very little strain on the stitch. A medium sized Hagedorn needle curved through an arc of 180° will be found most convenient for the insertion of the suture.

Before the mastoid operation it is well, in every case, to make a free incision in the drum membrane. This incision should include the mucous membrane on the internal wall of the tympanum. The ear is then irrigated thoroughly with a solution of bichloride of mercury, followed by normal salt solution.

When the removal of bone is completed the cavity should be flushed out with a normal salt solution and sponged dry. A running subcutaneous suture is then introduced. This is started at the most convenient angle and the wound is laced to the other angle, the stitches not exceeding a half inch in length. If larger stitches are taken the edges of the wound cannot be approximated accurately. The ends of the suture are left long. A piece of rubber tissue about an inch long, that has been folded four to six times to a breadth of one eighth to one fourth of an inch, is now placed between the last two stitches at the lower angle of the wound so that it projects about a half an inch into the wound cavity and the incision is closed by traction on the ends of the suture. The edges of the wound are coated as accurately as possible and the ends of the suture knotted together loosely in such a manner that there is no strain on the wound. This is merely for convenience of removal. They can be cut off, provided a sufficient length is left for grasping at the time of removal. A second drain of rubber tissue is inserted in the canal and a dressing applied.

The drain that is inserted into the wound cavity is not placed at the bottom of the wound, but very superficially under the line of suturing. Its object is merely to allow escape to the excess of serum expressed from the clot and it remains in place only twenty-four to forty-eight hours. The writer can see no necessity for the inclusion of gauze in the rubber tissue—the so called cigarette drain—as perfect drainage occurs along the plain rubber tissue and the danger of the gauze acting as a cork is obviated. For the same reason the middle ear is drained in a similar manner.

One last word about the introduction of the suture. Very great care should be exercised in this step to be sure that none of the layers of the skin are included, as infection would be liable to occur, due to the bacteria resident in the deeper layers of the skin. This has, doubtless, been the cause of failure in many unsuccessful cases. Allowing a factor of safety, the suture should be introduced as close to the skin as possible, in order that reapproximation of the edges may be accurate and the resulting scar as inconspicuous as possible.

*After Treatment.*—At the end of twenty-four hours the outer dressing is removed and will be found to have absorbed quite a little serum. The drain is removed and is allowed to stay out unless there is a suspicion that the discharge is in any degree purulent, in which case it is reinserted, though this time only through the lips of the wound. If the secretion is frankly purulent, the lips of the wound are separated for a short distance with a probe, the cavity wiped out with dry cotton and the drain reinserted. In all cases the drain is removed from the canal, which is wiped dry with cotton and the drain reinserted.

At the end of forty-eight hours the wound is again dressed. If the drain has been removed at the end of twenty-four hours and all is well the skin wound may be found entirely healed and the stitch is removed. This should be done by first withdrawing it a short distance from the tissues, cutting it as close to the skin as possible and then making gentle traction upon the other end. The canal is treated as before and the patient is well, except for a daily cleansing of the canal with dry cotton until the discharge has ceased, which should be within a week or ten days. The wound should be protected with a dressing and bandage for several days. The writer has thought it unnecessary to reiterate his statement that the most minute antiseptic precautions should be observed in every step. Antiseptic solutions can be used as freely as fancy dictates after the first twenty-four hours, provided that they are not introduced into the wound cavity or canal.

If the drain has been reinserted through the lips of the wound on the first day on the suspicion that all is not going well and that suspicion has not been justified it should be removed permanently and the patient treated as indicated for an uncomplicated case, the suture being allowed to remain in place twenty-four hours longer.

In those cases where infection has occurred both ends of the suture are cut off, as already described, and it is removed by traction from the point where the drain was inserted. By this manoeuvre the chance of the extension of the infection to any part of the clot that has held is lessened. If the whole clot has broken down this precaution is unnecessary. The wound is opened with a probe as freely as desired, wiped dry, and drainage inserted if any of the clot remains. Otherwise, the wound is treated so as to encourage healing by granulation in the usual way.

A sudden rise of temperature after the operation should not be taken, *per se*, as a cause for the immediate removal of the suture and reopening of the wound. Unless there is local evidence, such as redness, pouting of the lips of the wound, or frank purulent secretion, it is well to wait for a time to see that no other condition is responsible for the temperature curve. A reference to Case II will illustrate this point very well.

*Indications and Contraindications.*—Perhaps the quickest way to reach the class of cases in which this method is indicated will be to eliminate those cases in which it is contraindicated, as even its warmest advocates will not contend that its applica-

bility is universal. Success cannot be anticipated in diabetes, but the writer can see no reason why it should not be attempted in other constitutional diseases. Sprague (2) gives as contraindications acute infectious diseases, tuberculosis, diabetes, and other chronic constitutional diseases. The writer would have no hesitancy in striving for primary healing in all cases suffering from the diseases enumerated, except diabetes. Even if the vitality is at such a low ebb that there seemed no probability of success, should healing by first intention, or even partial healing, occur, the drain of a large suppurating area is eliminated or diminished, and a further tax on the already low vitality is avoided. Should the attempt fail nothing is lost, but the very painful and exhausting first dressing is dispensed with. Regarding the partial healing of the wound Blake (3) says: "Later experience has shown that it is perfectly possible for a blood clot to remain intact in one part of the evacuated mastoid and to become septic in another, this forming a basis for primary external healing in one portion, and in another, breaking down and necessitating the establishment of drainage for the region involved, the healing of this portion of the mastoid cavity being effected by the slower process of the formation of granulationata."

The great contraindication is, of course, intracranial involvement. Leaving out of consideration brain abscess and leptomeningitis, the question as to whether intracranial complications are an absolute contraindication is still an open one, and one that will demand more experience with this method before a definite answer can be given. Sprague reports three cases of sinus thrombosis in which the blood clot method was used after the thrombus had been removed with healing in about two weeks, and Bryant (4) one of epidural abscess with the same result. The writer admits that he would have a great deal of hesitancy in thus dealing with a case of lateral sinus thrombosis. In cases where a localized meningitis is the complicating factor, if the condition appears to have existed for a comparatively long time and the process is localized he would sew the wound up. Otherwise he would resort to packing. In view of the results of the writers quoted above the absolute contraindication is not intracranial, but intradural, complications. In cases in which the dura or sinus have been exposed there should be hesitancy in adopting this line of treatment.

In discussing contraindications Sprague in his paper says: "If streptococcus is present in pure culture and operation is demanded before the opsonic index of the blood is sufficiently high to resist the infection, or nature has not had time to throw up her fortifications around the local process, the blood clot should not be attempted, as not only the clot becomes infected, but the virulence of the organism is so great that the whole wound suffers more or less. The stitch holes and along the line of incision and every freshly opened area is in forty-eight hours covered with a fibrinous exudate. If we have no bacteriological examination to help us out, the duration of the disease from the primary otitis will be a safe guide, and, all things considered, is probably the most reliable, even when laboratory aid is available. It seems to require on the average



about ten days from the onset of the middle ear trouble for nature to do her work of fortification. In my experience all these wounds do better after this period, and really the cases which have gone on three weeks do the best of all."

With the exceptions already noted the blood clot method is indicated in all cases of acute mastoiditis. Let us consider a little more at length the advantages of the blood clot and why it is indicated. The first and most important is the shortening of the time of convalescence and the elimination of the pain and distress of postoperative packing of the wound. This advantage is particularly gratifying in the management of nervous patients and children. The writer ventures to say that there is an element of selfcommiseration mingled with the pity the surgeon feels for the child upon the operating table as he thinks of the troublous times in store for them both during the after treatment. To one who has had a successful result with the blood clot the result is so gratifying that there would be a tendency to overstep the bounds of conservatism were not the contraindications so sharply defined. The only thing attended with the slightest degree of pain in the whole after treatment is the removal of the stitch, and that is so slight that it can be disregarded. Even in those cases in which the success of the clot is only partial, much time and discomfort, if not actual suffering, are saved. Lastly, in those cases in which the failure is complete no time has been lost, no untoward effects have been experienced, and the very painful first dressing has been dispensed with.

The element of the length of time required for healing has already been referred to several times, and the saving is so tremendous that it seems unnecessary to urge it further, but it would seem impossible to lay too much stress on the reduction of a convalescence from a minimum of three to four weeks and a maximum of several months to forty-eight to ninety-six hours, exclusive of the middle ear condition.

The gain from a cosmetic standpoint is also very great. There is no displacement of the auricle and no unsightly depression back of it. The cavity in the bone is entirely filled up, the contour restored, and all that remains to show that the operation has been performed is a faint linear scar. Reik says that in such a comparatively small cavity as the mastoid it is probable that in some cases the fibrous tissue is entirely converted into bone by the osteoblasts.

*Illustrative Cases.*—The writer cannot present a large number of cases in which this method has been used, but in those cases in which it has the results have been so gratifying that he feels that too much cannot be said in favor of a trial of the method. There is no need of giving the history of those cases in which primary union was obtained, as nothing is to be said beyond what has already been noted. However, three of his cases have presented points of interest which it may be interesting to note as illustrating some of the contingencies that may arise.

CASE I.—W. G., age two and one half years. At the time of operation the soft parts over the mastoid were *admitted* to a thickness of at least half an inch. At the time of the incision the tissue seemed slightly purulent and dense. The incision was made. The character of the discharge persisted, and

although about ninety per cent. of the wound healed by first intention a small sinus persisted. This sinus was just large enough to admit a probe and at its bottom bare bone was detected. Local treatment and drainage were persisted in for about two months, no packing being used at any time, with ultimate closure of the wound. Cosmetic result excellent. Middle ear dry in two weeks. While there was no saving of time in this case there was a marked saving of pain and discomfort, and the writer considers it a successful result in that sense.

CASE II.—A. L., age six years. This case was a very puzzling one. The patient came to the hospital with a history of an acute otitis media of a week's duration, for which a paracentesis had been performed the day before admission. The discharge from the middle ear was free. The patient was under observation for two days before operation. On the day of admission the temperature rose to 104.4° F. and fell, the next day, to 99.2° F. The next day it rose to 103.4° F. and four hours later was 98° F. There was no chill or sweat accompanying these fluctuations of temperature. The operation was performed on the second day after admission, when the sinus was exposed and found apparently normal. The mastoid contained pus and granulation tissue. During the week following the operation the temperature was very irregular, ranging between 104.4° F. and normal. The wound was examined daily, but seemed to be healing so nicely, there being no pus and no redness of the edges, that, although drainage was allowed to remain, the wound was not opened up. The main thing that caused this course to be pursued was the general appearance and condition of the child, who had not the slightest appearance of sepsis. Malaria was thought to be the cause of the irregular temperature, but there was no enlargement of the spleen and examinations of the blood for the plasmodium were negative. A distinctive count gave no clue. About ten days after the operation the patient complained of severe pain in the left side of the chest, accompanied by a hard, dry cough, and a sudden rise of temperature to above 104° F. A larval pneumonia was suspected, but all symptoms passed off in a few days and the temperature gradually returned to normal, where it remained until the patient's discharge. The drain was left in place for two weeks, and in less than three weeks the wound was entirely healed and the middle ear dry.

In this case the temptation to reopen the wound and seek the cause of the irregular temperature there was naturally very great, and had the patient not been under observation for forty-eight hours prior to the operation this would undoubtedly have been done. The general appearance of the child argued so strongly against a septic condition that this, fortunately, was not done. This aptly illustrates the fact that a postoperative rise of temperature should not be attributed too hurriedly to the sewing up of the mastoid wound unless local symptoms are present.

CASE III.—A. G., adult. Primary union occurred in this case, but the patient continued to complain so much of pain in the temporal bone that the wound was partially reopened. The findings were negative, and the edges of the wound were allowed to fall together. Prompt healing again took place, the middle ear being dry before the end of two weeks.

In conclusion the writer would contend that this method has passed the experimental stage, and would make a plea for its more extended trial and a report of results obtained, especially unfavorable ones, so that the limits of its application may be more clearly defined. There is still room for experiment in this particular, but the writer feels that within a very short time packing of the mastoid wound in uncomplicated cases will be considered as poor surgery as a mere opening of the antrum without removal of all diseased tissue, and as much so. He would strongly urge that one or two failures be not allowed to deter from a repetition of the trial, as

there is no reason why results identical with those reported should not be obtained by any surgeon who attends with care to his technique.

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35 PARK AVENUE.

### AN ANALYTICAL STUDY OF SIX HUNDRED CASES OF ANÆSTHESIA.

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In presenting for your consideration a review of this series of cases, I shall not attempt a systematic study of this subject for various reasons, but shall confine my remarks to those points that have impressed me as being of greater interest and importance in the administration of anæsthetics, particularly ether and chloroform.

Ether was given in eighty-eight per cent. of cases and chloroform in twelve per cent. Of those given ether, two per cent. were begun with chloroform. Never more than a drachm of chloroform was used and often less, ether being substituted as soon as the patient became quiet.

Ether was preferred in cases of organic disease of the brain, heart, and bloodvessels, and chloroform in cases of lung or throat disease, alcoholic, and nervous persons, and where great rapidity was desired.

The average time to produce anæsthesia was ten minutes, varying from three minutes in several instances in children to twenty minutes in more difficult cases. The patient was considered anæsthetized when complete relaxation was obtained. The pupils were not used as an index at this stage, for in some cases they remained responsive to light during the entire operation. As a rule, however, moderate secondary dilation of the pupils is the best guide to complete unconsciousness, and my experience leads me to believe that the interval of safety between the loss of the corneal reflex and failure of perspiration and the heart, is greater than ordinarily supposed. I agree with Thomas, who says that the corneal reflex is not to be depended upon at any stage, especially if muscular relaxation is desired, for this reflex varies so much in different individuals that, on the whole, I think it is safer to ignore it altogether.

The total time that each patient was under the influence of the anæsthetic varied from fifteen minutes to four hours, the average being one hour and fifteen minutes.

The average patient gave the first definite sign of return to consciousness in five minutes after the anæsthetic was stopped. Children seemed to recover sometimes almost as soon as the inhaler was removed. In cases in which the patient is several

hours recovering are due to careless methods and to an overdose of the anæsthetic.

The average total amount of ether used was eight ounces, two and one half to produce and five and one half to maintain the narcosis. The average amount of ether used during the first hour was six ounces, and during the second hour was three ounces, and the quantity became less for each successive hour. In one case of this series the operation was of four hours' duration, and the quantity of ether used was five and one half ounces for the first hour, two and one half for the second, and one half ounce for the third and the fourth, making a total of a little over nine ounces for the four hours. In another instance thirty ounces were used in an operation of only one hour duration. The patient was an alcoholic and had taken ether before. It required more ether to produce narcosis in alcoholics and individuals who had taken it before. In several instances it was impossible to secure relaxation without the aid of chloroform. An extremely nervous person always required more of the drug than a less apprehensive one.

One of the greatest sources of annoyance to both patient and anesthetizer is the vomiting that occurs from ether or chloroform. It does not occur in every case, and it was this difference in behavior on the part of the patients that induced the writer to commence this record.

In this series of cases twenty-five per cent. of the total number of patients vomited at some time during the narcosis, and nearly all toward the end of it. Often it was the first sign of returning consciousness. A few times it occurred at the beginning. Vomiting rarely occurred after the use of chloroform or after ether when chloroform was used to start the anæsthesia, and when it did occur there was always noticeable an unusually large quantity of mucus. This hypersecretion was more marked when nervousness or excitement was present, and sometimes interfered seriously with breathing. Choking and struggling followed, and more ether was given. Thus, saturated saliva and mucus was swallowed in large quantities, and from these records the mucus would seem to be the cause of the trouble. In other words, the mucus and ether, by its irritant action on the stomach, caused vomiting. The figures are very suggestive. Twenty-six per cent. of the cases were associated with an excessive amount of mucus, and every one of the patients vomited. Twenty-four per cent. of the total number of patients vomited; the remaining two per cent. vomited from some other cause.

Vomiting may be prevented in some cases by directing the patient to drink one or two glasses of water about an hour before the operation, and prolonged vomiting may be stopped in certain cases by drinking one or two glasses after the operation. The latter acts the same as lavage, and lavage is a sure cure for uncontrollable vomiting.

For these reasons there seems to be strong cause to believe that in the large majority of cases vomiting is due to the irritant action of ether on the stomach, and that, while many patients will vomit in spite of all that can be done, the slow, careful administration of ether, drop by drop, will prevent it in many instances.



That form of vomiting that occurs sometimes at the beginning of the narcosis in cases of intestinal obstruction is a very serious complication, and it behooves the anesthetizer to be on his guard. It is really a regurgitation, and the patient literally drowns in his own vomitus. In cases of this sort the patient should be anesthetized in the Fowler position and the stomach washed out before the anæsthetic is given.

Aspirative pneumonia is a serious sequel of vomiting, although fortunately very rare. It is not, however, the usual type that follows the administration of an anæsthetic. Pneumonia practically never occurs after the use of chloroform, and very rarely after ether. In the majority of cases it is not a true pneumonia, but is, as Murrell notes, a catarrhal bronchorrhœa followed by œdema of the lungs. True pneumonia does occur, however, and is due to the irritation of ether or unnecessary exposure and chilling of the patient. It is especially liable to follow the use of ether in a patient that has a bronchitis. It rarely occurs in private as compared with hospital practice, and may be guarded against by having the mouth cleansed and the inhaler clean, by having the head turned to one side in order that fluids may escape from the mouth, and by using pure ether and as little of it as possible.

Oxygen was administered in four per cent. of all the cases as a necessity, and in 100 cases routinely, to note the effects. The results in every instance were very satisfactory, and when chloroform was used, oxygen was often indispensable. The return to consciousness was undoubtedly more rapid than when oxygen was not used, and in cases of respiratory embarrassment, the change of color from bad to good was often truly miraculous. I have come to regard oxygen of so much importance that I would rather be without drugs than without oxygen. The value of the anæsthetic is increased as regards safety to life without decreasing the anæsthetic effect. Gwathmey proved this by his experiments on cats. His figures show that, regardless of the air used, animals lived twice as long with oxygen as when air alone was used. The same experiments show that a mixture of chloroform and oxygen was more than twice as safe as a mixture of chloroform and air. This seems to indicate that chloroform is safer than usually believed, and, in fact, some authorities assert, as safe as ether, unless given by the inexperienced. At any rate, the use of oxygen with ether, and particularly chloroform, eliminates a large element of danger.

Struggling and extreme excitement during the first stage of anæsthesia may be avoided in ninety-five per cent. of cases, according to my statistics, by the drop method of administration and careful management. Thus one, if not the greatest, objection to ether on the part of the patient can be eliminated in this manner. Alcoholics will usually be an exception to the rule, as will persons who have taken ether before. In these cases if chloroform is used to commence the anæsthesia, the trouble will be overcome.

Eight and two tenths per cent. of the patients had taken ether before, varying from one to five times. They were all without exception more difficult to get under the influence of the anæsthetic. Capri-

hart's belief that the red blood cells assume an increased resistance to ether in the same manner that they do to other hæmolytic agents, such as toxins, is to my mind an untenable one.

The operations performed were of all varieties. Seventy-five per cent. were major operations, and eleven per cent. were fatal cases, death occurring within the next forty-eight hours. The fatal termination may have been hastened somewhat in a few cases, but death from the anæsthetic alone occurred in only one case. This was a man aged sixty years, who, after a long operation, died of œdema of the lungs.

The patient's general condition was carefully noted before and after the operation. The heart and lungs were gone over, the urine examined, and the pulse counted just before the operation. Ten per cent. had heart murmurs, although not one of the patients experienced any difficulty. Seven per cent. had a more or less severe bronchitis, and only two of them were attacked with pneumonia.

Eighteen per cent. of the patients required treatment during the operation or within an hour after it. Two and three tenths per cent. of those anesthetized were alcoholics, and gave trouble from start to finish. A peculiar erythema of the face, neck, and upper part of the chest was present in three and seven tenths per cent. of the cases. It appeared only after the use of ether and always during the first stage of the narcosis. It persisted for from five to thirty minutes and gradually faded as the anæsthesia progressed, until it had completely disappeared.

The method of administration was the drop one, and the Allis inhaler was used in the large majority of cases. Sterile gauze will answer almost as well, but it is impossible to prevent the ether from coming in direct contact with the face, and there is greater danger of the ether getting into the patient's eyes.

Before starting the anæsthesia foreign bodies were removed from the mouth, all persons that were not absolutely essential were asked to leave the room, and everything made ready for any emergency that might arise. The inhaler was then placed over the face without any ether upon it, and the patient instructed to breathe deeply. In a few moments he became more or less composed, and then the ether was poured on, drop by drop, very slowly at first, gradually increasing the amount as the patient became accustomed to the vapor. At this stage choking and strangling indicated that the anæsthetic was being pushed too rapidly. When relaxation of the upper extremities was obtained the patient was taken to the operating room. The following may be regarded as the most reliable signs of surgical anæsthesia:

1. Deep, regular respirations, often accompanied by snoring, and varying in rate from 10 to 20 per minute. A change in the character of the breathing means usually that more ether is needed, and a long sigh always means the same thing.

2. Absence of sweating, movement of all sign that the patient is sufficiently under the influence of the anæsthetic.

3. The pupils should be moderately contracted and frequently will respond to light slightly during the entire narcosis. In my experience it has never been necessary to have the pupil completely paralyzed.



A sign which is of great importance in this connection is a peculiar jerking or nystagmus of the eyeballs. It may be described as an irregular tremor of both eyeballs that occurs during anæsthesia. Sometimes it is only a rolling of the eyes. It is present if the patient is not too deeply anæsthetized, and is lost when the pupil becomes paralyzed to light. This sign is a very good one to depend upon, both to indicate the degree of anæsthesia and the limit of safety. It was present in every case of this series.

4. Complete muscular relaxation is perhaps the most constant and reliable sign of surgical anæsthesia, the masseter being the last to relax. Occasionally the patient will fail to relax, although every other sign of deep narcosis is present, and more anæsthetic has no effect. If under such circumstances the inhaler is removed and he is allowed to breathe air for a few seconds, and then continue the anæsthetic, relaxation will usually occur promptly.

The average time to produce anæsthesia from chloroform was three minutes, and the average amount required was thirty drops to a drachm. Vomiting after its use was rare, and there was practically no stage of excitement. Chloroform was never used unless there was a special indication for its use, and never routinely, as in the South. The color of the skin and the pulse were considered the best guides to safety.

In a review of the comparative dangers of ether and chloroform, we find that they produce anæsthesia in the same way, but their secondary actions are different and distinct. Chloroform depresses markedly the heart and respiration and lowers blood pressure, while ether has no such effect until the toxic limit is reached. The working limits of chloroform are much less than ether, hence accidents due to an excess of the former are more to be feared, and, moreover, prolonged anæsthesia is better borne with ether than with chloroform.

Lull's statistics showed one death in 2,948 cases of chloroform anæsthesia to one in 13,986 of ether, making ether about five times as safe as chloroform. Fatal terminations from chloroform usually occur suddenly from circulatory failure, but sometimes death does not occur until hours afterward. Autopsy shows a fatty degeneration of all the organs.

Most observers agree, and they are borne out by clinical experience, that ether undoubtedly has many advantages over chloroform which justify the increased favor that it enjoys, and that while chloroform is the more nearly ideal anæsthetic except from the standpoint of safety, it is much more dangerous than ether, and particularly so in the hands of the inexperienced.

In anticipation of trouble, a well matured plan of action should be in mind and everything in readiness to meet any emergency that may arise, for accidents often happen without warning, and delay at this time would be fatal. The anæsthetic should be taken away and the patient given proper stimulation. In my hands the most satisfactory results were obtained with ammonia and oxygen, but others should be used. The difficulty often is that before any active measures can be instituted the patient is in collapse, and there being no arterial pressure, the drugs are not absorbed. Cold to the abdomen and neck, and electricity, may be tried, as may dilation

of the sphincter ani. Tongue forceps and mouth gag are rarely necessary, and the use of the former is not often justifiable, on account of the severe laceration of the tongue which it produces. Turning the head to one side and pushing the jaw forward with the thumbs behind the angles will usually be all that is necessary. Efforts at resuscitation by mechanical means should be tried, but should never be so violent as to cause physical injury. Recent contributions prove that cardiac massage has a most useful field, and one which appears to have been of value mostly in cases of syncope following chloroform anæsthesia. While not having had any experience with it personally, I think that, in a case of last resort and after all other measures have proved ineffectual, massage of the heart should certainly be attempted.

That the life of the patient in many cases rests with the anæsthetizer is a fact not generally appreciated. He should remember that he holds the life of the patient in his hands, and should allow nothing to hurry him, not even an impatient surgeon. All of his thoughts should be concentrated upon his task, but too often he is more interested in the details of the operation than in the anæsthetic.

The administration of the anæsthetic is a task usually relegated to the least experienced resident physician in hospitals, or in private practice to the family physician out of courtesy, often the very person least capable, the reason being that these persons are usually out of experience. To be a good anæsthetist one must give ether or chloroform constantly. The administration of these two drugs is really a specialty in itself, and a successful anæsthetist must be fitted for his task, which can be accomplished in one way only, by experience. He should have sufficient tact and sympathy to give the patient confidence and be able to allay the natural apprehension and fear of the anæsthetic. A careless anæsthetist often allows his patient to come partly out of the influence of the drug, and then crowds it at the command of the surgeon to prevent the complete return of consciousness. The patient is sure to give trouble under such conditions. On the other hand, the skillful etherizer keeps his patient constantly under, and avoids the mouth gag and other troubles, with the result that there is quietness and complete relaxation throughout the entire operation.

Therefore, in conclusion, let me urge that the importance of this subject be given more recognition by medical colleges, and each student receive more individual instruction and experience. Furthermore, let me urge that in hospitals the anæsthetizer be the most experienced man on the interne staff instead of the least experienced.

#### Conclusions.

1. Ether and chloroform are apparently the most satisfactory anæsthetics.
2. Ether is safer than chloroform, but under certain circumstances, when chloroform is desired, the risk may be materially lessened by giving oxygen with it.
3. The average patient was ten minutes becoming anæsthetized and it required two and one half ounces of ether to obtain this condition.

4. The average length of time of the operation was one hour and a quarter, and it required five and one half ounces for this time, or, in other words, about six ounces were used during the first hour, and about three ounces for the second hour.

5. While most of the evidence at hand points in favor of vomiting being due to a centric disturbance in ether anæsthesia, these records show a close relationship between excessive secretion of mucus and vomiting.

6. In the treatment of accidents most dependence may be placed upon ammonia in the form of inhalation, and oxygen.

7. The more remote consequences of anæsthesia, such as status lymphaticus, acetonuria, acidosis, hepatic toxæmia, etc., must not be lost sight of, and general anæsthesia should be preceded by a thorough examination of the heart, lungs, and kidneys.

1013 WASHINGTON STREET.

### PRURITUS ANI.

*Its Cause and Treatment, with Especial Reference to the Use of the Röntgen Rays.*

By R. D. MASON, M. D.,  
Omaha, Neb.,

Professor of Rectal and Pelvic Surgery in the John A. Creighton Medical College; Surgeon to St. Joseph's Hospital

This is the most intractable disease that the rectal surgeon is called upon to treat. It is often spoken of as a trivial matter, yet I have had patients who were almost physical wrecks, due to the loss of sleep, worry, and nervous irritation. I believe that in its early stages it always has some well defined cause which, if searched for and removed, will cure the disease. A little later, however, the terminal nerve filaments become affected, and, even though the cause be removed, or has long since passed away, the itching will still remain.

The skin becomes thickened and parchment like and the nerve endings seem to be pressed upon and constantly irritated. In these cases nothing will give permanent relief except the destruction of this altered tissue and the formation of new skin. There are several ways of doing this, all differing in methods, but aiming at the same end; of course, if there is any cause that is keeping up the irritation, it should be removed. It would be very unwise to try to cure a pruritus due to eczema, pin worms, fistula, hæmorrhoids, rectal catarrh, ulceration, etc., without first removing these.

Dr. Bulls, writing in the *British Medical Journal*, says: "At a recent meeting of the British Medical Association, at Oxford, an interesting discussion took place, in the section on dermatology, on the causation and treatment of pruritus ani; any one reading that debate cannot fail to be impressed with the numerous numbers of distinct diseased conditions to which this annoying symptom was attributed by the various speakers, and, large as the number of supposed causes assigned were, the various plans of treatment advocated were still greater."

This disease is characterized by the most intense itching, which is worse when the patient gets into a warm bed. Patients have told me that pain would

be a relief and would be willingly borne in preference to the pruritus. Many patients do not consult the physician until the disease has become chronic, and it is then most difficult to tell what may have been the cause, as the symptoms may remain, even after the cause has long since passed away.

They will usually try all sorts of remedies before consulting a physician, and when they finally do, the relief is often so transient and unsatisfactory that they drift from one to another with but little benefit from any treatment advised. They are likely to think that but little interest is taken in their case, and go from bad to worse, until, by the time they get into the hands of a rectal specialist, they are often in a serious condition.

In my opinion the disease is caused in the great majority of instances by an unnatural discharge of moisture about the parts; this may be brought about in various ways and by so many different conditions that a most careful search should be made to determine its source before any treatment is started.

As before stated, in chronic cases the cause may have disappeared, or if present its removal may not end the trouble, as the skin has become so thickened and thrown into folds that only its destruction or removal will effect a cure. The irritation that causes the catarrhal discharge may be internal or external hæmorrhoids, chronic proctitis, ulceration, fistulas, especially the small submucous variety with no external opening, pin worms, hard dry fæces which irritates the parts, the lodging of irritating matter in the so called rectal pockets, the growth of small polyps, or in fact anything that will cause an irritation.

Some of the patients who come for treatment are afflicted for the first time, and the cause may be some error of diet, excessive smoking or drinking, and but little treatment is necessary to effect its removal. After many years of study of this disease I have arrived at about the same conclusion as Wallis, of London, who attributes it to a small, shallow ulcer just between the sphincters. He says:

In over ninety per cent. of the cases so examined the shallow ulcer mentioned was found situated, usually between the two sphincters, more often in the posterior half than in the anterior, and generally in the dorsal midline; in some cases there is more than one ulcer, and, again in others there are various clefts which occasionally almost surround the bowel. This ulcer is not easy to recognize by the touch, and it requires a certain amount of practice to appreciate its presence. In the first place, it must be remembered that it is only just within the anal margin, and always below the internal sphincter. The smooth feeling of the healthy lining membrane will be recognized, but when the finger comes onto this abraded or ulcerated surface the smooth feeling disappears, and a slightly raised margin can be felt around the rough surface. There is sometimes pain, but more often none, associated with the examination. When the speculum is introduced, it must be remembered that the tissues are pushed in, some little way, by the instrument, and therefore the ulcer will appear higher up than it really is. If after its introduction the speculum is opened to its fullest extent, the inexperienced observer will probably not recognize the ulcer; but if the speculum is only slightly opened and, when possible, a careful view with a headlight is obtained, the ulcer can be clearly seen as a shallow oval, livid abrasion, differing markedly, and mainly in color, from the normal mucous membrane. Here, then, is a definite lesion, in a so far indefinite disease, and it seemed reasonable to believe that it might be the cause of the irritation.

I have spoken of this little ulcer in my book on

rectal diseases,<sup>1</sup> and further experience only confirms my opinion of its importance. It should be understood, however, that it is not the ulcer itself that itches, but it is the discharge flowing over the parts that causes the trouble. The skin becomes thickened and infiltrated, and loses its vitality. The nerve endings are compressed by the pressure made on them causing an irritation, and itching is the result.

*Symptoms and Diagnosis.*—These are so evident that the patient will have arrived at a diagnosis before consulting the physician. He will probably say that he has "itching piles," as he is unable to recognize the cause of the trouble. His whole thought is how to get rid of the intolerable itching, which is simply wearing his life out.

Upon examination the first thing that will be noticed is that the skin about the anal margin is thrown into folds or ridges, and that it looks unnaturally sodden and dead; also in most cases there will be seen an unusual amount of moisture coming from the bowel above. This roughness and moisture are often the lurking place for dirt and lint from the clothing, which collects here and irritates the parts; even those of cleanly habits are unable to avoid this. An eczema is generally present, often extending over a large area, and the marks of finger nails may be seen, showing the results of scratching. This chronic eczema is very hard to heal, and does not respond to the ordinary remedies used for this disease.

Careful search should be made for some of these conditions which I have mentioned, in order to arrive at some conclusion as to the cause of the trouble. This should in all circumstances be removed, although, as before stated, it may not cure the disease.

*Treatment.*—The most important thing is to find the exciting cause and remove it; this in recent cases will effect a cure. If the skin has become thickened and rough, some method must be adopted to bring it back to as near its normal condition as possible. In some cases this seems to be beyond the reach of drugs, and only to be accomplished by the destruction or removal of the skin. A plan that has given me good results is the application of a ninety-five per cent. solution of carbolic acid to the affected skin; I sometimes use a saturated solution of silver nitrate instead of the acid, as suggested by Adler. The epidermis peels off in a few days, leaving a somewhat tender surface, that should be treated with soothing ointments, such as the ointment of zinc oxide.

After an interval of two or three weeks the acid should be put on again. This may have to be put on several times before the skin becomes natural. Sometimes there are large, warty ridges almost resembling piles. I never waste time with these, but simply cut them off and let the space fill in by granulation. The intervening and all surrounding tissue is treated with the acid.

This seems like rough treatment, and so it is, but it should not be forgotten that we are dealing with a most stubborn disease, and decisive measures must be adopted to bring about a cure. Some patients object, but the majority are willing to submit to anything that promises relief. After all, it is not so

painful, as the acid acts as a local anæsthetic, and, while it burns somewhat, it is a comfort, as it stops the terrible itching.

The following case illustrates the benefits of this method of treatment.

*CASE.*—Mr. W., age forty, treasurer of an eastern Iowa county, and a man of more than ordinary intelligence, came to my office complaining of pruritus that was simply making life unbearable. The disease had troubled him for a long time, but was much worse at present than ever before.

Examination showed the skin to be thick, parchment like, and lifeless, with several heavy folds that radiated from the anal aperture. I explained to him that as he could not remain for treatment, anything that I did must necessarily be quite severe; also that it would have to be kept up at home for a long time. He replied that he "did not care what I put on, as it would be a relief to what he was now suffering. I cut off all the redundant tissue and applied acid to the surrounding skin. I gave him the zinc oxide ointment to use until the soreness had left, and told him to have his wife apply the acid and to keep it up as long as seemed necessary. I also gave him the following injection:

R	Dist. ext. hamamelis, .....	.5x;
	Monsel's solution, .....	.3ij;
	Sodium carbolate, N. F., .....	.3vj;
	Glycerin, .....	.3iv.

M. Sig.: Inject one half teaspoonful in starch water at bedtime.

He was warned against scratching, and told to forego all alcoholic drinks, excessive use of tobacco, rich meats, highly seasoned food, etc. He continued this treatment for a long time and was rewarded with a complete cure. After six years there has been no return of the disease.

In cases that are caused by a vegetable parasite I have made use of pure sulphurous acid with good results. It is generally used in solution, but I have found that it is better to use it full strength. It is quite painful, but one application is all that need be made, as it will destroy any living parasite that may be present.

The application of very hot water, followed by citrine unguentum applied freely on gauze, over which is tightly bound a pad with considerable pressure, will often give relief, so that the sufferer may obtain a good night's rest. In fact, the citrine ointment is the best single agent with which I am familiar to bring about a permanent cure. When used persistently for a long time it will in many instances bring about permanent relief.

It is said that French surgeons use a sharp curette and scrape away all of the diseased skin, thus bringing about the same condition that we do by removing it surgically and bringing the edges together with sutures. The carbolic acid does the same thing, only in a slower manner.

Kelsey uses the white hot cautery, passing it lightly over all the affected parts. This, of course, is only another method of destroying the superficial layer of skin and allowing healthy tissue to take its place. It matters not what may have been the original cause of the disease or how long since this cause may have passed away, there comes a time when the terminal nerve filaments are bound down by the deposit of fibrous matter produced by the irritation of scratching, and nothing short of its complete destruction or removal will bring about a cure.

As before stated, I believe that most of these cases originate from a catarrhal condition of the bowel, and that if seen early enough, treatment directed to this condition, if carefully carried out, would cure the pruritus. Tuttle says:

<sup>1</sup>The Office Treatment of Rectal Diseases, by R. D. Mason.



Catarrhal disease of the rectum and anus are among the most frequent causes; whether it be the atrophic or the hypertrophic form, pruritus is one of the commonest symptoms. The dry, brittle condition of the mucocutaneous membrane about the anus, described as a symptom of pruritus ani, is nothing more or less than a part of the atrophic catarrh of the rectum and anus; and that moist, sodden, whitish condition seen in chronic cases is the result of the hypertrophic type.

It is well known by all who do rectal surgery that after hæmorrhoid operations or any condition where there is a wound that discharges pus as it heals, there is a constant pruritus on all the surrounding tissue owing to its being constantly irritated by the discharge.

Other causes that should be searched for are constitutional diseases, especially diabetes, rheumatism, gout, and all the conditions that go under the name of uricæmia. There seems to be an irritant in the blood that causes cracks and fissures at all the mucocutaneous junctions and pruritus ani and vulvi which are very troublesome.

These people are generally affected with eczema and the skin seems dry and scaly, especially about the scrotum, on the breast, and about the ears and hair.

Certain errors of digestion as well as certain articles of food may start an attack of pruritus. Coffee has seemed to me to be more harmful than any other article of diet, and will alone produce the disease in certain persons. All of these things should be searched for, and, if found, given careful attention. I absolutely refuse to treat a person who is in the habit of drinking any form of alcohol.

As a rule, the treatment must be long and tedious, and unless the patient will make every effort to assist in bringing about a cure I refuse to treat him.

There are many formulæ that are used with more or less success, a few of which are here given. Tuttle speaks highly of the following:

R Ac. carbolic, ..... 3j;  
Ac. salicylic, ..... ʒj;  
Glycerin, ..... ʒj.

M. Sig.: Apply with camel's hair brush after bathing with hot water.

Mathews recommends:

R Camphor and phenol, ..... ʒj;  
Glycerin, ..... ʒj.

M. Sig.: Apply after using hot water, and repeat frequently if necessary.

In cases where there are fissure like cracks at the junction of the skin and mucous membrane, Cripps recommends the following:

R Ext. conii, ..... ʒj;  
Ol. ricini, ..... ʒj;  
Lanolin, ..... ʒj.

M. Sig.: Apply frequently.

An ointment of chloroform as follows acts nicely in many cases:

R Chloroform, ..... ʒj;  
Petrolat., ..... M.

M. Sig.: Apply frequently.

This must be put up in a wide topped bottle and kept tightly corked, as otherwise the chloroform will soon evaporate.

Where the parts are too moist the treatment is often assisted by the use of powders that will absorb the moisture. Plain starch has given good results in many cases. Dry calomel many times is very useful. The following has given good results:

R Camphor, ..... 3ij;  
Carbolic acid, ..... grt. 15;  
Precipitated chalk (Eng.), ..... ʒj;  
Zinc oxide, pulv., ..... ʒj;  
Perfume, q. s.

M. Reduce the camphor with alcohol and mix the others through bolting cloth of one hundred meshes to the inch.

I have operated under chloroform three times by removing a section of the skin for about an inch on each side of the anus, and then undermining the surrounding skin and drawing it together to cover the denuded surface and stitched it to the mucous membrane of the bowel.

In two cases I secured good results, while the third patient was lost sight of. This procedure was suggested to me by my friend, Dr. Hamilton, of this city, and as a means of last resort I believe it to be very valuable. I intend to make further use of it as opportunity arises.

Patients should always be told not to scratch the parts, although this warning is seldom heeded. If the itching is so severe as to interfere with sleep, have them use hot water, gradually increasing the temperature, until it is nearly scalding. In case this is not sufficient to give relief, an ointment of chloroform, one drachm to one ounce of petrolatum, may be applied. A weak solution of carbolic acid in water and glycerin will often give relief when all else fails. The following mixture is a most excellent one:

R Sodium hyposulphate, ..... ʒj;  
Carbolic acid, ..... ʒss;  
Glycerin, ..... ʒj;  
Distilled water, ..... ʒij.

M. Sig.: Apply frequently on compresses.

Also:

R Cocaine, ..... 24 gr.;  
Ex. rhiatany, ..... 15 gr.;  
Ext. hamamelis, ..... 7½ gr.;  
Petrolatum, ..... 3v.

M. Sig.: Apply freely.

Dr. Buckley recommends the following, and I can testify to its merits:

R Ungt. picis, ..... 3ij;  
Ungt. belladonnæ, ..... ʒj;  
Tr. aceton. rad., ..... ʒss;  
Zinci oxid., ..... ʒj;  
Ungt. aque rose, ..... ʒij.

M. Sig.: Apply freely.

I have cured several patients by injecting cocaine under a small portion of the skin where it is thickened and then cauterizing it with the actual cautery. After healing has taken place, another area is treated in the same way. This makes the parts quite sore, but not more than is bearable, and most patients are willing to put up with it if it is likely to cure them.

While the principal attention should be paid to the skin in order to get relief from the itching, yet measures should be taken to cure the catarrh in the bowel above. I have the patient wash out the bowel with solutions of boracic acid and then inject a twenty-five per cent. mixture of glycerite of hydrastis (not fluid extract). Other antiseptic astringent solutions may be used, such as would be beneficial in catarrhal conditions in other parts of the body.

Owing to the difficulty experienced in effecting a cure in some of the chronic cases that have come to me for treatment, and being anxious to try anything that held out any hope of cure I was led to try the Röntgen rays. While my experience has not been

great in the number of patients treated it has been so satisfactory that not only myself but my patients have been delighted with the result.

This method is only useful in old chronic cases where the skin is eczematous and thickened. Just what the action is that brings about a cure I will not attempt to say, but that the eczema disappears and the skin returns to its normal condition or nearly so is beyond question. It is too soon to say positively how permanent the results are going to be, but I think from the appearance of the skin that there will be no return if the bowel above is put in a healthy condition.

My technique is as follows: With a soft tube I give an exposure of ten minutes' duration twice a week, until I learn how the skin is going to stand it. If there is no irritation I give three treatments a week until a brown discoloration appears. All treatment is then stopped until this goes away, when treatment is resumed until it reappears. This is usually enough, but, if possible, I think it is well to give an occasional treatment after this as a matter of precaution.

I hope to make a further report on the use of the Röntgen rays in the near future, after there has been more time to test its merits.

I know of no disease that will so tax the skill and ingenuity of the physician as pruritus ani, and in all cases the patient should be made to understand that in order to be cured he must be willing to do all in his power to aid the treatment. Many times the cure seems to be accomplished when a relapse will occur which is very discouraging to both the patient and physician.

402 BRANDEIS BUILDING.

### PRURITUS ANI.

BY CHARLES O. FILES, M. D.,  
Portland, Me.

In the discussion of pruritus ani, in the *Journal* about a year ago, many good and many true things were written, but the final conclusions were peculiarly unsatisfactory to some of the readers of the different communications. When all the customs, habits, and appetites supposed to be inimical to general health are given as direct causes of this simple, yet exasperating, malady, the real, immediate cause seems buried beyond hope of recovery or resurrection.

Constipation, from whatever source, is surely an accessory or antecedent cause of this trouble. It is possible, however, to come much nearer to the immediate or exciting cause, if we investigate more closely. There are two important factors which ought to be studied. These are an analysis of the contents of the rectum, and the physical condition and mechanical efficiency of the sphincter ani muscles, external and internal. The normal feces contain about seventy-three per cent. of water. This water holds in solution various volatile, fatty acids and probably other irritating excrementitious substances. During the retention of the feces in the rectum a considerable portion of the water disappears. In prolonged constipation the feces become hard and dry. Some of this fluid passes by osmosis into the cellular tissues about the anus, and thence

to the skin. The liquid feces are often very irritating to the mucous membrane of the anus, and cause an intense burning sensation. When this acid, acrid solution is absorbed into the cellular tissues it causes an irritation of the skin, and we call that irritation pruritus ani. The sphincter muscle, as long as it remains in a normal condition, prevents the passage of any appreciable amount of fluid through it. When, however, it is made somewhat irregular by the presence of a hemorrhoidal condition, some of the fluid leaks through the sphincter and causes the pruritus by direct contact. The skin about the anus is often found to be moist in persons having hemorrhoids.

The treatment of this affection may be easily deduced from this statement of its causes. The patient should be directed to take only those kinds of food that are easily digested, that are not constipating, and that are not irritating. The bowels must be kept open by the use of saline cathartics. Locally, any soothing applications will allay the irritation temporarily. Castile soap, boric acid, cold cream will serve as well as anything.

195 HIGH STREET.

### Correspondence.

#### LETTER FROM HAMILTON, CANADA.

*The Ontario Medical Association.—Infanticide.—Teaching in Psychiatry.*

HAMILTON, June 1, 1908.

The Ontario Medical Association met here on the 26th, 27th, and 28th of May, under the presidency of Dr. Ingersoll Olmstead, of Hamilton. It was the largest meeting of the association ever held, the attendance amounting to 317. From the standpoint of scientific matter produced, it was about the best. Dr. Charles G. Stockton, of the University of Buffalo, delivered the address in medicine, and Dr. Charles Scudder, of Boston, the address in surgery. Several members of the profession in Montreal were present and contributed to the papers and discussions. Speaking at the annual banquet, on the evening of the 27th, Dr. Roddick, of Montreal, strongly urged that interprovincial legislation be secured and that the barriers keeping doctors in the different provinces from practising their profession in an adjoining province be taken down. He believed that the government of the medical profession should be in the hands of the Federal Government, and that it was intended so by the British North America Act. It was the opinion of Dr. Roddick that as soon as Ontario strongly urged this measure other provinces would soon fall into line.

The meeting unanimously adopted the following resolution: "That, whereas the destruction of children for any other cause than that of the preservation of the life of the mother; and whereas the perpetration of this act by a member of the medical profession not only incriminates the physician himself, but also brings discredit on an honorable profession, we, members of the Ontario Medical Association, take this opportunity of stating that the association has always condemned in the strongest possible terms this criminal practice."

Another resolution passed read as follows: "That the Ontario Medical Association desires to give ex-

pression to its hearty approval of the proposition of the Ontario government to establish psychiatric clinics to work in conjunction with the hospitals for the insane of the province; that the association also respectfully request the government to have a lunacy commission or a board of alienists, who alone shall give expert evidence in a court of law as to the sanity or insanity, and also to institute reforms in the civil service, in connection with the hospitals for the insane, whereby promotion for merit shall take place, and especially to make a rule that no one shall be appointed superintendent of any hospital for the insane unless he has had some years of training in the service."

It was decided to meet in Toronto next year with the following officers: President, Dr. H. J. Hamilton, of Toronto; vice-presidents, Dr. R. R. Wallace, of Hamilton; Dr. A. M. McFaul, of Collingwood; Dr. A. Dalton Smith, of Mitchell; and Dr. George H. Field, of Coburg; general secretary, Dr. E. Stanley Ryerson, of Toronto; assistant secretary, Dr. J. E. Davey, of Hamilton; treasurer, Dr. J. H. Mullin, of Hamilton.

#### LETTER FROM TORONTO.

*The University of Toronto and the Toronto General Hospital.*

Toronto, May 30, 1908.

A pamphlet entitled *The General Hospital versus University of Toronto*, embracing a series of articles dealing with the supposed unfair action of the board of governors of the Toronto General Hospital, in their recent reorganization of their staff scheme, toward the Medical Department of the university, has been freely distributed among the medical profession in this city, and probably to some extent among the public at large. These articles have been appearing regularly for a month past in one of Toronto's evening papers. As the stand is taken by some one favorable to the university, and probably by some one whose ox has been gored, your correspondent has taken the liberty of placing the University of Toronto in the position of plaintiff and the Toronto General Hospital in that of defendant. The complaint is made that in the recent reorganization of the staff of the hospital the understanding on which the university contributed \$300,000 toward the erection of a new hospital, designated as the most important factor in the new scheme, was that, so far as possible and practicable, the hospital was to be made a university hospital, and that that understanding had been totally disregarded by the board of governors of the hospital in making these appointments. The charge is made that the hospital authorities did not intend to and did not recognize the university in the working out of their plans for reorganization, and do not propose to do so. To those who have read these letters and have carefully perused the pamphlet, it is difficult to understand wherein any very strong "kick" can emanate from any member of the Medical Department of the University of Toronto. As a matter of fact, the heads of all the departments or services in the hospital, as well as all their assistants except two, are members of the Medical Department, and there are mighty few of the juniors under these but all are associated with the Medical Department of the university as teachers, demonstrators, or pathologists.

Looking at the matter altogether apart from the standpoint of medical education, and just from its financial aspect and the point of view of the medical practitioner in Toronto at large, it would appear that the Toronto General Hospital is, practically speaking, a university hospital. Not a single practitioner from outside the Medical Department of the university received an appointment as head of any service in the hospital, and only two of the senior assistants are beyond the pale of the Medical Department of the university. The University of Toronto contributed \$300,000 toward this proposed new hospital; the city of Toronto, \$200,000; subscribers, \$700,000; and the old hospital board handed over a million dollars of assets. It will strike most people that the University of Toronto for its donation of \$300,000 has done exceedingly well in the matter of appointments. If one cared to carry the matter further, the questions might be asked, Where were the five representatives of the city of Toronto on the board of governors of the hospital? Where were the seven representatives on that board of the subscribers?—Yes, where were the eight representatives of the Province of Ontario on that board when the scheme was going through? Did the five representatives of the university on the board, which represented a \$300,000 donation, "jockey" the others? In the face of these palpable facts, one of the board of governors in his reply to these newspaper articles states it is not a university hospital—"the university is but one of several parties in its welfare." The "one of several parties" seems to have done pretty well.

It has been admitted by one of the board of governors of the hospital that, had that institution been made a university hospital out and out, some of the subscribers of the \$700,000 would not have come forward with their checks. This looks very much like an admission of fear of financial loss, on the one hand, but a latent feeling that it should have been a university hospital, on the other. It is doubtful if, provided the hospital had been made a university hospital pure and simple, very much of this \$700,000 would have been lost to the institution; it is doubtful if there would have been very much objection to making it such. It would have been far better in many ways if the five representatives of the university had carried the day outright, rather than have the one sided arrangement as at present.

#### Therapeutical Notes.

**Iodine in the Treatment of Ulcers.**—In a communication to the *Journal of the American Medical Association* for May 30, 1908, J. W. Rupp, of Apache, Okla., says he has found the application of a saturated solution of iodine in alcohol to give excellent results in the treatment of ulcers. He began by painting the skin up to the edge of the ulcer, and this produced such good results that he continued to use it on the surface of the ulcer itself. He has found that iodine used in this way is an efficient means of converting a septic ulcer into a clean, granulating wound which heals readily. He applies the iodine either in a concentrated form or a saturated solution, and that he uses it in various



as is required until the slough separates, when an ordinary dusting powder and gauze may be applied. The iodine should then be discontinued, but if any unhealthy or superfluous granulations appear, it should be again applied. He says it quickly changes a phagedenic ulceration into a healthy condition, and speaks of other indications in which it has been serviceable, as in mouth and throat troubles, by painting it over the surface. It will arrest and cure pyorrhœa alveolaris. The application is usually painless.

**Treatment of Severe Burns.**—Having had occasion to treat extensive burns on workmen in the sugar works, glass factories, and mines in the district of Douai, Dr. Galand, of Cambrai, recommends the use of the following paint, which is applied with a camel's hair pencil over the entire surface of the injured parts. The application produces a sensation of coolness and relieves the pain, forming at the same time a varnish coating which serves to replace the denuded skin (*Bulletin général de thérapeutique*, May 8, 1908):

R	Carbolic acid, .....	gtt. xxv;
	Pulverized dextrin, .....	℥iv;
	Tincture of aloes, .....	℥iii;
	Spirit of camphor, .....	℥i;
	Lead nitrate, .....	gr. xlv;
	Tannic acid, .....	gr. xv;
	Cherry laurel water, .....	℥v.

M.

To make a perfectly homogeneous mixture it is necessary to have the dextrin in a state of impalpably fine powder. To this is added little by little the mixture of tincture of aloes and spirit of camphor, rubbing up until thoroughly incorporated. The cherry laurel water containing the lead nitrate and tannic and carbolic acid is then added.

Apply with a brush, and after the first coating has dried apply a second or third coating to the more severely injured parts.

**Adrenalin in Acute Eczema.**—According to N. E. Aronstam (*Central States Medical Monitor*) a solution of the active principle of the suprarenal gland is astringent and soothing in acute eczematous conditions and dermatitis. He recommends its use in the following combination:

R	Boric acid, .....	gr. v;
	Solution of adrenalin (1 in 1000), .....	℥i;
	Camphor water, .....	℥iii;
	Distilled water, .....	ad ℥i.

M.

A piece of sterile gauze is saturated with the solution and applied to the inflamed or affected parts, the application being renewed when the dressing is dry.

**Treatment of Mushroom Poisoning.**—Maheu, in *La clinique*, summarizes the treatment of mushroom poisoning. The first thing to do is to evacuate the stomach by an emetic and then administer a purgative. In cases where there is contraction of the jaw, apomorphine should be given hypodermatically in a dose of one twelfth of a grain for adults. After the stomach has been emptied of the poisonous matter, administer demulcent drinks, such as milk, albumen water, etc. Apply a sedative application of camphorated liniment and chloroform to the

abdomen; to overcome the fainting condition sinapisms may be applied, or hot coffee given internally, or hypodermatic injections of ether, or caffeine.

**The Treatment of Earache.**—Earache of the most intense variety is generally caused by the formation of a furuncle in the auditory passage. The treatment should consist, according to Molinié (*Journal de médecine et de chirurgie pratiques*, March, 1908), of overcoming the pain and evacuating the boil. The parts should be made strictly aseptic, and after cleaning them minutely, the painful spot should be touched with the following solution, applied with a plectet of cotton:

R	Cocaine hydrochloride, .....	
	Carbolic acid, .....	
	Menthol, .....	ââ gr. xv.

M.

This application will deaden the pain and sometimes abort the furuncle. If the inflammation persists the boil should be opened under an anæsthetic, either local or general. Otitis of the middle ear, which causes a most violent pain, is treated either by palliative means or by operation. As a means of relieving the pain the following solution may be employed by dropping a few drops of it warmed into the ear:

R	Cocaine hydrochloride, .....	gr. xii;
	Morphine hydrochloride, .....	gr. iv;
	Carbolic acid, .....	gr. iiss;
	Glycerin, .....	
	Water, .....	ââ gr. lxxv;
	Spirit of peppermint, .....	gtt. i.

M.

**Applications in Galactorrhœa.**—The application of a solution of cocaine hydrochloride is recommended by Dr. Comby and by Dr. Joire; the formula used by the first named is as follows, according to *Journal de médecine de Paris* for May 9, 1908:

R	Cocaine hydrochloride, .....	gr. iii;
	Distilled water, .....	℥iiss.

M.

Dr. Joire's prescription is:

R	Cocaine hydrochloride, .....	gr. lxxv;
	Glycerin, .....	℥iiss;
	Distilled water, .....	℥iiss.

M.

The mammæ and areolæ are painted with the solution by means of a camel's hair pencil, or with a wad of absorbent cotton. The efficacy of cocaine in this application is due to its vasoconstrictive action.

**Injection for Internal Hæmorrhage.**—Huchard prescribes the following for hypodermatic use in internal hæmorrhage:

R	Ergotin, .....	gr. 1/7;
	Lactic acid, .....	gr. 1/3;
	Cherry laurel water, .....	℥iiss.

M.

**A Liniment for Engorged Lymphatic Glands.**—Heindl, of Vienna, treats engorged lymphatic glands by the alternate application of compresses wet with solution of aluminum acetate and rubbing with the following liniment:

R	Veratrine, .....	gr. viiss;
	Chloroform, .....	℥i;
	Oleobalsamic mustard, N. F., .....	℥iii.

M.

# NEW YORK MEDICAL JOURNAL

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NEW YORK, SATURDAY, JUNE 13, 1908

## THE NEW PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION.

We congratulate the association on its choice of Colonel William C. Gorgas, of the Medical Corps of the United States Army, of whom we present a portrait in this issue, as its next president. Colonel Gorgas's achievements in sanitation have won for him the admiration of the nation, and his personal qualities have endeared him to those whose privilege it has ever been to come within the gentle charm of his presence. He did not need strengthening before the public by any such specific support as is proclaimed by his election to the presidency of the great representative association of the medical profession of the country, but it was none the less a most graceful act for the association to signify its appreciation of the man and of his services by making him its chief officer.

The Medical Corps of the United States Army, the Bureau of Medicine and Surgery of the United States Navy, and the United States Public Health and Marine Hospital Service are organizations of which the medical profession is proud, and we hope that it will often take occasion to signify its pride in them by designating their members as chiefs among its representatives. Though it is but a few years ago that Surgeon General Sternberg, of the army, was the president of the American Medical Association, it was high time for the association to attest anew its appreciation of the various medical corps of the national service. Not only has their service training a decided tendency to fit the members of those corps for the duties and responsibili-

ties of a presiding officer, but their purely professional attainments entitle them to the highest recognition. We predict for Colonel Gorgas a memorable record as president of the American Medical Association.

## ALUMNI REUNIONS IN CHICAGO.

The difficulty of assembling alumni resident in all parts of a country so large as ours is ordinarily very great, but it was to a large extent overcome in Chicago last week. It is true that the Chicago meeting of the American Medical Association was large beyond precedent and, we imagine, beyond all expectation, for more than six thousand members were registered, and there was the usual attendance, perhaps more, of visiting physicians who were not registered. It was this influx, of course, that brought with it a vast number of persons inclined to take part in alumni reunions; but any annual meeting of the association, even one not half so large as that of Chicago, may be counted upon to bring together more alumni of an individual medical school than could well be gathered together on a different occasion. Several of the school organizations took advantage of the certainty that the great meeting would enable them to assemble their members in multitudes, and consequently their reunions, all held on one evening, were numerically much superior to the common run of such gatherings. The element of entertainment was in the ascendant, very properly, and banquets, smoking concerts, and the like made the assemblies festive as well as promotive of college spirit.

It must be confessed that our Western friends manage such a thing as a large banquet much better than we of the East generally do it. There is an initial heartiness about them that makes a stranger feel at home at once, and joy does not lag until the wine has begun to work. In the Atlantic States it is too apt to be the case that a man of little or no prominence arrives on the scene of a dinner with nobody particularly disposed to beguile for him the wearisome waiting period. Joviality and community of feeling do, indeed, come at last, but, like the flavor of the persimmon, not until after a frost has been encountered. It was the privilege of a representative of this journal to be seated in the lobby of the Illinois Athletic Club while the alumni of the Medical Department of the Northwestern University were gathering for their banquet, and he could not help admiring the conduct displayed. For the time being, he regretted that he himself was not a Northwestern alumnus. An energetic and hearty reception committee stood at the doorway of the great building; its members were not seated in solemn and frigid dignity in a room more or less difficult to

find and ready to play the snob when at last they were found. No sooner had a man stepped inside than he was cordially grasped by the hand and, in case he was not personally known to any member of the committee, asked if he had come to join in the banquet. On his answering in the affirmative, he was led (not directed) to the place where he could divest himself of his hat and overcoat, and from that moment the fraternal feeling had full play. One could not but admire, also, the skill with which the great throng was handled; 789 men arrived to attend the banquet, about 250 more than had been expected, but the excess worked no serious inconvenience, such was the capability of the club's manager, and with an insignificant minimum of waiting, spent in kindly frivolity of speech, everybody was comfortably seated. Surely the management of a banquet is among the many things in which we might to our advantage take lessons of our Western friends.

#### PALMAR PROJECTION OF THE ULNA AFTER COLLES'S FRACTURE.

In the May number of the *Providence Medical Journal*, Dr. Franklin C. Clark, of Providence, presents a practical and very interesting subject for consideration, that of a projection of the lower end of the ulna "forward" (toward the palmar aspect of the wrist) after Colles's fracture, manifesting itself secondarily, i. e., coming on at a comparatively late period, after the fragments of the radius have united. The occurrence seems to be rather rare, as Dr. Clark has met with only two instances of it in a practice of over thirty years. He gives the histories of these cases. In one of them he might have been inclined to attribute the abnormality to the very extensive injury to the parts sustained by a woman, forty years old, in a backward fall down the entire length of a flight of stairs of seventeen steps. In the other case, however, the injury seems to have been caused by a simple fall forward, the weight of the patient, a woman of sixty, coming upon the palm of the hand.

This complication appears to detract decidedly from the utility of the wrist joint, no matter in what perfect apposition the fragments of the radius may have united, and it is apt to lead to a conviction on the part of the patient that the fracture was improperly set in the beginning. It occurs in cases treated exactly like other cases of Colles's fracture in which the ultimate result is in every way satisfactory. Dr. Clark lost sight of both his patients soon after the complication had been recognized, apparently without his having advised any secondary treatment, and it is difficult, indeed, to see that

much benefit could be derived from any treatment beyond the support that might be given by a band. Dr. Clark thinks that this untoward sequel of Colles's fracture has not received enough attention at the hands of surgical authors, though he finds material more or less bearing upon it in the writings of the late Dr. Frank H. Hamilton, the late Dr. E. M. Moore, Dr. John B. Roberts, Dr. F. J. Bowen, and Dr. Vertner Kenerson.

#### PSYCHIATRY AS A PART OF PREVENTIVE MEDICINE.

At the recent meeting of the American Medico-psychological Association, held in Cincinnati, Dr. Henry M. Hurd, of Baltimore, read a paper with this title. Coming, as it did, shortly after the president's address, in which the relation of psychiatry to preventive medicine was also discussed, it was most timely. It is only necessary to look back over the history of mental medicine in this country for the past quarter of a century to appreciate the many changes which have occurred in the methods of caring for and treating the insane. Housing facilities and means of recreation and employment have been improved and multiplied, while the profession has had placed at its disposal many therapeutic agents which were before unheard of. When, however, we look at the results, to see what effect all this activity has had, we are chagrined to find that apparently there has been hardly an adequate return for the energy put forth.

Dr. Hurd, therefore, felt impelled to speak of psychiatry in the rôle of preventive medicine, as it is in this direction that he feels that we must labor in the future if we are to accomplish aught to stem the tide of mental disorder. He properly laid special stress upon supervision of the life of the child, with a view to detecting the earliest appearance of abnormal mental tendencies, so that the individual could be put right before it was too late. Our schools employ physicians to look after the eyes, the ears, the noses, and the chests of the children, and surely it is equally if not more important that their mental condition should be studied with a view, not only of detecting the earliest signs of abnormality, but also of preventing the stress of school life and prescribing, to some extent at least, the character of the studies best suited to the individual.

Dr. Hurd's paper was very favorably received and freely discussed. A significant feature of the discussion was the remarks of Dr. William A. White, of Washington, who sounded a note that rings true when he said that the association, instead of meeting year after year and dining together and exchanging the compliments of the season, ought



to rise to the great public issues, such as those discussed in Dr. Hurd's paper, and express itself as an organization composed of the representative men of the country engaged in the practice of mental medicine. We fully agree with Dr. White in this particular. The profession of the country has always had the profoundest respect for their confrères of the Medicopsychological Association, and to attain even a higher position they have only to rise to the fuller measure of their responsibilities in advancing as a body the domain of psychiatry in its preventive aspects. No single class of specialists is so well fitted for the work; we believe that they will not lack the energy to accomplish it.

### WHAT IS HYSTERIA?

The "pain child of neurology" is the apt name given to hysteria by Binswanger in his recent monumental monograph. Wrapped in swaddling clothes, hidden in the disjointed fragments of other disorders of body and mind, it was reserved for the all seeing eye of Charcot to discover that in this mass there were those whose paralysis was not like that due to a lesion of the brain, of the fibre tracts of the cord, or of the peripheral nerves—those whose disturbances of sensation did not agree with the picture seen resulting from a disorder of the sensory nerves of the periphery, of the spinal cord, or of the brain, and looking through the new lens of hypnosis he read an answer to the riddle which, from the days of the Greeks to the present time, has demanded an explanation and been given thousands.

Charcot's answer to the question was that "hysterical are those physical and mental processes of extraordinary character and strength which may be brought into being by ideas." Many noted neurologists have been content with this general conception, Möbius accepting it bodily; while in more recent times Babinski has extended the idea, and indicates that "hysteria is a special psychic state manifesting itself principally in disturbances which may be called primary and subsequently in secondary disturbances." The primary disturbances are distinguished by the fact that it is possible to reproduce them by suggestion in certain cases with rigorous exactitude, and to cause them to disappear under the exclusive influence of persuasion. The secondary disturbances are distinguished by the fact that they are immediately subordinate to the primary disturbances.

Babinski lays a heavy weight of responsibility on the physician, and by implication would make him responsible for much that he himself would try to treat. How much stomach washing, bowel cleansing, massage, and electricity have done to perpet-

uate the maladies sought to be alleviated thereby will never be known, and the different outlook of alienist and neurologist will continue to breed dissension between brothers in the same profession, with similar therapeutic desires, so long as they see these features from such diverse viewpoints.

The views of Janet, of Vogt, and of Breur and Freud, expressed with much subtlety of analysis and wealth of metaphor, are but finer architectural stylistic efforts reared on the foundations and fashioned after the lines of the ground plan laid down by Charcot. When Janet postulates the cause of hysteria as a splitting of certain elements of consciousness from the consciousness of self—the personality—thus giving rise to a sleeping, somnambulistic self alongside of the ego; and Sollier postulates a local sleep area; and Vogt assumes a dissociated condition, giving rise to a localized sleepy retardation on the basis of a pathologically increased affectivity, they all assume the essential relation of the phenomena of hypnosis to hysteria, just as Forel's phrase "increased autosuggestibility" or Möbius's "pathologically increased suggestibility" points out that in hypnosis we have an artificial production of what takes place in hysteria naturally. The hypnotized person realizes the relation of an outside influence, the hysterical the will of an unknown ego, which unknown, unconscious, and hidden ego, according to the narrower conceptions of Breur and Freud, has arisen in times long gone by, in childhood, on the basis of sexual experiences, but lying dormant, so far as consciousness is concerned, is still able to bring forth action sufficient in intensity to modify the conscious personality.

Dubois, Schnyder, and Hellpach, attacking the problem from the genetic point of view, see in hysteria types of reaction to environmental factors which Hellpach has developed along the psychological path. Experience has taught that, whereas a large number of individuals grow out of or adjust themselves completely to a number of disturbing causes in their environment, or, if reacting abnormally for a time, later reach a satisfactory adjustment, still a number do not, and in this latter group he sees two classes with what he calls "a reactive and a productive abnormality." The latter proceed to the formation of frank mental diseases; the product is a definite failure of adjustment, as in dementia præcox, paranoid dementia, paranoia, etc. The former make up a group of unstable, labile individuals of lessened resistance to external stimuli. In this group are to be found the individuals of the hysterical reaction type. This is the fundamental rudiment. It is the generalized mentality of a former age, through which man has developed. The hysteria of the masses of the Middle Ages has passed

Its modern descendants for the masses are the psychoneuroses. Atavisms there are in plenty, hysteria in children of either sex in about equal proportions; hysteria in adult women more than in adult men; in men hysteria being more common among the lower and undeveloped classes, but generalized hysterical reactions only here and there in certain religious sects that recruit their members from such atavistic individual reaction types, or under certain paralyzing emotional stresses that reduce the tension in the mass to the low water mark of preceding generations.

In Helpach's view we see a healthy breaking away from the mysteries of the "unconscious," the "subconscious." How can a disorder involving psychical factors be understood in the mystifying phrases of "unconsciousness"? How will such psychical processes be analyzed if lost in the mysterious gray substance of mind? That the way opened by him will be productive of light we feel assured; but that the problem is solved is a premature belief.

### News Items.

**Changes of Address.**—Dr. Charles S. James, to 624 Lexington Avenue, New York, where he will resume practice.

**The Inauguration of Columbus Hospital, Buffalo, N. Y.,** took place on Sunday afternoon, June 7th.

**The First Spanish Congress on Tuberculosis** will be held in Zaragoza, Spain, on October 2d to 6th, 1908.

**The Croonian Lectures** will be delivered at the Royal College of Physicians of London on June 18th to 30th, by Dr. A. E. Garrod on Inborn Errors in Metabolism.

**The Commencement Exercises of the Maryland Medical College** were held on the evening of June 2d. Twenty young men received the degree of doctor of medicine.

**Donation to the St. Louis Skin and Cancer Hospital.**—It is announced that a gift of \$100,000 in cash and the site for a new building has been made to this institution. The donor's name is withheld.

**Personal.**—Dr. Isadore Dyer has been appointed dean of the Medical Department of Tulane University, to succeed Dr. Chaillé, who recently resigned. It is said that Dr. Dyer is the youngest dean in America.

**Richmond, Va., Academy of Medicine and Surgery.**—At a meeting of this academy which was held on Tuesday, June 9th, Dr. C. M. Hazen read a paper on Electrotherapeutics, and papers on Cataphoresis were read by Dr. M. W. Peyser and Dr. F. K. T. Warwick.

**The Northwestern Medical Association of Philadelphia.**—At a stated meeting of this society, held on Friday evening, June 12th, Dr. William Egbert Robertson read a paper on the Diagnosis and Treatment of Diseases of the Heart, which was illustrated with lantern slide pictures.

**Buffalo Academy of Medicine.**—The annual meeting of this academy was held on Tuesday evening, June 9th. Officers for the ensuing year were elected, and reports were presented of the commissions on milk supply, on food supply, on inspection of schools and school children, and on smoke and noise nuisance.

**St. Gregory's Hospital, New York.**—At a special meeting of the board of directors of this hospital, which was held on June 2d, Mr. John W. Thomas, of New York, was elected treasurer. Owing to the enforced absence of the superintendent, on account of illness, Mr. Thomas is at present acting superintendent of the institution.

**The Medical Club of Philadelphia** held a reception at the Bellevue-Stratford Hotel on the evening of June 12th. Dr. William L. Estes, of South Bethlehem, Pa., president of the Medical Society of the State of Pennsylvania, and Dr. Albert M. Eaton, of Philadelphia, president of the Philadelphia County Medical Society, were the guests of honor.

**Franklin District, Mass., Medical Society.**—At the annual meeting of this organization, which was held in Springfield recently, the old officers were reelected without change, as follows: President, Dr. J. W. Cram, of Colrain; vice president, Dr. C. L. Upton, of Shelburne Falls; secretary and treasurer, Dr. Clara M. Greenough, of Greenfield.

**Women Nurses in French Military Hospitals.**—It is reported that women nurses are to be given a trial in the military hospitals in France. The hospital connected with the military medical school at Val-de-Grace, near Paris, has made the experiment, and if it proves to be successful other military hospitals will be supplied with women nurses.

**Medical Society of the County of Richmond, N. Y.**—At the regular monthly meeting of this society, which was held in the Staten Island Academy of Medicine on the evening of June 10th, Dr. Walker Washington read a paper entitled *The Differential Diagnosis of Typhoid Fever*. The discussion was opened by Dr. A. T. Wood and Dr. H. Patterson.

**The Medical Society of the Borough of the Bronx.**—A stated meeting of this society was held on the evening of Wednesday, June 10th. The meeting was largely clinical, the evening being devoted principally to the presentation of patients and the reports of interesting and unusual cases. The paper of the evening was read by Dr. Charles Herrman on *Scarlet Fever Carriers*.

**A Research Fellowship at George Washington University.**—The graduating class of the Department of Medicine of George Washington University have announced to the university authorities the establishment by the class of a research fellowship at the university. The fellowship will be known as the Class of '08 Fellowship, and will have an annual fund of not less than \$300.

**Contagious Diseases in Chicago.**—During the week ending May 23, 1908, there were reported to the Department of Health 660 cases of contagious diseases, an increase of 107 over the preceding week. Of the total number 353 were of measles; 88 of scarlet fever; 70 of diphtheria; 57 of tuberculosis; 39 of chickenpox; 23 of whooping cough; 20 of typhoid fever; 1 of smallpox; and 9 of less important diseases.

**Connecticut State Medical Society.**—At the one hundred and sixteenth annual meeting of this society, which was held in New Haven recently, the following officers were elected for the ensuing year: President, Dr. Selden B. Overlook, of Pomfret; first vice president, Dr. Irving L. Hamant, of Norfolk; second vice president, Dr. W. L. Barber, of Waterbury; secretary, Dr. W. R. Steiner, of Hartford; and treasurer, Dr. Joseph H. Townsend, of New Haven.

**American Association of Medical Examiners.**—The ninth annual meeting of this association was held in Chicago during the week of the meeting of the American Medical Association. Officers for the ensuing year were elected as follows: President, Dr. Frank E. Allard, of Boston; vice presidents, Dr. L. H. Montgomery, of Chicago, Dr. Allison Maxwell, of Indianapolis, Ind., Dr. W. J. Means, of Columbus, Ohio, and Dr. E. O. Kinne, of Syracuse, N. Y.; secretary and treasurer, Dr. J. G. Monihan of New York.

**American Association for the Advancement of Science.**—A special summer meeting of this association will be held in the buildings of Dartmouth College, Hanover, N. H., on June 29th to July 3d. Information relating to the presentation of papers may be obtained from the secretary, Mr. L. O. Howard, Smithsonian Institution, Washington, D. C., and information on matters relating to local arrangements may be obtained from Professor H. H. Horne, Dartmouth College, Hanover, N. H.

**The Mortality of New Jersey.**—During the month ending May 15, 1908, there were reported to the Bureau of Vital Statistics of the State of New Jersey 2,602 deaths from all causes, a decrease of 532 from the preceding month, and a decrease of 386 from the corresponding period in 1907. The causes of death were: Typhoid fever, 28; measles, 27; scarlet fever, 46; whooping cough, 23; diphtheria, 11; malarial fever, 3; tuberculosis of the lungs,





**Vital Statistics of New York.**—During the week ending May 30, 1908, there were reported to the Department of Health 1,335 deaths from all causes, in an estimated population of 4,422,685, corresponding to an annual death rate of 15.75 in 1,000 of population. Of the total number of deaths 693 were in Manhattan, 123 in the Bronx, 437 in Brooklyn, 56 in Queens, and 26 in Richmond. The total infant mortality was 350; 270 under one year of age, and 80 between one and two years of age. There were 124 still births. Three hundred and sixty-three marriages and 1,879 births were recorded during the week.

**Ferryboats as Open Air Hospitals for the Tuberculous.** Bellevue Hospital has acquired the old Staten Island ferryboat *Southfield* and turned it into an open air hospital for incipient cases of tuberculosis. The value of this work was demonstrated by the Charity Organization Society, who used the *Southfield* for a similar purpose last year. The boat, which has been entirely refitted, is under the supervision of Dr. James A. Miller, chief of the tuberculosis clinic of Bellevue Hospital. It was placed in commission and formally opened for patients on June 3d. It is said that Gouverneur Hospital and the Presbyterian Hospital have obtained old ferryboats, which will be properly equipped and used as open air hospitals for tuberculosis patients.

**The American Hospital Association.**—The tenth annual conference of this association will be held in Toronto on September 22d to 25th. The purpose of this organization is the promotion of economy and efficiency in hospital management. It has a total membership of four hundred, which includes more than a hundred hospitals not previously identified with the association, and it is anticipated that the gathering of hospital workers in Toronto will be unprecedented in number, character, and enthusiasm. The programme will include papers on the varied interests of hospitals, large and small, not only by members of the association, but by guests who have been invited to participate in the meeting on account of their peculiar fitness for dealing with some phase of the problem of hospital management.

**Medical Society of the County of Kings, N. Y.**—The first clinical meeting of the Section in Pediatrics was held on Friday afternoon, June 12th. The programme included a symposium on heart disease in children, patients being exhibited by Dr. Archibald D. Smith, Dr. L. C. Ager, Dr. F. B. Van Wart, Dr. Le Grand Kerr, Dr. Alexander Spingarn, and Dr. Lester W. Volk. The following reports of cases were presented: A case of sporadic cretinism, by Dr. George F. Little; cases illustrating the late deformities of acute anterior poliomyelitis, by Dr. F. B. Cross; a case of transposition of the viscera, by Dr. L. C. Ager; a case of cerebellar tumor, and a case of tuberculous dacrylitis, by Dr. Archibald D. Smith; two cases of hereditary spinal spastic paraplegia, by Dr. Alexander Spingarn; a case of hemiplegia, and a case of pituitary tumor, by Dr. F. B. Van Wart. Dr. Archibald D. Smith is the chairman of the section, Dr. John W. Parrish is vice chairman, and Dr. William H. Woglom is secretary and treasurer.

**The Medical Society of New Jersey.**—The one hundred and forty-second annual meeting of this society will be held at the Hotel Cape May, Cape May City, on June 18th, 19th, and 20th. The first session of the house of delegates will be held at the hotel at 10:30 a. m., Thursday, when the reports of the various committees will be presented. The first general session will be opened on Thursday afternoon with the oration in medicine by Dr. William K. Newton, of Paterson. The last general session will be held on Saturday morning. The annual banquet will be held on Friday evening, Dr. Stephen Pierson, of Morristown; Dr. Hobart A. Hare, of Philadelphia, and the Hon. Joseph S. Frelinghuysen, of Raritan, being among the speakers. The officers of the society are: Dr. Edward J. Ill, of Newark, president; Dr. David St. John, of Hackensack, Dr. Benjamin A. Waddington, of Salem, and Dr. Thomas H. MacKenzie, of Trenton, vice presidents; Dr. William J. Chandler, of South Orange, recording secretary; Dr. Daniel Strock, of Camden, corresponding secretary; and Dr. Archibald Mercer, of Newark, treasurer.

**Bombay Medical Congress.**—A medical congress will be held in Bombay in February, 1909, under the presidency of His Excellency the Governor of Bombay. The Central Committee, which is composed of representatives of the different branches of the medical profession, official and unofficial, invites original contributions from prominent authorities on subjects relating to tropical medicine and sanitation as applied to India, and is also prepared to consider voluntary communications from any one desirous of contributing. There will be an exhibition of pathological and microscopical specimens of medical, surgical, and sanitary appliances, and a series of lantern slide demonstrations. The sessions will extend over four days, and the subjects will be considered in six sections as follows: Section I—Cholera, dysentery, enteric fever, and tropical diarrhoea. Section II—Malarial fever, Plague, Leishman-Donovan body invasion, and relapsing fever. Section III—Parasitic insects, snake venom, beriberi, mycetoma, elephantiasis, and leprosy. Section IV—Systems of disposal of sewage in India, water supplies, (measures necessary to ensure purity, etc.), disinfection (methods applicable to India houses, including methods of destroying vermin), and miscellaneous papers on general sanitation. Section V—Ophthalmic surgery, urinary calculus, and miscellaneous papers on tropical surgery. Section VI—Exhibition and lantern slide demonstrations. Special consideration will be given to the part played by parasitic insects in the dissemination of diseases peculiar to the tropics, the geographical distribution of those insects, and suggestions as to the best means of obviating their attacks; the etiology, pathology, prophylaxis, and treatment of beriberi and plague; the bacteriology of and special methods of treatment of leprosy; the differential diagnosis of the various types of malarial fever and dysentery. All communications should be addressed to the general secretary of the congress, W. E. Jennings, M. D., D. P. H., Lieutenant Colonel, I. M. S., care of Messrs. Kinn, Kinn & Co., Bankers and Agents, Bombay, India.

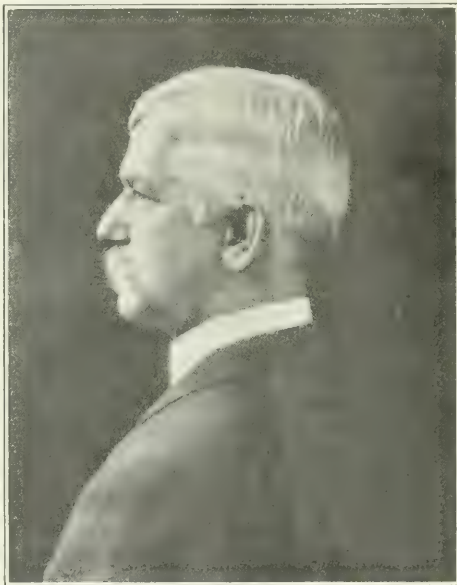


Photo by Clendinning.

Courtesy of American Navy List

COLONEL WILLIAM CRAWFORD GORGAS,

ASSISTANT SURGEON GENERAL, UNITED STATES ARMY, PRESIDENT  
DIRECT OF THE AMERICAN MEDICAL ASSOCIATION.

Born in Mobile, Ala., October 3, 1854; A. B., University of the South, Sewanee, Tenn., 1875; M. D., Bellevue Hospital Medical College, New York, 1879; now Chief Sanitary Officer of the Canal Zone, Panama.

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL

June 4, 1908.

1. New Duty of the Medical Profession: The Education of the Public in Scientific Medicine. President's Address Before the American Medical Association.  
By HERBERT L. BURRELL.
2. The Use of Silk Ligaments in Addition to Muscle and Tendon Transference in Infantile Paralysis.  
By ROBERT SOUTTER.
3. A Report of Some Atypical Cases of Tonsillar and Peritonsillar Inflammations with One Unusual Complication.  
By W. H. MERRILL.
4. The Early Diagnosis of Typhoid Fever by Blood Cultures from the Ear.  
By O. R. MABEE and A. E. TAFT.  
By G. P. SANBORN.

**2. The Use of Silk Ligaments in Addition to Muscle and Tendon Transference in Infantile Paralysis.**—Soutter describes his procedure as follows: In attaching the ligament to the tibia, the periosteum is slit longitudinally. No. 14 or 16 or 20 silk is quilted up the everted edge on one side and down the everted edge of the other side of the slit. This gives a very strong attachment, which cannot be pulled out. Three or four stitches are taken on either side. The everted edges of the periosteum are sufficiently loose to answer in the same way as any soft tissue in stretching down with the growth of a child, while in an adult it makes a very strong attachment. The double silk is then carried down and inserted well under the periosteum and superficial portion of the bone by means of a blunt pointed, short curved needle with a handle, somewhat similar to a Cleveland needle in shape. The needle does not, however, open. When it has been passed through the bone the eye is brought to the surface. The two ends of a piece of silkworm gut are passed through this eye, then the needle is withdrawn and pulls the silkworm gut doubled through the hole in the bone. This leaves two ends of the silkworm gut protruding from the bone at one hole and a loop from the other. One end of the silk tendon is passed through the loop of the silkworm gut. Then the silkworm gut is pulled out, bringing with it one end of the silk tendon. This method is used in order not to enlarge unnecessarily the hole in the bone. In tying the knot the ends are left a little long, so that they will bend down. The fascia is brought over the silk and knot by means of interrupted catgut sutures, subcutaneous tissue, and skin by means of interrupted catgut or horse hair sutures. Plaster of Paris bandage is worn from eight to ten weeks, then a brace to limit the extremes of motion. This is removed at night and during the day for muscle training and exercise. After four months a small brace inside the shoe is worn for long walks only. The correction and prevention of distortion is immediate. Some patients have good motion from the transplanted muscle, some starting motion, but in all the foot is maintained firmly in a position of greatest usefulness.

**4. The Early Diagnosis of Typhoid Fever by Blood Cultures from the Ear.**—Mabee and Taft observe, that blood cultures in early cases of typhoid fever (that is, within the first week) give an accurate diagnosis in 90 per cent to 100 per cent. The information obtained in this way is, therefore, extremely valuable, because the Vidal reaction is

rarely obtained before the ninth or tenth day of the disease. The simplicity of the method of obtaining blood from the ear for blood cultures warrants its general use by practitioners. In early cases 1 c.c. of blood is sufficient for each culture. In cases of two and three weeks' duration a larger quantity of blood gives a higher per cent. of positive cultures. In febrile conditions of a few days' duration with symptoms simulating typhoid fever a negative blood culture probably excludes typhoid fever. In septiciemias due to the *Staphylococcus pyogenes aureus*, it is possible to recover this organism from the blood by the ear method with the use of ox bile as a culture medium.

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 6, 1908.

1. A New Duty of the Medical Profession: The Education of the Public in Scientific Medicine. President's Address at the Fifty-ninth Annual Session of the American Medical Association.  
By HERBERT L. BURRELL.
2. Relations of the Physician to the Public. Duties and Opportunities. Oration on Medicine at the Fifty-ninth Annual Session of the American Medical Association.  
By WILLIAM SIDNEY THAYER.
3. The Cancer Problem. Address on Surgery at the Fifty-ninth Annual Session of the American Medical Association.  
By GEORGE W. CRILE.
4. Varicocele and Its Treatment.  
By FRANK K. BOLAND.
5. Meaningless Diagnoses.  
By HARRY I. WIEL.
6. Comatose Pernicious Malaria.  
By CHARLES SUMNER NEER.
7. Psychotherapy.  
By B. ONUF (ONUFROWICZ).
8. The Production of Deciduomata,  
By LEO LOEB.

**1, 2, 3. Addresses and Orations at the Fifty-ninth Annual Session of the American Medical Association.**—See *New York Medical Journal*, June 6th.

**4. Varicocele and Its Treatment.**—Boland remarks that varicocele is a common condition, being found in ten per cent. of all men between the ages of fifteen and thirty. Unsatisfied sexual desire and excessive intercourse have been ascribed as causes. The former must influence the trouble, since it sometimes disappears in young men after marriage. No doubt a predisposition may be inherited. Occupation plays a part in the causation, since varicocele is common among men who stand a great deal, such as clerks, bookkeepers, etc. More than ninety per cent. of cases occur on the left side, the explanation of which is on anatomical grounds. The veins in the left cord are larger, the testicle hangs lower, and the left vein empties into the renal vein at a right angle, while the right vein empties into the vena cava at an acute angle. Again, the left spermatic vein, as it runs behind the sigmoid flexure, is constantly subjected to pressure from the accumulation of feces in the bowel. It is said that the modern habit of "dressing" on the left side tends to increase varicocele on that side, and that mild cases sometimes are improved by changing to the right side. A very large varicocele may produce no symptoms, while a small one often gives rise to pronounced symptoms, depending largely on the effect on the patient's mind. In a large number of cases the mental effect is the main feature of the disease and requires an operation for its relief. This is particularly true when the condition is associated with masturbation, the patient then being tormented by impotence. There is a general idea that masturbation is com-

nected with the cause of varicocele. Operative treatment is best and can be carried out under local anaesthesia, but a general anaesthetic is more satisfactory. The textbooks recommend ablation of part of the scrotum as being occasionally indicated, but in the south, where the pendulous scrotum is so common, it is generally indicated. Cures by this procedure alone have been reported. Certainly it is one of the most important steps in the operation. The shortened scrotum affords a natural and permanent support for the cord and testicle. But the best method, in the author's opinion, is the open method. By this procedure two incisions are avoided, as the veins may be removed through the same opening. Inspection of the testicle and tunica vaginalis is afforded, which in a large proportion of cases will reveal a hydrocele. It is well to give attention to small details in the operation, because so often it is performed on neurotic patients on whom the neglect of such details will have considerable mental effect. For instance, in ablating the scrotum a curved clamp should be used, or the ends of a straight incision rounded off in order not to leave any little elevations of tissue. These would absorb in a short time, but their presence will annoy some neuroathenic individuals while they remain. A curved scrotal clamp or two curved long jawed forceps are employed to hold the scrotum while the redundant portion is being removed. The clamp is pressed hard against the testicles, in a longitudinal direction, and as much subcutaneous tissue as possible pressed out before cutting. This lessens the number of vessels that will be cut. After severing the scrotum with knife or scissors the clamp is taken off and all bleeding points are carefully caught and tied with fine catgut. The varicosed pampiniform plexus is now exposed as far away from the testicle as possible and separated from the vas deferens with its artery and veins. The plexus lies with the spermatic artery in a separate sheath which need not be split. Sometimes the separation is difficult on account of adhesions which exist as a result of inflammation. Ligation of the spermatic artery does not impair the nutrition of the testicle. The vas deferens is easily recognized by its cordlike feel. It must not be handled unnecessarily, and is held aside with its vessels while a double chromicized catgut ligature is passed around the veins. This is separated and the veins firmly tied in two places two inches apart, the lower ligature being tied first. The intervening section is now removed, care being observed to leave the stumps long enough to prevent slipping. The ends of the ligatures may be left long and the cord shortened by tying them together. This saves time, but leaves a lump which will persist for several weeks to vex a nervous patient. It is better to approximate the ends of the veins and stitch them together. The wound is closed longitudinally with interrupted silkworm sutures, the ends of which are left long and tied together, as short ends will irritate the sensitive scrotum. Drainage usually is not necessary. Rubber tissue or oiled silk is placed over the dressing to prevent the possibility of contamination by urine. The dressing is held in place by a figure of eight roller bandage which supports the testicles. After a few days it is convenient to use a smaller dressing and a large suspensory bandage. The pa-

tient is kept in bed for ten days, and a suspensory worn only until the wound is thoroughly healed, then discarded.

**6. Comatose Pernicious Malaria.**—Neer says that the main points to be considered in distinguishing it from apoplexy are the age and general appearance of the patient, the splenic enlargement, the higher temperature in malaria (though this is not constant), and, of course, the examination of the blood. Malarial coma sometimes quite closely resembles sunstroke, and the heat may aggravate or precipitate a severe malarial paroxysm. In such cases an examination of the blood is often the only means of determining the presence or absence of malarial infection. From the urinary examination alone it would be impossible to distinguish comatose malaria from uremia. Albuminuria and cylindruria exist in both conditions; therefore, it is necessary to rely on other data. Quinine should be given hypodermatically. It may be given in the form of the hydrochlorate, the bisulphate, or quinine hydrochlorate, and urea. Regarding the dosage there is some difference of opinion. Osler advises 30 grains of the bisulphate hypodermatically with 5 grains of tartaric acid every two or three hours, or 10 grain to 20 grain doses of the quinine and urea hydrochlorate. Craig thinks 8 grains of the hydrochlorate, repeated until 24 grains have been injected, is sufficient in most cases, but admits that in very severe infections more of the drug may be needed. Bacelli first recommended the intravenous injection of quinine, and this method may be used in the presence of very grave symptoms. Aside from specific therapy, treatment must be symptomatic. Stimulants, especially strychnine, are often useful.

#### MEDICAL RECORD

June 6, 1908.

1. A New Duty of the Medical Profession: The Education of the Public in Scientific Medicine,  
By HERBERT L. BURRELL.
  2. The Cancer Problem,  
By GEORGE W. CRILE.
  3. Comments upon an Unusual Case Requiring Cæsarean Section,  
By WALTER T. DANNREUTHER.
  4. A Report of Three Cases Operated on for Large Abdominal Tumors,  
By W. P. HARBIN.
  5. The Art of Surgical Knot Tying,  
By CHARLES H. DUNCAN.
  6. Urticaria Following the Second Administration of Diphtheria Antitoxine,  
By ALEXANDER W. BLAIN.
  7. The Convalescent Period, and Its Successful Management,  
By W. PARKER WORSTER.
- 1, 2. **Orations.**—See *New York Medical Journal*, June 6, 1908.
3. **Comments Upon an Unusual Case Requiring Cæsarean Section.**—Dannreuther describes this case as follows: The patient, eighteen years of age, belonged to a troupe of midgets. She had had rickets when six months old. She was well nourished, and apparently in excellent general health; height three feet eight inches; had no perceptible enlargement of the thyroid gland, and no pressure symptoms. Abdomen measured three feet six inches in circumference. No cardiac murmurs. Lungs clear. The diaphyses of the long bones were underdeveloped, while the epiphyses seemed almost normal in size. Pelvic measurements were: Interspinous, seven inches; intercostal, eight and one half inches; external anteroposterior, five and one half inches;



right external oblique, six and one half inches; left external oblique, six and one half inches; internal conjugate, one and one quarter inches; internal anteroposterior, one and one half inches. An incision was made through the abdominal wall in the linea alba, extending from one and one half inches below the ensiform cartilage to the symphysis pubis. Second incision through the uterus *in situ*, in the middle third of the median line. Time, thirteen seconds. No attempt was made to control the bleeding from the abdominal wound, which was inconsiderable. The child was quickly seized, the cord being clamped and cut, and was taken to another room. Artificial respiration was unnecessary, as the child cried lustily immediately after extraction. The child delivered, a nurse began pouring a continuous stream of normal saline solution, at a temperature of 120° F., directly upon the uterus. This promoted rhythmic contractions, facilitating the removal of the secundines, and controlling hæmorrhage. Three layers of continuous catgut sutures were introduced into the uterine wound; two into the musculature, and one into the peritonæum. One operator completed the first suture while the other began the second, etc. No attempt was made to sponge out the abdomen, the saline solution being purposely allowed to remain. The abdominal wound was closed by a continuous through and through chromic catgut suture, reinforced by silkworm gut interrupted skin sutures. Time, from the first incision to the late suture, thirteen minutes. The anæsthetic used was chloroform, followed by ether, which the patient took well. The pulse did not rise above 88, and was of good quality throughout. The baby was well nourished and developed in all respects, weight, seven and one half pounds. Mother rallied well after operation. Recovery was uneventful, the abdominal wound healing by first intention. Sutures were removed on the tenth day. The cervical canal being well open, dilatation for drainage was unnecessary. Lochia normal. The mother secreted but a minimum quantity of milk, so the baby had to be fed artificially. Both were discharged from the hospital in excellent condition four weeks after the operation.

5. **The Art of Surgical Knot Tying.**—Duncan describes a new system of knot tying, introduced by Dr. R. E. Brennan from Germany. It comprises two different knots, each of which may be tied with either hand, the square sailor's or reef knot, and the double surgeon's knot. It is impossible to describe it without giving illustrations.

6. **Urticaria Following the Second Administration of Diphtheria Antitoxine.**—Blain observes that the second immunizing dose of antitoxine should be given with caution, especially to individuals of the blond type, regardless of how long previous the first was administered. Should an individual who has at some previous time received antitoxine become exposed to diphtheria, it is better, in my opinion, if facilities are such that the exposed person can be kept under observation, to delay the administration until symptoms of diphtheria appear. Further, in cases of direct exposure to diphtheria the possibility of contracting the disease is comparatively small. In persons in whom an immunizing dose of antitoxine has been given, and who later

contract diphtheria, an attempt should be made to regulate the dosage in comparison with the severity of the infection, and not to push the serum too far, and thus overneutralize the toxine, possibly producing this distressing condition. A positive clinical diagnosis of diphtheria is often utterly impossible, regardless of the amount of experience possessed by the clinician, and consequently all suspicious cases should be treated as diphtheria, and as diphtheria by antitoxine, until proved otherwise, since the possibility of trouble caused by the antitoxine is not to be compared with that of the danger from diphtheria.

#### BRITISH MEDICAL JOURNAL.

May 23, 1908.

1. An Experimental Inquiry into the Relationship of Action to Dose, Especially with Reference to Repeated Administration of Iodoquinine, By J. T. CASH.
2. Remarks on the Internal Use of the Oil of Turpentine, By E. SMITH.
3. Puerperal Eclampsia, with Special Reference to its Treatment with Nitroglycerin, By J. M. MCCARTHY.
4. On the Causes of Inversion of the Uterus, By L. ATTHILL.
5. The Absorption of Ointments, By R. L. SUTTON.
6. On Recent Advances in the Surgical Treatment of Syphilis, By W. A. POWER.
7. A Case of Ochronosis, By L. C. E. HARSTON and A. B. SOLTAU.
8. Satinwood Dermatitis, with a Suggestion as to Treatment, By F. GARDINER.

2. **Oil of Turpentine.**—Smith states that oil of turpentine has been undeservedly neglected. Possible irritation of the kidneys is usually apprehended, but small doses such as five or ten minims have no such effect, and in large aperient doses (two drachms to half an ounce) the action of the oil is entirely upon the bowels, and but little is absorbed. It is only the moderate dose of from one half to one drachm that is to be feared. In cases of hæmorrhagic purpura the oil of turpentine is of the greatest value as a hæmostatic. It should be given as an aperient with castor oil, and in sufficiently large dose. For children of from ten to twelve years of age, as much as half an ounce each of the two oils should be given every morning or every other morning. The best time for administration is an hour after food. In most cases of purpura recovery takes place within a week. Even should hæmaturia take place, there is no cause for alarm, as it quickly stops when the drug is discontinued. Other forms of hæmorrhage may also be quickly checked by the use of turpentine—in hæmophilia a large aperient dose may check the bleeding when all other measures have failed. Local bleedings, such as hæmoptysis and the hæmorrhage from typhoid ulcers, may be checked in the same way as in doses being used. One of the most valuable uses of oil of turpentine is its internal administration in small doses as an antiseptic and sedative in cases of flatulent colic and unhealthy states of the intestinal mucous membrane. This is especially true in the aggravated flatulence and colic occurring in hand fed infants. In cases of hiccoughs ten drops of oil of turpentine with thirty drops of nitrous ether often has a striking effect. The curative value of oil of turpentine when given by the mouth may often be supplemented and in-

forced by its internal use in enema. In cases of thread worms its vermifugal action is strikingly manifested.

3. **Puerperal Eclampsia.**—McCarthy's article is based on a series of eighteen cases of puerperal eclampsia. The convulsions are very similar to uremic convulsions—in both the convulsions are probably brought about by a toxine the origin of which is faulty elimination on the part of the kidney. The stage at which the convulsions threaten or occur will indicate the nature of the treatment. In the premonitory stage, where they threaten before labor occurs, the treatment should tend to avert toxæmia. All the care in treatment that would be given to an early case of nephritis, especially that relating to diet, should be carried out. Nitroglycerin may be very useful. The period of labor itself may be divided into two stages: (a) Where the convulsions are slight and the labor slow, the object should be to avert convulsions. The subcutaneous administration of morphine and nitroglycerin, used alternately, is beneficial in this stage. With a rigid os and increasing convulsions, Cesarean section might have to be considered. (b) When convulsions are increasing and labor advancing—even if the os is dilating well—all energies should be devoted to expediting labor. This is the stage where chloroform is essential and a drug of the greatest utility. When labor is over the treatment should aim at the restoration of the function of the kidneys and the recovery of the nervous system from the shock it has sustained. The writer was led to the use of nitroglycerin in puerperal eclampsia, because of the favorable results following its use in cases of contracted kidney. Of five cases of puerperal eclampsia treated without nitroglycerin, three died. Of two cases in which it was given internally only, one died. Of eight cases in which it was given hypodermatically, only one died. The mortality among infants was four out of fifteen, or about 26.7 per cent.

5. **Absorption of Ointments.**—Sutton has tested the relative absorption of the various ointments by means of aniline dyes. Guinea pigs and white rabbits were used, the ointment with the dye being applied to a bare place on the skin. After a certain time the patch was excised under anæsthesia, and sections cut and examined. He found that lard, simple or benzoinated, and pure goose grease were the most quickly absorbed of all the substances tested. Petrolatum is a poor penetrant unless applied with friction. Lanolin, alone, is absorbed very slowly; mixed with a more fluid material, as olive oil, it readily enters the skin. The addition of a small amount of cedarwood oil to an ointment considerably increases the rapidity of absorption.

6. **Treatment of Syphilis.**—Power discusses the latest advances that have been made in the treatment of syphilis, and reaches the following conclusions: 1. Experimental evidence has shown that syphilis is due to infection with *Spirochæta pallida*, an organism which lingers for a short time at the seat of inoculation and then rapidly spreads throughout the body. This organism, transmitted from father to child, is the cause of inherited syphilis. 2. Many forms of arthritis formerly classed as syphilitic are due to other infective agents acting upon tissues modified by the action of the syphilitic virus.

3. Syphilitic changes in the bones, joints, tongue, and other parts may occur as a result of inherited syphilis much later in life than is usually recognized. They are then the result of accidental causes, and they are often the only evidence of the inherited taint. 4. The modern treatment of syphilis consists (a) in the more careful administration of mercury, which is now given to cure the disease itself and not merely to relieve the symptoms, as has hitherto been the case; (b) in a recognition of the limitations of the absorptive power of the iodides; (c) in a freer use of surgical methods to remove the products of syphilitic inflammation before the iodides are administered.

#### LANCET

May 23, 1908.

1. The Use of the X Rays in the Diagnosis of Appendicitis and some other Abdominal Conditions.  
By SIR W. H. BENNETT.
2. The Connective Tissue in Carcinoma and in Certain Inflammatory States that Precede its Onset (Hunterian Lectures, II).  
By V. BONNEY.
3. Prophylaxis in the Care of Children in Hospitals.  
By H. KÖPLIK.
4. Malarial Cirrhosis of the Liver.  
By E. F. G. TUCKER.
5. The Acute Suffocative Catarrh of Laennec and other Conditions from which it Should be Distinguished.  
By S. WEST.
6. Brief Notes of Interesting Cases of Cranial Surgery.  
By H. CURTIS.
7. A Method of Suturing the Lateral Recti to Insure Greater Mobility of the Stump after Enucleation of the Eyeball.  
By E. CLARKE.

1. **X Rays in Appendicitis.**—Bennett calls attention to the fact that the diagnosis of appendicitis is neither easy nor sure. This is shown by the fact that in many cases the appendix is found to be normal after removal, while in other cases the operation fails to relieve the symptoms. Various conditions give rise to symptoms so closely resembling those of chronic appendicitis that the distinctive diagnosis is extremely difficult. The principal of these conditions are: Inflammation about the ovaries and pubes; tuberculous glands in the iliac region; stone in the ureter; gallstone in the cystic duct; stone in the movable kidney; and malignant disease of the iliac bone. In some of the deceptive cases the cardinal sign of chronic appendicitis—swelling or induration—may be absent. But in the dangerous pelvic type of appendicitis there may be no objective abdominal symptoms, and in the presence of other indications the mere absence of swelling or of abdominal rigidity is no justification for setting aside the possibility of organic appendix disease. Failing some objective sign in cases like these, only two methods are available for clearing the matter up—an exploratory operation on the one hand, and the use of the x rays on the other. The operation may do no harm, the x rays cannot. The result with the rays may be *nil*, but they may disclose a stone in the ureter, a mass of tuberculous glands, a growth in the pelvic bones—any of which might cause the symptoms of which the patient complains. So that, in a case of abdominal pain of any but an obvious kind, all diagnostic resources have not been exhausted until the result of an x ray examination has been seen. There is still far too strong a tendency to decline the aid of x ray examination because it is unlikely

to give positive information, yet if made by a competent person it will invariably show stones in the kidney, ureter, and bladder, caseous tuberculous glands, new growths of bone, concretions in the appendix, sometimes stone in the gallbladder and tuberculous disease of organs; and, of course, metallic and bony foreign bodies. Under favorable circumstances even the existence of a diaphragmatic abscess can sometimes be shown.

4. **Malarial Cirrhosis of the Liver.**—Tucker states that cirrhosis of the liver, due to chronic malarial poisoning, is not of infrequent occurrence in Bombay, and that, too, in young children, where all the possible contributory causes except malaria can be eliminated. Besides the liver, the stomach, spleen, and kidneys are severely affected. There is a history of ill health and enlargement of the spleen for some years, with repeated attacks of intermittent fever. The enlargement of the spleen becomes marked, and there is a profound secondary anaemia. Later there is great emaciation and distention of the abdomen from collection of fluid in the peritoneal cavity. The fluid is not very abundant as a rule, and in many cases it does not recur after tapping. After weeks of treatment with iron, quinine, and arsenic the patient may improve greatly, and the spleen diminish in size. In the last stages there is profound debility and emaciation with the late toxæmic symptoms seen in other forms of cirrhosis. On opening the abdomen the most prominent object is the enormous spleen. The capsule is thickened and often adherent to one of the neighboring organs. The liver is somewhat small, but not as much so as in alcoholic cirrhosis. The red corpuscles may be reduced to 1,500,000 to the cubic millimetre. The malarial parasite present in the peripheral blood is usually the benign tertian. To sum up, therefore, we have in malarial cirrhosis a complex condition, of which the hepatic disease is the terminal event. Ascites is late. The finely granular surface of the liver is quite distinct from hobnail liver. The cirrhosis results from repeated attacks of malarial hepatitis and capsulitis, associated with perisplenitis and a plastic peritonitis. The adhesions resulting from the latter, along with the dragging of the enlarged spleen, produce extreme deformities of the stomach. Plastic peritonitis varies in amount, but is always a feature in the case.

5. **Acute Suffocative Catarrh.**—West reports a case of acute suffocative catarrh of Laennec, occurring in a man aged twenty-three years. It is a rare but characteristic disease, being an acute catarrh affecting the whole or a portion of the lungs, causing an acute suffocation. It lasts from twenty-four to forty-eight hours, at the end of which time either the patient dies or expectoration commences and puts an end to the suffocation, after which the disease goes on as an ordinary catarrh. The respirations are not very rapid, and the temperature and pulse are only moderately elevated. The clinical condition is unlike asthma or pneumonia, and there is no laryngeal obstruction. Examination of the chest shows nothing beyond coarse bronchi. In the case here reported, examination of the sputum showed pneumococci, and a diphtheroid bacillus. The condition has to be distinguished from capillary bronchitis and disseminated, posthumal, etc.

i. e., secondary—bronchopneumonia; more closely resembling it are primary bronchopneumonia—i. e., disseminated pneumococcal pneumonia and possibly an acute pneumococcal or other bacterial bronchitis. In association with it may be placed (1) cases of acute pulmonary oedema, which develop in the course of chronic heart obstruction or of acute heart failure; (2) cases of collateral fluxion or of pulmonary failure; and (3) cases of pneumonia which commence with widespread pulmonary congestion. A careful bacteriological examination of the sputum should be made in all cases of suffocative catarrh as being likely to throw light upon the true nature of the affection.

#### LA PRESSE MEDICALE.

May 2, 1908.

1. General Pathology. Organic Reactions in Infection with the Trypanosoma of Equine Syphilis, By HENRI CLAUDE and MAURICE RENAUD.
2. The Principle of High Frequency Currents, By A. ZIMMERN.
3. Abortive Treatment of Syphilis, By R. ROMME.

1. **Organic Reactions in Infection with the Trypanosoma of Equine Syphilis.**—Claude and Renaud present a very careful study of these micro-organisms and state that the organic reactions produced by them are very analogous to those provoked by bacteria, that the mechanism of infection is in a general way the same as that of bacterial infections, and that the details can be explained through a study of the morphology and dissemination of the parasite.

May 6, 1908.

- Treatment of Facial Neuralgia by Local Alcoholization.  
By J. A. SICARD.

**Treatment of Facial Neuralgia by Local Alcoholization.**—Sicard asserts that the treatment of facial neuralgia by the injection of alcohol is the method of choice. He does not confine his injections to the foramen rotundum and foramen ovale, but finds that they are useful when made at other points of emergence. These foramina, or canals, of emergence, at which injections may be successfully made, he divides into three groups—the peripheral group, composed of the supraorbital, infraorbital, and inferior dental foramina; the median group, composed of the canals of the diploe in the inferior and superior maxilla, the inferior dental canal at the process of Spix, and the posterior palatine canal; and the deep group, composed of the round and oval foramina. The sphenoorbital fissure is purposely omitted because it is dangerous of access. The point of a fine platinum needle is carried down to one of these points, and a mixture of eighty per cent. alcohol with twenty per cent. distilled water is injected into the tissues. Stovaine may be added if desired, but not chloroform, because the latter sometimes excites a very considerable degree of inflammation.

May 6, 1908.

1. Diagnosis of Painless Affections of the Hip in the Child, By DESFOSSES and DUCROQUET.
2. Karel's Treatment of Cardiac Diseases, By R. ROMME.

1. **Painless Affections of the Hip.**—Desfosses and Ducroquet declare that the lameness caused by painless affections of the hip depends upon a partial or total incapacity of the gluteus medius, and demonstrates his point with several clinical and anatomical



ical pictures. He then discusses in turn paralysis of the glutæus medius, coxa valga, coxa vara, and congenital luxation of the hip, anterior and posterior.

#### LA SEMAINE MEDICALE.

May 6, 1908.

Technique of the Various Processes Employed in the Serodiagnosis of Syphilis, By FÖRNET.

May 13, 1908.

Modern War and Military Surgery According to the Russo-Japanese Campaign, By F. LEJARS.

**Modern War and Military Surgery.**—Lejars deals with the statistics of wounds and deaths in their relative proportions, and compares them with the figures of the Franco-Prussian war of 1870 and the war in the Transvaal. He then discusses the wounds of the abdomen, chest, brain, and spine.

#### BERLINER KLINISCHE WOCHENSCHRIFT

May 4, 1908.

1. Concerning the Stokes-Adams Disease, By E. DE RENZI.
2. Pains About the Sternum, By P. HAMPELN.
3. Concerning Idiopathic Osteopsathyrosis, By ALEXANDER LIPSCHÜTZ.
4. Sarcoma of the Prostate, By WOLFGANG VEIL.
5. Concerning the Specificity of the Precipitate Reaction in Syphilis and Paralysis, By W. FÖRNET and J. SCHERESCHESKY.
6. The Serum Diagnosis of Syphilis in Ophthalmology, By CURT COHEN.
7. Concerning the Hæmolytic Reaction of the Blood Serum in Malignant Tumors, By WALTER FISCHEL.
8. Studies Concerning the Guaiac Blood Test, By JULIUS ROTHSCHILD.
9. Contribution to the Conjunctiva Reaction, By FRIEDRICH ROSENBACH.
10. Histological Demonstration of Acidose in Children, By G. TUGENDREICH.
11. Concerning the Value of Mollière's Methyl Violet Reaction in the Demonstration of Free Hydrochloric Acid in the Stomach, By WASSERTHAL.
12. Telephone for the Deaf, By P. LEBRAM.

**1. Stokes-Adams's Disease.**—De Renzi says that two characteristic signs have been ascribed to Stokes-Adams's disease—a permanently infrequent pulse and nervous attacks, syncope or epileptiform. But he thinks that the disease has a complex symptomatology and that there are other phenomena which are just as important, if not more so, than these two. First is an apparently infrequent pulse, in which there is a double contraction of the auricles to each systole of the ventricles. This is shown in several ways: 1. Radioscopy shows an alternate contraction of the auricle and of the whole heart. 2. In many cases the pulsation of the jugular is twice as strong as the arterial. 3. By a careful examination an alternation between a strong and a weak arterial pulsation can be detected. 4. In some sphygmograms a slight elevation can be detected between the two curves of the radial pulse. Second, are nervous attacks, dizziness, syncope or apopleptiform in character, proportioned to and the direct consequence of the infrequency of the pulse. Third, the infrequency of the pulse is scarcely influenced by psychic influences, muscular movements, changes of position, or drugs which accelerate the pulse. Fourth, slight dyspnœa. In contrast to the pulse which is constant the respiration changes easily and is productive of dyspnœa. Fifth, notable increase of the blood pressure. Sixth, alternation of the

rhythm of the heart. Seventh, renal changes and albuminuria.

**3. Idiopathic Osteopsathyrosis.**—Lipschütz reports a case of this disease, which is otherwise known as idiopathic brittleness of the bones, met with in a man, forty-one years of age. He discusses the symptomatology, the nature of the disease, former theories, the results of microscopical examinations and of the x ray examination of his own case, and the relations of idiopathic osteopsathyrosis to such diseases of the foetal skeleton as foetal chondrodystrophia and osteogenesis imperfecta. The latter he believes to differ from the disease under consideration only in the time of its onset.

**7. Hæmolytic Reaction of Blood Serum in Malignant Tumors.**—Fischel says that in many cases of malignant tumors the blood serum shows a hæmolytic reaction with the blood corpuscles of different kinds of animals. The hæmolytic reaction is not specific for the blood corpuscles of one kind of animal, as stated by Kelling. The hæmolytic reaction is not specific for malignant tumors, but is met with in some other diseases, particularly pernicious anemia and tuberculosis.

**8. Guaiac Blood Test.**—Rothschild asserts that his experiments show that the idea of Schröder that for the bringing out of the maximal stain by the tincture of guaiac a certain quantity of the tincture of a certain concentration is necessary, is correct in principle. With weaker concentrations of blood, for which the guaiac test is chiefly used in clinical investigations, he is convinced that the use of such a single guaiac tincture in such strength as is most suitable is best, and one makes no mistake if he undertakes the guaiac test with only a single solution of guaiac resin.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 5, 1908.

1. The Eye of the Obstetrician, By SELLHEIM.
2. Little Technical Points in the Practice of Ulienhuth's Examination of the Blood, By MERKEL.
3. Acute Overexertion of the Heart, By SCHOTT.
4. Contribution to the Proteolytic Action of Sterile Pus, By HERTZ.
5. Diabetes Mellitus as an Indication for the Induction of Premature Labor in Pregnancy, By SCHOTTELUS.
6. Ætiology, Anatomy, and Diagnosis of Acute Atrophy of the Liver, By REICHMANN.
7. The Origin and Treatment of Intestinal Hernia, By KOCH.
8. The Treatment of Venereal Ulcers With Hot Irrigations, By ZINSSER.
9. Lysol Poisoning After Washing Out the Uterus, By PILITZ.
10. Abscess of the Kidney After Gonorrhœa. Nephrotomy. Recovery, By WEISSWANG.
11. Treatment of Intestinal Hæmorrhages in Typhoid Fever by Injections of Gelatin and Salt Water, By WITTHAUER.
12. A Practical Instrument for Physical Examination, By KRETSCHMAR.
13. The Question of Sanatorium Treatment and the Indications for the Same (Concluded), By FRANKENBÖGER.
14. New Points of View in the Treatment of Suppurative Processes, By MORO and MANDELBAUM.
15. Obituary of Franz von Leydig, By SCHULTZE.
16. The Physician and the Duty of Reporting Typhoid, By HILLENBERG.

**3. Acute Overexertion of the Heart.**—Schott finds as the result of his experiments, commenced in 1890, that bodily overexertions which are carried

so far as to produce a palpitation of the heart that can be felt, together with a severe dyspnea, will finally result in acute dilatation of the heart.

5. **Diabetes Mellitus as an Indication for the Induction of Premature Labor.**—Schottelius considers that the prognosis for the life of either the mother or the child is pretty bad when pregnancy is complicated by diabetes mellitus, and therefore recommends that, when no visible result is obtained by the internal and dietetic treatment of the diabetes, premature labor should be induced.

6. **Acute Atrophy of the Liver.**—Reichmann reports a case of this nature with the anatomical findings at autopsy. A point in regard to the etiology is interesting. Syphilis was particularly suspected to be the cause because the patient suffered also from a parenchymatous keratitis, but not only was infection of this nature denied by the patient and by his father, but no stigmata whatever of syphilis could be detected, aside from the keratitis, while living, or in the tissues after death. The cause of the atrophy of the liver remained obscure.

10. **Abscess of the Kidney After Gonorrhœa.**—Weisswange reports the case of a woman, thirty-four years of age, who was attacked with an abscess in the kidney six years after infection with gonorrhœa. Virulent gonococci were found in the pus.

11. **Treatment of Intestinal Hæmorrhages in Typhoid Fever by Injections of Gelatin and Salt Water.**—Witthauer declares that the subcutaneous injections of solutions of gelatin and of salt are remarkably effective. The injections of gelatin should be made every day or every other day, those of salt solution should be made more frequently, according to circumstances, until the hæmorrhage has stopped certainly a couple of days.

13. **Sanatorium Treatment.**—Frankenburger concludes that sanatoria form an important factor in the measures adopted for the stamping out of tuberculosis, that in the admission of patients to the sanatoria consideration should not be given to the statistics of results, but only to the benefits to be expected in each individual case. Patients in the first stage of the disease, persons suspected of having tuberculosis, and those with a latent form of the disease should be excluded from sanatorium treatment, because they can be treated equally as well outside by hygienic regulation of their lives, and by thus reducing the cost many more needy can be helped. The sanatoria are particularly for patients in the second stage of the disease. Admission to a sanatorium should not be permitted after a single examination, but only after previous observation at a hospital or elsewhere.

#### ROUSSKY VRATCH.

March 25, 1908

1. Lipogenin in Eye Diseases. By A. G. AGABAVOFF.
2. On the Diagnostic Value of the Destructive Property of Pus. By N. I. SIVAKOV.
3. Materials for the Study of the Chemical Composition of the Grey Matter of the Brain. By G. G. PERLHUTER.
4. On Addison's Disease and Its Relation to Chronic Malaria (included). By G. A. LUCHINSKIY.
5. Experimental Polyemia as a Method of Diagnosis of the Functional Capacity of the Kidney. By D. P. KOSITSKIY.

6. A New Method of Employing Malachite Green for the Cultivation of Typhoid Bacilli. By L. V. PADLEFSKI.
7. On the Serum Reaction of Syphilis. By M. H. TCHLENOFF.
8. Stenosis of the Larynx (Continued). By M. F. TSITOVITCH.

1. **Lipogenin in Ophthalmology.**—According to Agabavoff, lipogenin is a colorless, transparent liquid, neutral in reaction, which does not become altered on exposure to air. It is soluble in ninety-five per cent. alcohol, but not in glycerin and in water. It is a mixture of the ether of palmitic and isooleic acid. Lipogenin is made at a Russian soap factory in Kazan, and is prepared in the form of a liquid and in a crystallized solid form. Professor Agabavoff, of Kazan, in this article, recommends it as a solvent for alkaloids, as well as for a vehicle for iodoform in ophthalmology. Aqueous solutions of alkaloids used in eye diseases very readily decompose. The use of such decomposed solutions gives rise to conjunctivitis, etc. Carbolic acid and other antiseptics have been added to solutions of this sort to prevent decomposition. But these are either inefficient or injurious. It is not always possible to prepare the solution freshly with sterile water. Olive oil has been recommended for the preparation of these alkaloidal solutions as early as 1897 by Panas. It is very difficult to obtain pure olive oil which does not decompose, and the oil must be specially purified and sterilized. Lipogenin is a substitute for olive oil, which, according to Agabavoff, is superior to it. The author employed it as a dressing after plastic operations on the eye. He covered the wound with a disk of sterile gauze, soaked in sterile lipogenin, then with a layer of waxed paper, with a thick layer of cotton, and a bandage. The results were excellent. Lipogenin does not dry or adhere to the wound and dissolves iodoform, robbing the latter of its odor. Solutions of iodoform or of iodine are very useful in eye surgery. Iodine solutions have proved effective in the treatment of trachoma, the strength being from one half to two thirds per cent. Lipogenin dissolves atropine, eserine, pilocarpine, strychnine, etc., in considerable proportion, and the solutions are stable and nonirritating.

6. **Malachite Green in Culture Media for Typhoid.**—Padlefski recommends the following medium for the diagnostic culture of typhoid bacilli. The advantage of this medium is that the colonies of typhoid bacilli can be distinguished by the green, bright color. The medium is especially valuable because it prevents the growth of other intestinal microbes and promotes the growth of the typhoid bacillus. The medium consists of agar mixed with malachite green which has been rendered colorless with sodium sulphite. The addition of bile to this mixture, as well as of milk sugar, produces a culture medium in which the typhoid bacillus grows abundantly in the form of green colonies, while all other bacilli of the typhoid group grow at first in colorless and then yellowish colonies. Other admixtures of germs do not grow at all, or in colorless colonies. The typhoid bacillus, during its growth, decomposes lactose and forms an acid which neutralizes the action of the sodium sulphite and brings out the green color of the malachite. The medium is prepared as follows: To a three per cent.

meat agar, with two per cent. peptone, having a slightly alkaline reaction (to litmus), is added one per cent. of chemically pure milk sugar and three per cent. of natural ox bile which has been previously boiled and filtered. The agar is poured into flasks holding 100 c.c., which are sterilized in streaming steam for half an hour on three successive days. A one per cent. aqueous solution of chemically pure malachite green is prepared (*Malachitgrüne Zinkdoppelsalz Kristalle*). Next a solution of ten per cent. sodium sulphite is prepared. To each 100 c.c. of the sterilized and cooled agar are added 0.5 of the malachite solution and 0.5 c.c. of bile and 0.75 to 1.0 c.c. of the sodium sulphite solution. The mixture should be pale green in color and transparent. The agar is then poured in a very thin layer (about 3 mm.) into Petri dishes, which are allowed to remain open until they dry, then are turned upside down and dried from 10 to 15 minutes in a thermostat. When cool, the agar should be transparent and yellowish, without any greenish tint. The material to be examined should be spread by means of a curved glass spatula, without undue pressure over the agar. The agar need not be sterilized after the addition of the malachite solution. The solution of malachite keeps only for about a week. After the addition of bile and sugar, the agar should be tested and should be slightly alkaline. A slight excess of alkali does not harm. It is very easy to isolate typhoid bacilli with this method.

## AMERICAN JOURNAL OF SURGERY.

May, 1908.

1. Some of the Modern Aspects of the Cancer Problem, By ROSWELL PARK.
2. Simplified Equipment and Management for the Operating Room, By W. S. SCHLEY.
3. The X Ray in Dermatology; or Truth and Fallacy Concerning X Ray Dermatitis, By ALBERT C. GEYSER.
4. The Submucous Operation of the Nasal Septum, with a Plea for a More Rapid Technique, By J. E. MACKENTY.
5. Blood Examination in Surgical Diagnosis. A Practical Study of Its Scope and Technique (*Concluded*), By IRA S. WILE.
6. Rectal "Don'ts," By JEROME M. LYNCH.

1. **Some of the Modern Aspects of the Cancer Problem.**—Park remarks that if there is anything peculiar that cannot be alleged of this disease it is that the cancer cell is its own parasite. It makes for some a pretty and attractive statement, but it is perfectly impossible. There is no other place in the body, nor other circumstances under which the body's own cells act as parasites. It has been held that the cells break up or degenerate and some portion of the degenerative product is capable of acting as a parasite. This is entirely undemonstrable and incredible. The author remarks to such statements that from this and many other evidences that might be produced it can easily be made to appear that the theory by which the cancer cell is erected into being its own parasite is far more revolutionary, and taxes the imagination far more, than the theory which seeks to find the explanation in some extrinsic agency, and which is already receiving such striking corroboration from both clinical experience and the experimental laboratory. He believes absolutely in the statement that cancer begins as a result of local con-

ditions. Cancer, with all its local characteristics and its fatal termination, is a disease without a symptomatology of its own. It is a disease without a distinctive or definite symptomatology. Regarding the curability of cancer, he states that he feels that if a case is recognized early, and if it is located in an accessible portion of the body, and if it were completely extirpated at that time, there would be a great probability of cure and with a much lower mortality. These "ifs," remarks the author, are tremendous in size, and yet he does believe in the curability of cancer. As Behla says: "If cancer is to be regarded as a constitutional disease there is but very little use in operating, since in that case there would be almost as much reason for amputating the foot of a gouty patient."

3. **The X Ray in Dermatology.**—Geysler concludes that the so called x ray burn is no more the direct result of the x ray than the same reaction when the part has been exposed to the ultra violet x ray, radium, or similar agents, and is, therefore, entitled to the name of radiodermatitis. The x ray when brought into direct contact with the tissues is far more active than radium and furnishes clinically better results. There is no accurate means at present whereby the effect of the x ray can be measured; the reaction is largely due to conditions existing within the body of the patient. The x ray is not a cure all, but has its indication in certain selected cases; whenever possible malignant growths should receive the benefit of radical removal by knife, cautery, or paste.

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### Proceedings of Societies.

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#### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Special Meeting, Held in Brooklyn, March 2, 1908.*

Dr. J. SCOTT WOOD in the Chair.

**The Comparative Therapeutic Value of the Compounds of Iron.**—This paper, by Dr. RANSFORD E. VAN GIESON, the vice president, has been published in the *Journal* of April 11th, on pages 687 et seq.

Dr. REYNOLD WEBB WILCOX said that the iron question was in many respects an enormous one, though in its practical aspect it was comparatively simple. He had in his possession a copy of the *Edinburgh Pharmacopæia* of 1808, and in this iron appeared in four forms: (1) iron dust; (2) iron filings; (3) iron muriate (the chloride); (4) iron vitriol (the sulphate). Since then the preparations, both official and nonofficial, had multiplied very greatly. In the last revision of the *United States Pharmacopæia*, iron had been dealt with at considerable length. Every drug and preparation coming before the committee had to be considered from two points of view—the pharmaceutical side and the medical side. As regarded the latter, no article was admitted unless there were sound scientific reasons for its employment. With the hundreds of iron preparations brought forward they had done the best they could. Although the preparations were so numerous, the use of this remedy in practice was a simple affair. The points requisite for success with



it were, first, careful observation of the particular case to be treated, and, second, observation of the effects of the preparation, to see whether definite results were being produced by it. It should not be forgotten that the red corpuscles of the blood could be greatly increased in number without the use of medicinal iron. Thus, a milk diet would have this effect, although milk contained very little iron. Massage, static electricity, and other agencies, as well as ordinary wholesome food, also tended to produce the same result. As Dr. George B. Wood had said long ago, the best results were obtained when you sunned your patient. The use of such means cured secondary anemia, because the effect was to call into play the reserve store of iron in the liver. It was a very easy matter to find out whether the condition of a patient's blood was improving. It was not necessary to count the corpuscles (a very tedious and troublesome undertaking), since the percentage of red corpuscles was as a rule quite closely paralleled by that of the hæmoglobin, and this could be readily and quickly estimated by means of the hæmoglobinometer. During some years past he and his assistants had made more than twenty thousand hæmoglobin estimates. Physical signs (such as the different hæmic murmurs) also indicated quite closely the amount of hæmoglobin present. The quantity of nonsense which we heard about iron was appalling, and in this talk there was also a great deal always said about manganese. Having said that manganese was practically useless in improving the condition of the blood (as he had proved by some three thousand hæmoglobin estimates), Dr. Wilcox said that the only reasonable and scientific way to use iron was to select a single preparation, which seemed best adapted for the particular case, and then observe whether it had the desired effect, as shown by the actual increase of hæmoglobin. Any preparation of iron which did not add as much as 10 per cent. to the amount of this each week was not accomplishing what we ought to expect from this remedy.

Dr. H. A. FAIRBAIN said it would be an advantage if nine tenths of the iron preparations should be cut out of the *Pharmacopœia*. The large doses formerly advised were entirely unnecessary, as small doses were quite sufficient to accomplish the desired purpose. There was one preparation on which he was accustomed to rely almost exclusively, and that was the syrup of the iodide. As had been remarked, however, medicinal iron was not the only thing needed by anæmic patients. It was true that they required iron, but God had provided this in the sunshine and in good food.

Dr. VAN GILSON said that in his paper he had not referred to the iodide, because this was not commonly used for simple anemia, although it was most excellent in strimous conditions.

#### The Early Diagnosis of Cancer of the Uterus.

—Dr. ALBERT MARTIN, Iudo read this paper. Although the subject, he said, had been brought to the attention of the profession very frequently during the last decade, his experience had taught him that the question of an early diagnosis could not be too frequently brought to the notice of the general practitioner. In order to make an early diagnosis, the physician, wholly ignoring the climacteric as an

entity, should insist upon a digital and speculum examination whenever his patient complained of any untoward or unwonted pelvic symptom. More was learned by the finger than by the speculum. If the cervix was sound, and the discharges, whether bloody or leucorrhœal, came from the uterine cavity, the curette should be used as an aid to diagnosis. In all cases the microscope was to be called into requisition. While much was still to be desired in this regard, an early diagnosis was made more frequently at present than formerly, and, consequently, a less serious view of the disease must now be entertained; for many series of cases had been reported by the wisest and most respected surgeons in which a large percentage of cures were effected. By complete cure he meant with no recurrence after five years. Our operative treatment of cancer had taken a long step forward when the modern theory that it began as a local disease was established. There were certain types of uterine cancer which ran a more malignant course than certain others, and two cases illustrating this aspect of the disease were cited by the speaker.

The classical symptoms of cancer of the uterus were hemorrhage, offensive discharge, and pain. Unfortunately, when these were all present, the disease was but too often no longer localized in the uterine tissues. When the symptoms of cancer were analyzed, therefore, it was seen that the early diagnosis must depend upon other than the classical signs. Very often women would complain of pelvic symptoms common to several diseases, and the diagnosis had to be made by the physical findings, aided perhaps by a microscopical study of a portion of the suspected tissue. It was his opinion that one should not say that a given case was inoperable until the patient was examined under an anæsthetic, the uterus drawn down by a volsella, and a thorough curetting done, unless (and this was very important) there was unmistakable evidence of the existence of secondary cancerous growths in other portions of the body. The ordinary appearance of the symptoms of carcinoma of the uterus was in the following order: Ichorous leucorrhœa, pelvic pain, fetid discharges, and general cachexia. But while these symptoms were characteristic, some of them might be absent, or their sequence might be variable. Thus, pain might not be present. In other instances hemorrhage would be the first symptom, and again, loss of weight and general cachexia, ordinarily the final manifestations, might be the first to attract attention. As had been stated, a digital examination, supplemented by the microscope, was the only method of arriving at any conclusion. This should never be neglected in any case of painful coition, stubborn pelvic pain or backache, leucorrhœa, and especially metrorrhagia or menorrhagia. A show of blood, however slight, following sexual intercourse, should always awaken suspicion.

Having spoken of the technique in obtaining a specimen for examination, Dr. Judd called attention to a condition which the general practitioner saw and treated, namely, erosions or ulcerations of the cervix, as they were commonly called. An erosion, he said, was never a discrete. It was only a symptom. Generally speaking, it was caused by some irritative discharge from the cervix or uterus. This

latter might be produced by an inflammatory change in the mucosa of the cervix or of the body of the uterus, or might be an expression of some constitutional trouble. It seemed but logical that the cure of an erosion was to be accomplished only by the cure of its cause, but we still saw many cases which had been treated by local applications to the erosion itself. The protracted course of such treatment led to unavoidable delay in diagnosis, and delays were sometimes fatal to the patient. Many of these cases could be cured by office treatment. He did not hesitate, in a case of so called endotrachelitis, to curette the cervix in his office, though patients whose discharge came from higher up had to be curetted under an anæsthetic. Constitutional causes should be treated constitutionally. The diagnosis of cancer having been made, only one course was left to the conscientious physician, and that was operative treatment—removal, if possible; if not, curetting or cauterization.

Following the paper there was a prolonged discussion, only the more important points of which can be here given.

Dr. GEORGE MCNAUGHTON said that one great difficulty in making an early diagnosis was the fact that so many patients concealed their symptoms until the disease had made fatal progress. It was, therefore, a matter of the greatest importance that a campaign of education should be carried on, so that women might be brought to understand that certain troubles which they supposed were due to the menopause had nothing to do with this, and required the immediate attention of their physician. Ninety per cent. of the cases of uterine cancer were in the cervix, and, therefore, readily amenable to operation, if this was undertaken in time. The microscope would decide the matter in any case of doubt. The scrapings from the body of the uterus usually gave the pathologist the means of making a satisfactory examination, but the curettings of the cervix were not satisfactory. He had therefore devised an instrument for obtaining specimens from the cervix which was a slight modification of the adenoid forceps. The importance of early diagnosis was a point which could not be too strongly urged. It should be reiterated again and again, and when it had become more generally recognized, a fair proportion of the patients could undoubtedly be saved.

Dr. L. GRANT BALDWIN having also spoken of the importance of a campaign of education for women, said that, as regarded different degrees of malignancy, he believed much depended upon the age of the patient. If she was above fifty, the disease would be apt to recur less frequently and to be less malignant than in a younger woman, in whom all the functions of the economy were more active. Loss of blood was the great sign of all others, and every case of hæmorrhage should be carefully investigated. The spottings between periods were particularly significant, and with the hæmorrhage there was often associated a thin, watery discharge. In some cases, however, there were absolutely no symptoms until the disease had made fatal progress. There was nothing distinctive about the odor of cancer, and also the cachexia from sloughing fibroids was very much the same as that from cancer.

Dr. R. H. POSTEROV said that, while leucorrhœa

was by no means pathognomonic of cancer, it was almost invariably one of the early signs of this disease. All the ordinary cases of leucorrhœa were curable, and if in any instance the cause of the discharge could not be found and treated, it was fair to suspect the presence of cancer. A test that had been proposed for determining the existence of cancer when there was erosion of the cervix was the application of a ten per cent. solution of copper sulphate. If the granulations healed under this treatment it would show that there was no cancer, while the reverse of this would be true if they did not heal.

Dr. A. ERNEST GALLANT said it was natural that we should fail to recognize the early signs of cancer, because there really were no symptoms which could properly be called early. As to what are generally known as erosions of the cervix, he had never seen a case of this in which the condition was followed by cancer. He had found that these erosions were best treated by means of the application of pyroligneous acid, repeated until they healed, and as an adjuvant to this he employed douches of ordinary vinegar. If there were a cancerous condition of the cervix, however, this treatment would have no effect. Women frequently had cancer long before the menopause, and he had seen a patient of thirty with enormous cauliflower growths. He believed there was great danger of the cancerous degeneration of fibroids. It would not do, therefore, to tell patients with fibroids that they would get well when they reached the menopause. There was a cachexia from fibroid, and he was opposed to letting a patient with such a tumor go on to this third stage. He would operate early, for the prevention of future trouble, just as he would in appendicitis. While no one had greater respect for the work of the pathologists than himself, he had found that they sometimes made mistakes, and he knew of three cases where the uterus, which had been pronounced cancerous, had been taken out, when syphilis was really at the bottom of the trouble. He therefore always gave his patients a thorough course of antisyphilitic treatment before he consented to operate. He did not believe there was a pathologist living who could always decide correctly in a case of suspected cancer, and where the disease was located in the body of the uterus, it was manifestly unfair to expect the examiner to make the diagnosis from a few scrapings from the lining of the cavity. To afford a proper opportunity for decision, the curetting should be deep.

Dr. ARCHIBALD MURRAY, having referred to some of the difficulties with which the pathologist had to contend, said that in any case, where the disease was in the body of the uterus, he thought that in securing a specimen for examination the uterus should be thoroughly curetted, and, if possible, some of the underlying tissue obtained, as well as some of the sound tissue on either side also. He did not think it fair to ask a diagnosis from a little mucus on a tampon. If the specimen was kept in water or presented dry on gauze, not much could be done with it. The surgeon was apt to expect too much of the pathologist, and in many instances the early diagnosis of cancer was just as difficult for the latter as it was for the surgeon.

Dr. JUDG said that personally he had never seen

a case of cancerous degeneration of fibroids, although for years he had been on the lookout for this.

**Experiences in the Field of Œsophagoscopy.**—The last paper of the evening was by Dr. JOSEPH MERSEBACH, on this subject. He said that he had no original views to present, but simply desired to speak of the results of some of his examinations, and to consider to what extent these investigations had supplemented clinical observations. The instrument employed was the Mikulicz œsophagoscope, and the patient examined was placed in the horizontal position. Except in one instance, local anæsthesia was used; at first a twenty per cent. solution of cocaine, and afterward (as poisoning was once caused) a ten per cent. solution. At his last examination he employed general anæsthesia, and as the result of this experience he now believed that, in making the examination, this should always preferably be resorted to. In two cases previously he had failed to introduce the instrument because of his inability to overcome the nervous irritability of the patient. The speaker then proceeded to give a condensed report of cases, each one of which was illustrative of one of the four groups in which he had made examinations. The first was a case of carcinoma, the second one of idiopathic dilatation of the œsophagus, the third one of syphilitic tumor, and the fourth one of foreign body. By way of comment, he said it was doubtful whether the limited number of his cases entitled him to form any conclusions as to the value of œsophagoscopy, but, so far as he had been able to form any opinion from his personal experience, it would be in the direction of not attaching too much importance to the diagnostic significance of such inspection. In malignant growths the diagnosis could usually be made by other methods, and the diagnosis between a diverticulum and a dilatation could also be arrived at by other means. In the extraction of foreign bodies, however, the œsophagoscope was undoubtedly far superior to the method of probing in the dark, and even to the removal by the aid of the x ray, which was, of course, not applicable to all foreign bodies. Here the œsophagoscope was the only rational instrument, and it ought to be considered indispensable. If he had succeeded in establishing the diagnosis of syphilis in one instance, the value of this discovery could not be exaggerated, since it afforded the inspiration to institute antisyphilitic treatment in the otherwise hopeless cases of œsophageal tumor.

Dr. MAX FREUDENBERG said that, in December, 1900, he had had the honor of first demonstrating his new œsophagoscope before this association. In the older instruments the source of the illumination was outside of the œsophageal tube, while in his own a better illumination was secured by placing the lamp at the lower end of the tube, near the area to be examined. In examinations with the œsophagoscope he thought that neither cocaine nor general anæsthesia should be resorted to. When intolerance was present it was impossible to say what might not happen. With all these instruments the introduction involved, under any circumstances, a considerable amount of danger to the patient. In the case of his own œsophagoscope, at least, the sitting posture was preferable to the recumbent for the intro-

duction, though later the patient might lie down with the instrument in place. In some instances the horizontal position afforded a better opportunity for the observations required. In his opinion the œsophagoscope as a diagnostic means was of very great value. As an illustration of this, Dr. Einhorn cited the case of a lady who had a small tumor of the stomach. On account of the difficulty she had in swallowing, it was suggested that an operation should be performed. Before consenting to such a procedure he thought it would be well to make an œsophageal examination, and when this was done it showed very distinctly that there was a continuation of the tumor into the œsophagus, a condition which rendered an operation entirely inadvisable. Again, there were certain cases in which there were very grave symptoms, and yet when the œsophagus was inspected nothing was found. Here the instrument was of service in excluding dangerous conditions, and such patients were benefited by medicines. In one case that he had observed there was a reddening or perhaps inflammation of the œsophageal mucous membrane, but no obstruction whatever. Without the œsophagoscope it would have been difficult to make a correct diagnosis, and under appropriate treatment this patient got entirely well.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

**Diseases of the Heart.** By Professor TH. VON JÜRGENSEN, of Tübingen; Professor Dr. L. KREHL, of Greifswald; and Professor Dr. L. VON SCHRÖTTER, of Vienna. Edited, with Additions, by GEORGE DOCK, M. D., Professor of Medicine, University of Michigan. Illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 848. (Price, cloth, \$5; half morocco, \$6.)

In the collaboration on this well known volume of Nothnagel's *Practice*, Professor Krehl has been assigned the subjects in which the advances have, perhaps, been greatest in recent years. As he is equally esteemed as a pathologist, a brilliant investigator, and a clinician, his discussion of diseases of the myocardium, the cardiac neuroses, arteriosclerosis, and coronary disease are marked by the originality of view, scientific caution, and soundness of deduction which would be expected by the student familiar with his *Pathological Physiology*. The American reader will be struck by the significance attributed by the newer school of German observers to the influence of alcohol and tobacco as causes of the chronic degenerative changes in the heart and bloodvessels. In the sections on treatment a conservative, but, on the whole, a moderate opinion is expressed as to the value of the Nauheim system of baths and resistance exercises. The sodiosulfate of the bromine is praised as a diuretic. There is a masterly review by Krehl of the action of digitalis, from which we cannot refrain from quoting the following: "The physician must make himself thoroughly familiar with the properties and uses of this drug, for it is not enough for him to know that digitalis is the remedy to give; he must also know how, when, and how much of it to ad-



minister. It is my belief that an adequate knowledge of this one substance would enable a physician to dispense with all other 'heart remedies'; but all other remedies taken together, without digitalis, are inadequate." The subjects of cardiac insufficiency, endocarditis, and valvular lesions are dealt with in an adequate and scholarly manner by von Jürgensen, who cites numerous illustrative case histories from his own wide experience, and makes frequent references to the important literature. In a work so complete it would seem to be an omission that in the discussion of rheumatic endocarditis there should be no mention of the recent contributions of Poynton and Paine. In the concluding chapters diseases of the pericardium, including syphilis and new growths, are well described by von Schrötter. Valuable addenda in brackets by the editor round out and complete the work for the reader in this country by giving all the references to important American literature. This fine volume will doubtless long remain a standard reference work on diseases of the heart.

*Surgical Emergencies.* By PERCY SARGENT, M. A., M. B., B. C. (Cantab.), F. R. C. S., Surgeon to Out Patients, St. Thomas's Hospital, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. 256.

The author has availed himself of some eight years' experience in St. Thomas's Hospital to prepare this account of the methods to be employed in the treatment of hæmorrhages, burns and scalds, fractures, pus infections, abdominal injuries, hernia, and injuries of the neck, chest, nervous system, ear, and eye. The directions are brief and practical and the manual is handy in size.

*Heredity.* By J. ARTHUR THOMSON, M. A., Regius Professor of Natural History in the University of Aberdeen, Author of *The Study of Animal Life*, etc. With 49 Illustrations. New York: G. P. Putnam's Sons; London: John Murray, 1908. Pp. xvi-605.

That the subject matter of this work concerns itself with facts and fancies which are not only fascinating in their interest, but of great practical importance, few will dispute. But, unfortunately for the busy man or woman, either in the world of commerce or in that of science, the specialistic point of view has been reached so quickly, and the intricacies of the subject are so multiplied, and scattered in the transactions of learned bodies the world over, that there is need for just such a work as we now have before us, namely, an introduction to the study of heredity, from the nonpartisan point of view, by a student of biology whose equipment for the task is undoubtedly ample.

The evidences derived from the microscopical study of cell growth, pushed forward by Van Beneden, and in this country by Wilson; from the statistical data so well collected by Galten, Pearson, Davenport, and others in *Biometrika* and similar publications, and the results of experimental research have all been made use of to present to the reader the present day concepts of the general laws of heredity.

There is much loose thought and looser talk concerning the subject of heredity in disease. We are almost entirely in the dark so far as positive knowledge is concerned, and it must be confessed that our author contributes little new to the discussion;

but, fortunately, his chapter on heredity and disease, while not exhaustive, is sound, and the foolish talk about the heredity of diabetes, of insanity, of epilepsy, etc., concerning which too much is written, is largely omitted. The general attitude of the book is cautious and sound. It is a valuable addition in the form of a well digested summary, and as such commends itself to the thinking physician.

*Vorlesungen über Diätbehandlung innerer Krankheiten* von reiferen Studierenden und Aerzten. Von Professor Dr. H. STRAUSS in Berlin. Mit einem Anhang, "Winke für die diätetische Küche," von ELISE HANNEMANN. Berlin: S. Karger, 1908. Pp. 340.

Professor Strauss has laid down in this book his ideas about special dietetics in sickness. Questions relating to general dietetics are only touched upon in Chapter xv, and then in so far as they have reference to clinical problems. The dietetic treatment of diseases of childhood is also omitted, as the author thinks that should be the subject of a separate book.

Our book is divided into fifteen lectures, three being introductory and the twelve others treating of the object proper. Following his practical point of view, to be as condensed and concise as possible, the author does not give a special lecture to the diseases of the lungs and to infectious diseases, as the dietetics in these ills have been treated of under forced alimentation and under diet in fever.

The book contains a great amount of valuable material, based upon clinical experience extending over a long period. The arrangement of the lectures is exceedingly good, which arrangement, supported by a good index, makes the searching for a certain diet an easy matter, and assists in the enjoyment of the reading of the book.

Attached to the book are Hints for Dietetic Cooking, by Miss Hannemann, a well known author in this field. As the book is written for physicians, the introduction the author gives to her hints is very practical. She explains specific cooking expressions which are so foreign to every one not connected with the kitchen. The hints contain a rich store of good recipes under well arranged headings.

*Practice of Medicine for Nurses.* A Textbook for Nurses and Students of Domestic Science, and a Handbook for all Those Who Care for the Sick. By GEORGE HOWARD HOXIE, A. M., M. D., Professor of Internal Medicine in the University of Kansas, etc. With a Chapter on the Technique of Nursing, by PEARL L. LAPTAD, Principal of the Training School for Nurses of the University of Kansas. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 284.

As the title indicates, the purpose of this book is to provide a manual for those who care for the sick, either as a professionally educated nurse or as a voluntary home Samaritan. The book gives such information as is most helpful in following the directions of the attending physician.

It contains three introductory chapters, and the subsequent matter is divided into thirty-nine chapters, each treating of a couplet of diseases or one disease alone, such as typhoid fever (chapter iv), pneumonia (chapter v), scarlet fever (chapter vi), blood poisoning (chapter xvi), coughs and colds (chapter xx), blood disorders (chapter xxiv), diseases of the eye (chapters xxxv and xxxvi), etc.

Miss Laptad has written an interesting chapter on the care of patient and the sick room; while

emergencies, such as acute poisoning and antidotes, etc., are dealt with in the last chapter.

The book should find its place on every mother's table, as it contains many a valuable hint, and a physician can well recommend it to the families whose medical cares are placed in his hands. But why introduce such a book with such an illustration as is given in Fig. 1, opposite the title page?

*Woman. A Treatise on the Normal and Pathological Emotions of Feminine Love.* By BERNARD S. TALMEY, M. D., Gynecologist to the Yorkville Hospital and Dispensary, etc., New York. For Physicians and Students of Medicine and Jurisprudence. With Twenty-three Drawings in the Text. Second, Enlarged and Improved Edition. New York: Practitioners' Publishing Company, 1908. Pp. 258.

This second edition appears only a few months after the book came out for the first time. We reviewed it thoroughly (see the *New York Medical Journal*, lxxxv, p. 286), and to that notice we refer our readers. The new edition has been somewhat enlarged.

*The Correction of Featural Imperfections.* By CHARLES C. MILLER, M. D. Chicago: Published by the Author, 1907. Pp. 134.

The usual textbooks on surgery find but little space for cosmetic operations, and yet the distress that is caused, both in men and in women, by imperfections in feature—a distress that may influence greatly the life of the individual—makes some guide for operative procedures to remedy such conditions a desideratum. The operations are described briefly and illustrated by cuts, and the little volume may be of use to many surgeons.

*Atlas der pathologisch-anatomischen Sektionstechnik.* Von Prof. Dr. M. WESTENHÖFFER. Mit 34 Abbildungen. Berlin: August Hirschwald, 1908. Pp. 53.

The many forms and modes of procedure in post mortem examinations as taught at the German universities have induced Professor Westenhoeffer to place before his confrères a guide for necropsies which could be generally accepted. Over thirty years ago (in 1875) Virchow wrote a manual on autopsies for the Prussian coroners' physicians, to make the proceedings and their reports uniform, an English translation of which appeared from the fourth German edition in 1885. Johann Orth, who now occupies Virchow's chair as professor of pathology in the Berlin University, published a similar compendium in 1905.

Our author has founded his rules upon a topographical anatomical basis, and treats the subject in a very condensed, scientific way, illustrating his text with well executed drawings. The language is plain and to the point, and Professor Westenhoeffer avoids the complicated sentences with which the English reader so often has to struggle in German medical books.

*Bericht über den VII. internationalen Kongress für Hygiene und Demographie.* Berlin, 23-29. September 1907. Band 1. Berlin: August Hirschfeld, 1908. Pp. 304.

This is the first volume of the Report of the Fourteenth International Congress of Hygiene and Demography, held in Berlin, September 23 to 29, 1907. It is interesting to note that the contents of

the book pertaining to official proceedings appear in three languages, German, French, and English, while the papers and speeches are given in the language in which they were presented.

The book contains the reports on the organization of the congress and on the plenary meeting, the protocol of the session of the permanent international commission of the congress, and also a list of the members. Of essays there appear three: Chantemesse, Sérothérapie de la fièvre typhoïde; Haldane, Some Recent Investigations in the Hygiene and Subterranean and Subaqueous Work; and Schattenfroth, Die Grundlagen der hygienischen Wasserbegutachtung. We are to expect three more volumes.

*Transactions of the American Gynecological Society.* Volume xxxii. For the Year 1907. Philadelphia: W. J. Dornan, Printer. Pp. 568.

This volume of transactions is more portly than usual, owing to the addition of a number of papers by members of the American Surgical Society and American Ophthalmological Society in the "symposia" in which these kindred societies were especially interested.

The same high quality which has characterized the work of this society from the beginning is observable in this volume. The scope of its work, as intimated above, is broader than in any previous year.

A number of the papers are very brief, and this is a decided improvement upon earlier custom. There are very few subjects which cannot be treated in this busy age, with its superabundant literature, with comprehensive brevity. The art of luminous and informing writing is at its best when controlled by terseness and condensation, notwithstanding some noteworthy exceptions to this rule in very high places.

*Die Schuppenflechte (Psoriasis vulgaris) und ihre Behandlung.* Von Dr. S. JESSNER, Königsberg i. Pr. Zweite Auflage. Würzburg: A. Stuber, 1908. Pp. 39. (Price, 0.70 mark.)

This little pamphlet is the second edition of No. 13 of Dr. Jessner's collection of dermatological hints for the general practitioner, in which the author speaks of psoriasis vulgaris. Like all Dr. Jessner's handbooks, it contains many valuable hints and a number of good prescriptions.

*Cancer. Relief of Pain and Possible Cure.* By SKENE KEITH, M. B., F. R. C. S., Ed., Author of *Introduction to the Treatment of Disease by Radiation*, and GEORGE F. KEITH, M. B., C. M., Author of *1400 Cases of Abdominal Surgery*, with Mr. Skene Keith. New York: The Macmillan Company, 1908. Pp. 188. (Price, \$1.35.)

This volume is offered as a contribution of five years' experiments in the treatment of cancer by means of an injection method. An emulsion is made of iodipin, iron arsenate, mann calcium, and sodium cinnamate, which is given in doses of from two to five cubic centimetres every other day. There are records of thirty-six cases of carcinoma and five of sarcoma; these histories are not so detailed as might be wished, and they are not summarized. While the authors state that in many cases there was relief of pain, further data are necessary to indicate the value of the preparation as a cure.

## BOOKS, PAMPHLETS, ETC., RECEIVED

The Sexual Question. A Scientific, Psychological, Hygienic, and Sociological Study for the Cultured Classes. By August Forel, M. D., Ph. D., LL. D., Formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich (Switzerland). English Adaptation by C. F. Marshall, M. D., F. R. C. S., late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Illustrated. New York: Rebman Company, 1908. Pp. 536.

Transactions of the American Paediatric Society. Nineteenth Session. Held at the Arlington Hotel, Washington, D. C., May 7, 8, and 9, 1907. Edited by Linnaeus Edford La Fetra, M. D. Volume xix. New York: E. B. Treat & Co., 1908. Pp. 220.

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 Miscellany.
 

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**The Medical Centre of the World.**—Dr. Osler in his letter from Vienna in the *Journal of the American Medical Association* remarks:

As a medical centre Vienna has had a remarkable career and her influence, particularly on American medicine, has been very great. What was known as the first Vienna school in the eighteenth century was really a transference by van Swieten of the school of Boerhaave from Leyden. The new Vienna school, which we know, dates from Rokitsansky and Skoda, who really made Vienna the successor of the great Paris school of the early days of the nineteenth century. But Vienna's influence on American medicine has not been so much through Skoda and Rokitsansky as through the group of brilliant specialists—Hebra, Sigismund, and Neumann in dermatology; Arlt and Jaeger in ophthalmology; Schnitzler and von Schrötter in laryngology; Gruber and Politzer in otology. These are the men who have been more than others responsible for the successful development of these specialties in the United States. Austria may well be proud of what Vienna's school has done for the world, and she still maintains a great reputation, though it can not be denied, I think, that the Æsculapian centre has moved from the Danube to the Spree. But this is what has happened in all ages. Minerva Medica has never had her chief temples in any one country for more than a generation or two. For a long period at the Renaissance she dwelt in northern Italy, and from all parts of the world men flocked to Padua and to Bologna. Then for some reason of her own she went to Holland, where she set up her chief temple at Leyden with Boerhaave as her high priest. Uncertain for a time, she stayed here with Boerhaave's pupils, van Swieten and de Haen, and could she have come to terms about a temple, she doubtless would have stayed permanently in London, where she found in John Hunter a great high priest. In the first four decades of the nineteenth century she lived in France, where she built a glorious temple to which all flocked. Why she left Paris, who can say? But suddenly she appeared here, and Rokitsansky and Skoda rebuilt for her the temple of the new Vienna school, but she did not stay long. She had never settled in northern Germany, for though she loves art and science she hates with a deadly hatred philosophy and all philosophical systems applied to her favorite study. Her stately Grecian shrines, her beautiful Alexandrian home, her noble Roman disciples did she move to Germany, where she stays in Johannes Müller and in Rudolph Virchow true and loyal disciples did she move to Germany, where she stays in spite of the tempting offers from France, from Italy, from England, and from Austria.

In an interview most graciously granted to me, as a votary of long standing, she expressed herself very well satisfied with her present home, where she has much honor and is everywhere appreciated. I boldly suggested that it was perhaps time to think of crossing the Atlantic and setting up her temple in the new world for a generation or two. I spoke of the many advantages, of the absence of tradition—here she visibly weakened, as she has suffered so much from this poison—the greater freedom, the enthusiasm, and then I spoke of missionary work. At these words she turned on me sharply and said: "That is not for me. We gods have but one motto—those that honor us we honor. Give me the temples, give me the priests, give me

the true worship, the old Hippocratic service of the art and of the science of ministering to man, and I will come. By the eternal laws under which we gods live I would have to come. I did not wish to leave Paris, where I was so happy and where I was served so faithfully by Bichat, by Laennec, and by Louis"—and tears filled her eyes and her voice trembled with emotion—"but where the worshippers are the most devoted, not mark you, where they are the most numerous; where the clouds of incense rise highest, there must my chief temple be, and to it from all quarters will the faithful flock. As it was in Greece, in Alexandria, in Rome, in northern Italy, in France, so it is now in Germany, and so it may be in the new world I long to see." Doubtless she will come, but not until the present crude organization of our medical clinics is changed, not until there is a fuller realization of internal medicine as a science as well as an art.

**The White Man in the Tropics.**—Anderson observes that when a species is well adapted to the conditions which environ it, it flourishes; when imperfectly adapted, it decays; when ill adapted, it becomes extinct. When a white man, native of a temperate zone, goes to the tropics, there occurs a biological reaction of his system to the new environment, and a readjustment of coordination between his vital processes. In the tropics, the white man, individually, can exist; racially, he cannot persist. Acclimatization is not possible. No superior race can successfully govern an inferior race, superior in numbers, with equality before the law. Only by partial enslavement of the colored natives, superior in numbers, can the white man rule and govern the tropics, and it is only by relays of fresh representatives he can continue his sovereignty. No colony of northern origin has ever been able to lead a permanent and independent existence in the tropics.—*The Journal of the American Medical Association*.

**The Millwheel.**—At the dinner of the Edinburgh branch of the British Medical Association Dr. Charles Kennedy delighted the company with the following original song:

*Tune*—The Millwheel.

My opsonic index is negative,  
I greatly fear I must die,  
I often require a restorative  
Of Scotch or Irish or rye;  
My leucocytes are not digestive  
Of staphylococci.

I've a boil no bigger than half a crown,  
Though it feels as big as a score,  
It makes me sit up when I try to sit down,  
It is so devilish sore;  
It's hotter than hell, and I've tried to drown  
My sorrows in nips galore.

A bacteriologist came one day  
With sterilized lancet and all,  
He pricked it, and he carried away  
Some matter from that boil;  
A little matter, I heard him say,  
To grow on another soil.

He planted it in a jelly dish,  
It flourished under his eye;  
Said he, when I asked him, "What is this?"  
"They're staphylococci!"  
Yes, yes," he murmured, "What more can one wish  
Than staphylococci!"

My germs, in strange serum, with nicely washed leucocytes he now incubated,  
And with oil immersion lens brought into view  
The fact that each polymorph fed  
On three or four cocci, and so one drew  
An index opsonic, he said.



Then serum from me, for his leucos he asked,  
A meal of my germs to prepare;  
But they smiled at him, as in sunshine they basked,  
For not one opsonin was there!  
The cocci smiled blandly as polymorphs passed  
With stolid, ameboid stare!

With the ghost of a chuckle, he gazed on the sight,  
Then took up a Pravaz syringe  
To dose me with cocci cream cooked à la Wright,  
And told me my welfare would hinge  
On whether my leucocytes still took fright  
At cocci of golden tinge.

My wretched opsonins will not revive!  
No matter how often we try;  
The boil is much better, but can I survive  
If the man with the cocci reply,  
"You can only get well, if your leucocytes thrive  
On staphylococci!"

And now, I could do with a drop of Scotch,  
I like it much better than hy-  
Podermic injections of coecal hotch potch,  
And fain with my boil would I fly  
To regions obscure, where there's no one to tort-  
Ure me with pickled cocci.

—Through the *Scottish Medical and Surgical Journal*,  
March, 1908.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending June 5, 1908:

#### Smallpox—United States.

Places.	Dates.	Cases.	Deaths.
California—Los Angeles.....	May 9-16.....	1	1
California—San Francisco.....	May 9-16.....	1	1
Florida—Jacksonville.....	May 10-23.....	1	1
Illinois—Chicago.....	May 10-23.....	1	1
Illinois—Springfield.....	May 14-21.....	2	1
Indiana—Fort Wayne.....	May 18-25.....	1	1
Indiana—La Fayette.....	May 18-25.....	3	1
Indiana—Terre Haute.....	May 19-23.....	1	1
Kansas—Kansas City.....	May 19-23.....	2	1
Kansas—Wichita.....	April 18-25.....	6	1
Kentucky—Covington.....	May 19-23.....	1	1
Louisiana—New Orleans.....	May 19-23.....	4	1
Michigan—Detroit.....	May 19-23.....	1	1
Minnesota—Winona.....	May 19-23.....	1	1
Missouri—Kansas City.....	May 19-23.....	1	1
Missouri—St. Joseph.....	May 19-23.....	1	1
Missouri—St. Louis.....	May 19-23.....	4	1
Montana—Butte.....	May 19-23.....	1	1
North Carolina—Charlotte.....	May 19-23.....	1	1
Ohio—Cincinnati.....	May 19-23.....	1	1
Ohio—Dayton.....	May 19-23.....	1	1
Texas—Galveston.....	May 19-23.....	1	1
Virginia—Richmond.....	May 19-23.....	1	1
Washington—Seattle.....	May 19-23.....	1	1
Wisconsin—La Crosse.....	May 19-23.....	1	1
Wisconsin—Racine.....	May 19-23.....	1	1

#### Smallpox—Foreign.

Brazil—Manaos.....	April 18-25.....	1	1
Brazil—Rio de Janeiro.....	May 29-30.....	1	1
Canada—Hamilton.....	May 29-30.....	1	1
China—Hongkong.....	April 11-18.....	2	1
China—Shanghai.....	April 11-18.....	1	1
France—Paris.....	May 29-30.....	1	1
Great Britain—Glasgow.....	May 29-30.....	1	1
Great Britain—London.....	May 29-30.....	1	1
India—Bombay.....	April 11-18.....	1	1
India—Calcutta.....	April 11-18.....	1	1
India—General.....	May 29-30.....	1	1
Japan—Barrow.....	April 11-18.....	1	1
Mexico—Aguila Calientes.....	May 29-30.....	1	1
Mexico—Mexico City.....	May 29-30.....	1	1
Mexico—Progreso.....	May 29-30.....	1	1
Canada—Toronto.....	May 29-30.....	1	1
Portugal—Lisbon.....	May 29-30.....	1	1
Russia—Moscow.....	May 29-30.....	1	1
Russia—Odessa.....	May 29-30.....	1	1
Russia—Riga.....	May 29-30.....	1	1

Russia—St. Petersburg.....	April 18-25.....	5	3
Russia—Warsaw.....	March 28-April 18.....	14	1
Spain—Denia.....	May 29-30.....	3	1
Spain—Madrid.....	May 29-30.....	1	1
Spain—Seville.....	April 1-30.....	2	1
Spain—Valencia.....	May 29-30.....	21	1
Transvaal—Pretoria.....	April 11-18.....	1	1
Turkey—Bagdad.....	April 11-18.....	3	2
Turkey—Constantinople.....	April 26-May 10.....	4	1

#### Yellow Fever—Foreign.

Brazil—Manaos.....	April 28-May 2.....	1	1
Brazil—Paraty.....	April 28-May 2.....	10	12
Mexico—Laguna de Terminos.....	May 30—June 2.....	1	2

#### Cholera—Foreign.

India—Bombay.....	April 21-28.....	5	1
India—Calcutta.....	April 21-28.....	26	1
India—Madras.....	April 18-24.....	2	1
India—Rangoon.....	April 11-18.....	4	1

#### Plague—Foreign.

China—Paochow.....	April 11-18.....	Present.	
China—Hongkong.....	April 11-18.....	2	1
Egypt—General.....	May 12.....	268	150
Egypt—Alexandria.....	April 1-May 12.....	4	1
India—General.....	April 18-25.....	67,758	5,524
India—Bombay.....	April 21-28.....	1	162
India—Calcutta.....	April 11-18.....	1	148
India—Rangoon.....	April 11-18.....	27	1
Turkey—Bagdad.....	June 2.....	Present.	

### Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and noncommissioned officers of the United States Public Health and Marine Hospital Service for the fourteen days ending June 3, 1908:

- BELL, J. M., Pharmacist. Granted leave of absence for five days, from May 19, 1908, under paragraph 210, Service Regulations.
- CARTER, P. I., Acting Assistant Surgeon. Granted leave of absence for three days, from May 19, 1908, under paragraph 210, Service Regulations.
- CLEAVES, F. H., Acting Assistant Surgeon. Granted leave of absence for ten days, from May 26, 1908.
- COBB, J. O., Surgeon. Granted leave of absence for seven days.
- EICHELBERGER, W. W., Acting Assistant Surgeon. Granted leave of absence for fifteen days, from June 10, 1908.
- FAHEY, E. W., Acting Assistant Surgeon. Granted leave of absence for ten days, from May 26, 1908.
- GARDNER, C. H., Passed Assistant Surgeon. Granted leave of absence for one month, from May 31, 1908.
- HOLT, J. M., Passed Assistant Surgeon. Granted leave of absence for five days, from June 2, 1908.
- HUNT, REID, Chief of Division of Pharmacology. Detailed to attend the Council of Pharmacology and Chemistry, in Chicago, Ill., June 2, 1908, upon the completion of which duty to rejoin his station.
- HUNTER, W. R., Acting Assistant Surgeon. Granted leave of absence for four days, from June 4, 1908.
- KEATLEY, H. W., Acting Assistant Surgeon. Granted leave of absence for three days, from May 13, 1908, on account of sickness.
- KING, W. P., Passed Assistant Surgeon. Relieved from duty at San Francisco, Quarantine station, and directed to report to the medical officer in command of the Marine Hospital at San Francisco, for duty and assignment to quarters.
- NAULTY, C. W., Jr., Acting Assistant Surgeon. Granted leave of absence for five days, from June 17, 1908.
- PEARSE, H. E., Acting Assistant Surgeon. Granted leave of absence for three months without pay, from June 15, 1908.
- ROBERTS, NORMAN, Assistant Surgeon. Granted leave of absence for three days, from May 15, 1908, under paragraph 101, Service Regulations. Granted leave of absence for one month, from June 1, 1908.
- ROSENAU, M. J., Surgeon. Granted leave of absence for one month.
- SMITH, A. C., Surgeon. Granted leave of absence for one month and fifteen days, from July 1, 1908.
- THORNTON, M. J., Acting Assistant Surgeon. Granted leave of absence for one month, from June 1, 1908.
- TRASK, J. W., Passed Assistant Surgeon. Granted leave of absence for five days, from June 6, 1908.

- WAKEFIELD, H. C., Acting Assistant Surgeon. Granted leave of absence for five days, from May 21, 1908, under paragraph 210, Service Regulations.
- WHITE, M. J., Passed Assistant Surgeon. Granted leave of absence for one month, from June 1, 1908.
- YOUNG, G. B., Surgeon. Detailed to attend the meeting of the Lake Michigan Water Commission, at Grand Rapids, Mich., May 27, 1908.

#### Appointment.

Dr. Nathanael L. A. K. Slambert appointed as Acting Assistant Surgeon, for duty at Eastport, Idaho.

### Army Intelligence:

*Official list of changes in the stations and duties of officers of the medical corps of the United States Army for the week ending June 6, 1908:*

- ASHFORD, B. K., Captain. When no longer needed at Hattiesburg, Miss., ordered to return to Washington Barracks.
- BAILY, H. H., Captain. When no longer needed at Hattiesburg, Miss., ordered to return to Washington Barracks; returned to Fort Myer, Va., from detached service at Hattiesburg, Miss.
- BANISTER, J. M., Lieutenant Colonel. Appointed a member of a board of review to meet at Washington, D. C., to review proceedings and findings of medical examining boards in the case of medical officers found disqualified for promotion.
- CRAMPTON, L. W., Colonel. Appointed a member of a board of review to meet at Washington, D. C., to review proceedings and findings of medical examining boards in the case of medical officers found disqualified for promotion.
- EBERT, R. G., Major. Ordered to Vancouver Barracks, Wash., for duty as chief surgeon, Department of the Columbia.
- HUTTON, P. C., Captain. Ordered to return to Fort William H. Seward, Alaska, from Fort Benjamin Harrison, Ind.
- LA GARDE, L. A., Lieutenant Colonel. Granted an extension of his leave of absence to include June 24th; appointed a member of a board of review to meet at Washington, D. C., to review proceedings and findings of medical examining boards in the case of medical officers found disqualified for promotion.
- LYNCH, CHARLES, Major. Ordered to temporary duty in the surgeon general's office, and on its completion to revert to status of leave.
- MUNSON, E. L., Major. Granted leave of absence for one month.
- REYNOLDS, C. R., Captain. Arrived in New York from the Philippines Division, on leave of absence.
- STONE, J. H., Major. Relieved from duty with the Army of Cuban Pacification, and ordered to Newport News, Va., for further orders.
- STRAUB, P. F., Major. Ordered to report to the President of the Army War College for duty pertaining to the staff ride over the battlefields of Virginia.
- TORNEY, G. H., Colonel. Granted leave of absence for fifteen days.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers of the medical corps of the United States Navy for the week ending June 6, 1908.*

- ALLEN, A. H., Assistant Surgeon. Detached from duty in connection with the Cape Cruz-Casilda survey expedition and ordered to duty with the Marines at Havana, Cuba.
- BIELLO, J. A., Assistant Surgeon. Detached from the Naval Hospital, Portsmouth, N. H., and ordered to the *Salace*.
- BISHOP, L. W., Passed Assistant Surgeon. Detached from the *Hancock* and ordered to the Naval Recruiting Station, Indianapolis, Ind.
- BREWER, E. M., Assistant Surgeon. Detached from the Naval Hospital, Puget Sound, Wash., and ordered to continue other duties.
- COOK, F. C., Surgeon. Detached from the Naval Academy, and ordered to the *North Carolina*, June 6, 1908.
- HOLEMAN, C. J., Assistant Surgeon. Orders of May 26th modified; detached from the Naval Training Station, San Francisco, Cal., and ordered to the *Arethusa*.

- MCDONELL, W. N., Passed Assistant Surgeon. Detached from the Naval Recruiting Station, Buffalo, N. Y., and ordered to the *Severn*, for duty in connection with the Navy Rifle Team.
- SCHALLER, W. F., Assistant Surgeon. Resignation accepted, to take effect June 1, 1908.
- SMITH, C. G., Passed Assistant Surgeon. Ordered to the Naval Hospital, Portsmouth, N. H.
- WHITE, E. C., Assistant Surgeon. Detached from duty with Marines at Havana, Cuba, and ordered home to wait orders.

## Births, Marriages, and Deaths.

### Born.

- BRECHEMIN.—In Fort McKinley, Philippine Islands, on Tuesday, March 17th, to Dr. Louis Brechemin, Jr., Medical Corps, United States Army, and Mrs. Brechemin, a son.
- ELLIOTT.—In Philadelphia, on Tuesday, June 2d, to Dr. John Dean Elliott and Mrs. Elliott, a daughter.
- GILLESPIE.—In New York, on Sunday, May 24th, to Dr. H. M. Gillespie and Mrs. Gillespie, a daughter.

### Married.

- ALEXANDER—MALTY.—In New York, on Saturday, June 6th, Mr. Ludwell T. Alexander, son of Dr. Welcome T. Alexander, and Miss Mary Breckenridge Maltby.
- DUNLOP—SCHAFFER.—In Washington, D. C., on Tuesday, June 2d, Dr. John Dunlop and Miss Gertrude King Schuyler Schaeffer.
- FLOWERS—ROSE.—In Harrisburg, Pennsylvania, on Tuesday, June 2d, Dr. Claude J. B. Flowers and Miss Augusta Karoline Frederica Rose.
- GILBERT—STAMPER.—In Cincinnati, Ohio, on Thursday, May 28th, Dr. J. T. Gilbert and Miss Blanche Stamper.
- HAZEN—ROSS.—In Malden, Massachusetts, on Monday, June 1st, Dr. Henry Honeyman Hazen and Miss Laura May Ross.
- MILLER—FOLTZ.—In Harrisburg, Pennsylvania, on Tuesday, June 2d, Dr. David I. Miller and Miss Mary Frances Foltz.
- SWAYNE—PARAMORE.—In Philadelphia, on Wednesday, June 3d, Dr. Eugene Swayne and Miss Ida M. Paramore.
- THOMPSON—NAGLE.—In Philadelphia, on Monday, June 1st, Dr. Louis L. Thompson and Miss Elsie May Nagle.
- VAN WORT—DIXON.—In Brooklyn, New York, on Tuesday, June 2d, Dr. Clarence Thorn Van Wort and Miss Mary Louise Dixon.
- WHITE—WILLIAMS.—In Alexandria, Virginia, on Monday, June 1st, Dr. W. E. White, of Harrisburg, Pennsylvania, and Dr. Mary B. Williams.
- WINSMORE—BUHRE.—In Philadelphia, on Tuesday, June 2d, Dr. Henry Davis Winsmore and Miss Bell Buhre.

### Died.

- BELL.—In Omaha, Nebraska, on Thursday, May 28th, Dr. Joseph Bell, aged sixty-five years.
- CATE.—In Medford, Massachusetts, on Thursday, May 28th, Dr. Isaac Wallace Cate.
- CHRISTIE.—In Omaha, Nebraska, on Thursday, May 28th, Dr. William H. Christie, aged sixty-four years.
- CULBERTSON.—In Cincinnati, Ohio, on Thursday, June 4th, Dr. J. C. Culbertson, aged seventy-five years.
- DEANE.—In Montague Centre, Massachusetts, on Sunday, May 31st, Dr. Ebenezer A. Deane, aged eighty-three years.
- FOSTER.—In Concord, New Hampshire, on Saturday, June 6th, Mr. William P. Foster, father of Dr. Frank P. Foster, of New York, aged ninety years.
- IRISH.—In Lowell, Massachusetts, on Friday, May 29th, Dr. John Carroll Irish, aged sixty-five years.
- MILLER.—In Camden, Maine, on Friday, May 29th, Dr. Horace George Miller, aged sixty-eight years.
- RONAN.—In Albany, New York, on Monday, May 25th, Dr. Andrew J. Ronan.
- SCHADLE.—In St. Paul, Minnesota, on Friday, May 29th, Dr. Jacob E. Schadle, aged fifty-nine years.
- TABER.—In Elmira, New York, Friday, May 29th, Dr. Alfred B. Taber, aged seventy-six years.

# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

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NEW YORK, JUNE 20, 1908.

WHOLE No. 1542.

### Original Communications.

#### A NEW METHOD OF ESTIMATING THE PERMEABILITY OF THE PYLORUS AND AN ATTEMPT AT TESTING THE PANCREATIC FUNCTION DIRECTLY.\*

By MAX EINHORN, M. D.,

New York,

Professor of Internal Medicine at the Postgraduate Medical School.

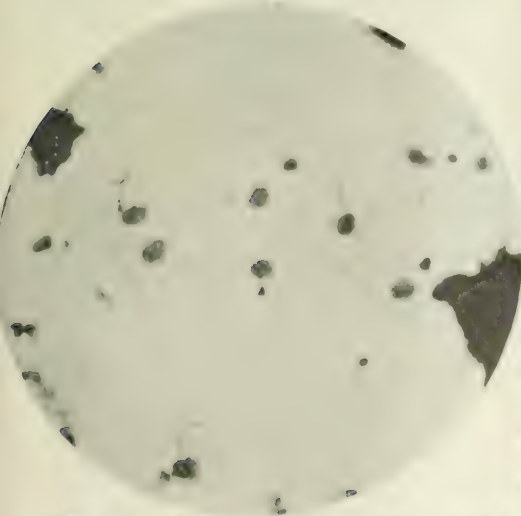
##### *I.—Permeability of the Pylorus.*

The methods ordinarily used for estimating the permeability of the pylorus are based principally upon examinations of the motor function, or rather prochoresis, of the stomach, as, for instance, the oil test of Klemperer and the examination for food remnants of the day previous in the fasting condition. Neither test decides whether the trouble is caused by abnormal weakness of the gastric musculature or by a narrowing of the pylorus. The rice test meal recommended by myself and the currant test of Strauss take the condition of the

and the currant test suffers from the drawback that frequently the currants will not pass the stomach tube.

The direct introduction of rubber tubes into the pylorus has been tried by Hemmeter and Kuhn, but not with very marked success.

The idea presented itself of having beads of dif-



The permeability of the pylorus was estimated in a series of experiments on patients who had been kept in patient McK.'s digestive tract for five and a half hours. The results are summarized and given in the table on opposite page.

pylorus a little more into account. The rice test will, however, be positive only in advanced cases.

\*Read before the meeting of the Chicago Association of Surgeons, Chicago, Ill., on June 1, 1908.



been kept in patient McK.'s digestive tract for five and a half hours. The results are summarized and given in the table on opposite page.

ferent sizes attached to a silk thread and having them swallowed in order to see whether they pass the pylorus or not. In normal conditions they will pass; in stenosis they will remain in the stomach. As the length of the thread in itself is not a sufficient guide to decide whether the bead was in the duodenum or not we must look for a different indicator for this purpose. In the beginning I used beads coated with mutton tallow, later beads filled with methylene blue and coated with mutton tallow. In as far as the fat is dissolved mainly in the duodenum, a green or blue color of the urine would show that the bead had already passed the pylorus. This usually occurs in from three to five hours. If we then withdraw the tube we will find that it is empty, i. e., contains neither fat nor methylene blue. In order to be sure, however, that the green color (disappearance of fat and methylene blue) really occurred in the duodenum and not in the





FIG. 3.—Section of a thymus piece (proximal piece), which had been kept in patient O.'s stomach for six hours (April 29, 1908). The nuclei are visible as rounded or slightly oval bodies of a regular shape.

stomach, I tied another similar bead for control purposes to the thread at a distance of fifty centimetres from the lips. This bead can only remain in the stomach, whereas the original bead was tied at a distance of seventy-five centimetres from the lips, and could thus pass the pylorus and travel for a distance in the duodenum. If, therefore, the distant bead is empty, whereas the proximal bead is still filled, it would prove that the lower bead had passed the pylorus.

In some cases of pyloric stenosis both beads remained full.

In doing this test on a large number of patients without pyloric stenosis at the German Hospital, it was shown that frequently the stomach bead was empty, i. e., the fat can disappear from the bead in the stomach (perhaps mechanically), and methylene blue can thus be liberated. If both beads

are empty we can naturally not say whether the lower bead passed the pylorus or not.

It was therefore necessary to look for other indicators. At first I used pieces of thymus in gauze and tied to the bead. In the small intestine the nuclei will disappear, whereas in the stomach they are not changed. If we allow the beads with the thymus for four to six hours to remain in the digestive tract, we find in most cases that the result will be as indicated before. (See Figs. 1 to 4.)<sup>1</sup> If, however, we leave the beads in the intestinal tract for a longer time, as over night (for about eleven to twelve hours), it happens occasionally that the nuclei will also disappear in the stomach.

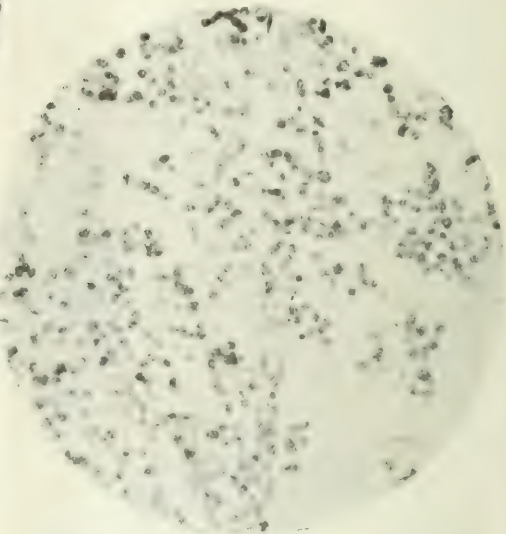
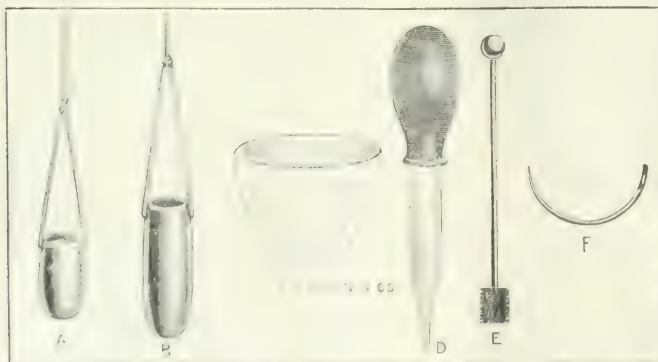


FIG. 4.—Section of a piece of thymus (distal piece), which had been kept in patient O.'s digestive tract for six hours (April 26, 1908). The nuclei are partly destroyed. In some places they show distinctly irregular shapes.

Why this should happen, whether there is regurgitation of the pancreatic juice into the stomach, or whether it is due to other circumstances, I am at present unable to state. At all events, the thymus was not sufficiently reliable for our purpose.

Instead of thymus I used pieces of agar that had been saturated with tincture of litmus and later with dimethyl-amidoazobenzol. They were placed in gauze and tied to the beads. By means of the litmus agar we determined that the duodenal juice (or duodenal chyme) is usually acid, because the distal agar pieces were colored red just like the proximal stomachpieces.

<sup>1</sup>I am greatly indebted to Miss Katharine Foot and Miss E. C. Strobell for taking these excellent micro-



The dimethylagar, however, proved useful. It was colored red in the stomach if it was removed at a time when free hydrochloric acid was present, whereas the duodenal piece usually remained colorless. It may, of course, occur that the proximal piece also remains uncolored, particularly in cases of achylia or marked subacidity; on the other hand, the duodenal piece may be red, if it has not remained long enough in the duodenum to lose its color, or where the duodenal chyme, for some distance, still contains free hydrochloric acid. In these cases the test has to be done with a different indicator.

It would be advisable to always use two indicators at the same time, as, for instance, fat and dimethyl or fat and thymus, in order to decide more accurately.

For in all cases in which one of the indicators shows a difference between stomach and duodenum, we can be sure that the lower bead has passed the pylorus.

## II.—Testing the Pancreatic Function.

Examination of the *faeces* has up till now furnished the best means for judging the pancreatic function. The nuclein test of Schmidt seems thus far to be the best procedure. The disadvantage, however, lies in the fact that at least twenty-four hours are needed for the completion of the test; secondly, that if they disappear later the possibility of their destruction by microorganisms cannot be excluded.

I have already mentioned that pieces of thymus attached to the thread and swallowed lose the nuclei for the greater part in the duodenum. This may, of course, be utilized for testing the pancreatic function. I proceed as described before, and have the result in five hours.

Instead of observing the change in test substances due to the action of the pancreatic juice it would naturally be better to get the juice directly. Boas tried this by introducing a tube into the empty stomach, massaging the region of the liver, and then obtaining the gastric contents. In some cases Boas succeeded in demonstrating pancreatic juice in this fluid. This method is, however, successful only in a fraction of the cases. The same may be said of the methods of Hemmeter and Kolmer to obtain the juice by direct sounding of the duodenum.

On the same principle as the stomach bucket I have constructed a much smaller duodenal bucket (Fig. 5). If we have the patient swallow the bucket on a thread for a distance of several cen-

timetres from the lips then we can often obtain duodenal chyme.

I proceed as follows: The duodenal bucket, tied to a long string of braided silk, with a mark at seventy-five centimetres, is placed in a gelatin capsule and given about one hour after a small meal. It is left in the digestive tract for three hours without taking any more food. The thread is tied to the ear or fastened in another manner, so that it cannot go beyond the seventy-five centimetre mark. After three hours the thread is slowly drawn up. In many cases we could feel a slight resistance when the bucket passed the pylorus, the cardiac end usually offering no resistance. At the entrance of



the oesophagus the resistance is overcome by having patient swallow once before withdrawing the bucket. It is still better to have patient swallow the bucket before retiring and withdraw it in the morning in the fasting condition.

I leave the bucket open a while. The contents may be removed by means of a syringe and placed in a small porcelain dish. The contents usually look yellowish (owing to the coagulum of bile) and yield a normal quantity acid reaction without the presence of free hydrochloric acid.

Only in one case of grave hyperchlorhydria, after an old ulcer of the stomach, free hydrochloric acid was found in the yellowish fluid. In this case the string showed a distinctly brownish coloration at the portion 52 to 64 cm., while the rest was not colored. The brown part gave positive reaction for blood. The colored string marked most probably the position of the ulcer in the pylorus and duodenum.

That the duodenal bucket really gets into the duodenum may be seen, first, from the contents, secondly, from a Röntgen ray picture taken before removing the bucket. Such an x ray picture from patient H., three and a half hours after swallowing

## FAVUS, WITH REPORTS OF TWO INDIGENOUS CASES.

By EMANUEL J. STOUT, M. D.,  
Philadelphia,

Associate in Dermatology in the Jefferson Medical College.

Favus (literally a honeycomb) is of rare occurrence among natives of the United States, and is usually met with in this country among the flotsam from foreign lands, notably Russia, Poland, and Italy. Both cases, to be referred to later, are examples of the disease in individuals born of American parents. Usually the affection is located on the scalp (favus capitis or tinea favosa capitis, but any

part of the body, even the mucous membranes, may be attacked. Favus of the nails, also known as onychomycosis favosa (from *ὄνυξ*, nail; and *μυκός*, a fungus) is exceedingly rare, and the fungus is, as a rule, introduced under the nail by the latter scratching the scalp. Lack of cleanliness and unfavorable hygienic surroundings are regarded as favoring its spread—one of the synonyma used by the French, *teigne du pauvre*, being quite suggestive, although the disease is occasionally seen in individuals belonging to the better class. This may be explained by the fact that tinea favosa may be transmitted by animals, such as cats, dogs, rats, mice, rabbits, fowls, cattle, and horses, and numerous cases have been recorded in which the disease has been conveyed from animals to human beings. The writer is inclined to regard barber shops and other public places, where combs and brushes<sup>1</sup> are used promiscuously, with considerable suspicion, although he cannot recall these articles being mentioned in dermatological textbooks as causative factors. Some time ago, while resting after a Turkish bath, the writer observed an Armenian rubber, employed in the establishment, who exhibited typical favus of the scalp, deliberately use the brush and comb, intended for customers, and arrange the few locks the achorian had left untouched.

Obstupui, steteruntque comæ et vox faucibus hæsit! (Vergil). Although favus has been placed on the list of contagious diseases by the United States government, and is regarded as sufficient cause for refusing admission to immigrants, nevertheless its not infrequent occurrence—principally among the foreign population—bears evidence to the fact that the supposed Argus eyed inspectors at the various immigrant stations either fail to recognize the condition or overlook it. From personal observation the

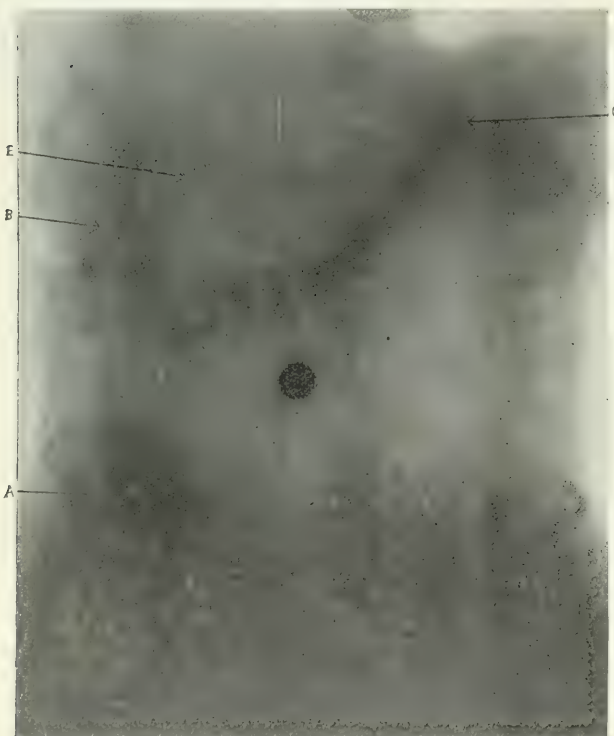


Fig. 6. X-ray picture taken three and a half hours after the above patient twenty-four hours earlier, showing the position of the colored and the duodenal bucket, which patient had swallowed about three hours previous to this exposure to the x rays. A, cæcum; B, hepatic flexure; C, splenic flexure; E, duodenal bucket. Comparing Fig. 6 with Fig. 7 it can easily be seen that the bucket is lodged beyond the stomach (duodenum).

the bucket is here reproduced. (Figs. 6, 7, and 8.)<sup>2</sup> The duodenal bucket can, of course, also be used for testing the permeability of the pylorus. For when it returns with the duodenal contents it certainly must have passed the pylorus. The tests described here, however, will be of benefit principally in those cases in which there is any doubt whether regurgitation has taken place from the duodenum into the stomach.

20 E. CHERRY STREET.

FIG. 7. X-ray picture taken three and a half hours after the above patient.

<sup>1</sup>Rayet, in *Dermatologia*, 1845, p. 100, states that favus is readily communicated among children who make use of the same comb and brush.



writer has been impressed with the tendency among a certain class of patients, when being treated for some cutaneous affection, to deny that they are affected with favus, although the presence of scutula and loss of hair, often associated with extensive atrophy of the skin or the scalp, will frequently point to the true character of the disease. Although much less contagious than ringworm, its appearance in public institutions, homes, and schools is much to be dreaded. This is another excellent reason why medical inspection of school children should be entrusted to competent hands only, and carried out thoroughly. How often, however, are those who are expected to make a correct diagnosis of cutaneous affections among school children unable to recognize the true state of affairs, and how frequently we meet with the stereotyped phrase on certificates, "disease of the scalp" (sic), forcibly reminding one of that other threadbare expression, "heart failure," which in former times played quite an important rôle in death certificates. Owing to its chronic character and rebelliousness to treatment, when on the scalp or affecting the nails (favus of the cutaneous surface, *tinea favosa epidermidis*, being much more amenable to treatment), it has proved a veritable *bête noire* to the dermatologist. The modern treatment of favus capitis with the x ray, strictly observing the technique and rules laid down by Sabouraud and Noiré (*La Presse médicale*, 1904, p. 825, and *Annales de dermatologie et de syphilis*, 1904, p. 80), in conjunction with local applications, has helped very materially in shortening the time required to affect a cure. Under the old method of treatment the time necessary to bring about lasting and favorable results ranged from six months to two years; now, however, it has been reduced to three months. Even under these much more favorable circumstances, "an ounce of prevention is worth more than a pound of cure" fully applies to favus.

The first case to be described bears a resemblance in some respects to the one reported in 1804 by Cantrell and Stout ("A Case of Favus of the Head and Body," *Journal of Cutaneous and Venereal Diseases*, pp. 375 and 410; article contains review of similar cases and bibliography).

CASE 1.—John L., fourteen years of age, born in New York City, came under the writer's care the latter part of July, 1907.

FAMILY HISTORY.—Both parents are living. Father is a native of Boston, mother was born in New England. Two brothers and one sister are living. According to statements made by his aunt, quite an intelligent and well-looking woman, he is the only member of the family having this eruption.

Previous History: Patient had measles and scarlatina. His aunt stated that the disease began on the scalp two years ago, while her nephew was in a home, and appeared on the body and nails six months later.

Present Condition: The lad presented an anæmic appearance, the muscles were flabby and the panniculus adiposus was poorly developed. He was 5 feet 3 inches in height, weighed 85 pounds, and had dark blue eyes and dark hair. Scrotal hernia on right side. He complained of itching on the scalp, more or less severe at times.

Examination of Urine: Reaction acid, specific gravity 1.022, no trace of albumin or sugar.

Scalp: On examination the entire scalp was found to be involved, with the exception of an area in both temporal regions about two inches wide and 3 inches long. The postauricular lymphatic glands were visibly enlarged; pediculi or ova could not be found. Innumerable scutula



FIG. 1.—Scalp of the patient, showing the typical scutula of favus. The scutula are of various sizes, and are often surrounded by a zone of erythema. The hair is often broken or falling out. The scutula are often surrounded by a zone of erythema. The hair is often broken or falling out. The scutula are often surrounded by a zone of erythema. The hair is often broken or falling out.

of various size were situated on the anterior and posterior part of the scalp; toward the temporal regions they were more or less scattered and some of the larger formed a striped concentric arrangement. When examined close than had they presented the typical cup-shaped appearance characteristic of the favus scutulum (scutulum, diminutive of scutella, a shield). These crusts, however, on their lower and convex or concave surface, had also beneath some of the small dark pits, pores, or depressions, and the pressed and under some of the depressions a granular mass was visible. The removal of the crusts of this type was accompanied by slight bleeding. A few of the smaller lesions were peculiar in shape, being rather circular, the fingers the crusts crumbled readily. Some of the more

recent favi showed the sulphur yellow color; where they had become confluent they looked brownish yellow. The characteristic odor—suggesting the odor of mice or musty

exhibited longitudinal splitting, and could be readily extracted with forceps. Midway of the scalp there were several atrophic areas, almost entirely devoid of hair, varying in size, the largest being about two inches by two inches in extent. The eruption extended anteriorly slightly beyond the hairy margin of the scalp and posteriorly about one half inch beyond the hair line. Owing to the hair being rather long, it was impossible to obtain a satisfactory photograph showing the full extent of the disease.

**Face:** Two typical, sulphur yellow, cup shaped lesions, of the size of a split pea, were visible on the face below the processus zygomaticus; one similar, smaller, lesion was situated on the upper part of the left ear and one pinpoint scutulum on the lower part of the left ear lobe, and three lesions, the size of a pea, were located near the left commissure of the lower lip, below the mucocutaneous junction.

**Nails:** The thumb nail of right hand had lost its glossy appearance and was brittle, and slightly fissured; the greater part of the nail from its distal end to lunula, and laterally from the nail fold to corresponding side, was implicated. The nails on the middle and index finger of the same hand were of a grayish yellow color and slightly raised from the nail bed. They were involved principally at the lateral and anterior margins, and only about one fourth of the nail substance appeared to be diseased.

On the left hand the nails of the thumb, index, and ring fingers were slightly affected and did not differ much in appearance from those of the right hand. The toe nails did not show any deviation from the normal.

The existence of favus on the body was discovered by accident. The writer's hand happening to come in contact with the lad's arm, and he being clad with a thin alpaca coat, the weather being quite warm, it was possible to detect decided irregularities through the coat sleeve. The patient did not refer to any eruption on the body and appeared to be anxious to conceal the exact state of affairs and merely called attention to his head and face. After considerable persuasion he allowed a thorough examination to be made, which revealed the following conditions:

**Arms:** On extensor surface of upper part of right arm there were eight scutula, varying in size from a pea to that of a quarter of a dollar. Above the external condyle the lesions had become confluent and had formed a patch, measuring about two inches in width and five inches in length, situated on the external surface of the ulna. About the middle of the elbow joint and on the internal condyle of the humerus there were present two favus cups. Numerous smaller scutula, exhibiting a tendency to become confluent, were distributed on the inner surface of the radius, and eight to ten isolated favus cups were scattered over the extensor surface of the forearm, terminating one and one half inches above the wrist.

**Left Arm:** Beginning at the acromion a patch, measuring about one inch in width at the starting point and gradually growing wider, reached about three inches downward to a point on a level with the left nipple. From this point an almost continuous sheet of scutula extended to within two inches of the left wrist.

**Trunk:** The anterior part of the chest, abdomen, and pubic region were not involved.

**Legs:** The scutula were quite plentiful on the upper part and outer margins of the thighs; a few were discrete, and some had coalesced. On the lower part of the thighs the eruption was very abundant, and extended downward, becoming narrower at the condylus externus of the femur and gradually broadening out, terminated three inches above the condylus externus of the tibia. On the inner surface of the tibia a patch, several inches in length, was situated below the knee joint. The patellæ were free from eruption, with the exception of a few isolated lesions on the left. On the left leg almost the same areas were invaded, except the anterior upper surface of the tibia. The eruption on the lower extremities showed considerable symmetry. On the left scapula were two large circinate lesions the size of fifty cent pieces, the one near the upper margin and the other about midway. Near its lower border were located one lesion, the size of a dollar, and another, the size of a quarter of a dollar, the latter becoming confluent with the former. The posterior surface of the left arm and outer margin of the left scapula were covered with abundant confluent scutula, and the entire arm from the



straw—was very pronounced. The hairs showed decided change and had lost their lustre, were dry and brittle, some

shoulder to within a few inches of the capitulum ulnæ was literally strewn with favi.

On the right arm posteriorly there was a collection of lesions, beginning about four inches below acromion and extending to a point below internal condyle of the humerus. A large patch was situated below the olecranon and on the outer margin of the forearm, and a number of isolated scutula were visible on the inner margin of the arm.

Near the waist line on the left side of the spinal column a large scutulum, the size of a quarter of a dollar, presented, and a pea sized favus cup was situated in right lumbar region. Two larger lesions, about one inch by one and one half inches in size, were noticeable in left lumbar region, near upper margin of the pelvis.

**Gluteal Region:** The left buttock was covered with the eruption, and only a few small areas remained intact; the right gluteal region was similarly affected, although in a lesser degree. The eruption on the thighs was continuous with that on the buttocks and covered large areas; the popliteal spaces showed only a few scattered favi. The posterior parts of both legs were the seat of a large number of patches and discrete scutula, the eruption being especially abundant on the left leg.

The smaller scutula exhibited the cup shape very typically; where the favus cups had become confluent, they bore a resemblance to fungi as seen on decaying stumps. Quite a number of the larger lesions were arranged in concentric rings. Where the scutula had been removed accidentally, distinct atrophy was noticeable.

The boy remained under the writer's care for six weeks, and after four weeks' treatment the lesions on the face and body had entirely disappeared. Numerous atrophic areas scattered over different parts of the body remained. The patient complained of itching, more or less severe at times, and owing to the skin being tense over the articulations and gluteal regions, movements of the body gave rise to considerable pain.

Although favus over a limited space does not affect the general health, generalized favus undoubtedly has a depressing effect on the system. It is interesting to note that the patient gained ten pounds in weight after the disappearance of the eruption and that his general physical condition improved very materially.

The time required for the eruption of favus to make its advent after experimental inoculations appears to vary somewhat. Thus in Van Harlingen's experiment upon his left arm a scutulum developed after ten days. Bulley observed favus cups appear on forearm after nineteen days, and they were preceded by an erythematous circle and herpetic lesions. In Bulkley's case three or four scutula showed on the arm of one of his assistants after six weeks, and were surrounded by a scaly, erythematous halo. Peyritsch observed favi four days after experimental inoculation and in another instance after four weeks. Wishing to make personal observations and to study the evolution of the scutula, the writer secured two mice and rubbed particles of favus crust on the temporal region. The first attempt resulted in disappointment, and proved negative after a period of five weeks had elapsed. A second effort proved successful. Following as nearly as possible Bulkley's method, several drops of water, in which particles of favus crusts had been soaked for several hours, were deposited in the temporal regions of both mice, after the skin had been scarified. Four weeks later three to four pinhead sized scutula had developed in one mouse at the site of the inoculation. It was possible to observe the presence of small vesicles, arranged in the form of

were noticeable before the scutula appeared. The skin in the temporal region of the other mouse did



FIGURE 1.—Favus after four weeks' treatment in experiment.

not show any change with the exception of slight swelling.



Report of Dr. R. C. Rosenberger, assistant professor of bacteriology, Jefferson Medical College:

Specimen, sent by Dr. Stout, consisted of crusts from the scalp, face, arms, legs, and scrapings from the finger nails. Some of these were treated with a ten per cent. solution of caustic soda and examined immediately; others were inoculated upon culture media, as bouillon and agar.

The crusts, treated with this solution, showed the characteristic hyphæ and spores of the achorion, and the scrapings from the finger nails also contained the fungus.

The inoculations upon agar and bouillon developed a mixed growth, consisting of the *Micrococcus pyogenes aureus* and mould fungus. (Inoculation of white mice was intended, but had to be abandoned, as no white mice were procurable at the time.)

From the appearance of the hyphæ, the arrangement of the hyphæ and spores, as well as the morphology of the growth upon culture media, it seemed beyond doubt that the parasite was the one recognized as the cause of favus, the *Achorion Schoenleinii*.

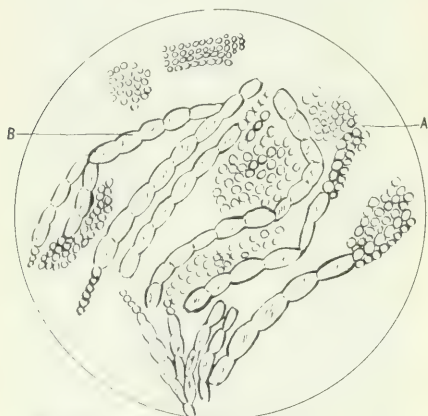


FIG. 3.—*Achorion Schoenleinii*: a, spores; b, hyphæ

The second case to be reported, briefly, furnishes an example of favus occurring upon the body surface alone.

CASE II.—J. R., a young girl, aged thirteen, the daughter of respectable and intelligent parents, both Americans, came to the writer's office during the summer of 1907. The parents consulted the author for an eruption on the arm of three weeks' duration and slightly itching in character. They stated that their family consisted of two children, one boy and one girl, and that no other member of the household had any cutaneous disease.

On inspection a group of sulphur yellow scutula, about ten to twelve in number, varying in size from a pinhead to that of a split pea, were seen on the flexor surface of the right forearm, three inches above the wrist joint, and occupying an area about four inches in diameter. Viewed through a lens they appeared to be located around fine lanugo hairs and were surrounded by a slight erythematous halo. The most careful search failed to elicit the presence of favus on the scalp or on any other part of the body. Bearing in mind the possibility of the disease being conveyed by animals, the writer after careful questioning elicited the information that a pet cat, belonging to the family and with which their daughter played quite frequently, had several patches on its body devoid of hair, and concluded that in all probability the cat had transmitted the disease to the girl. Microscopical examination showed the *Achorion Schoenleinii* to be present in scrapings taken from the arm.

## THE TREATMENT OF INFANTILE PARALYSIS.\*

BY CARL R. KEPPLER, M. D.,  
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Since it was the misfortune of the children population of New York and its near vicinity to have gone through a severe epidemic of anterior poliomyelitis during the last year, general interest in this disease has been greatly awakened. Infantile paralysis, which until then, on account of its comparative rarity, was observed and treated only by a selected few, now became a menace, and the cry for further information as to its ætiology, pathology, and treatment has been a universal one both in the medical and lay press.

It will be my endeavor to rapidly outline the treatment of the condition following the acute attack; but before doing so I wish to emphasize our present general opinion, that during the first six weeks all of these cases should be left alone, being kept absolutely quiet in the recumbent position. This is done so as to allow all inflammation and congestion in the spinal cord to disappear; the products of disease to become absorbed. The best means at our command for this purpose is a light, portable gas-pipe frame, to which the child is attached by an apron; this allows, without disturbance, easy transportation from room to room, or outside into the fresh air. The food administered should be light and nourishing; the child's general health carefully observed. Over the spine itself counterirritation by means of the cautery might be practised at intervals, and the limbs kept straight and warm in flannel bandages.

Passing over to the treatment of the chronic stage, that is, of established paralysis, a different phase presents itself. It is our duty now to help Nature in its reparative efforts, both at the seat of the disease as well as in the affected limbs, to prevent these efforts from becoming vicious in effect, and to gradually teach the child in protective apparatus the lost art of locomotion. An absolutely paralyzed muscle can probably not come to life again, it is true, but much can be done to strengthen those partially paralyzed or frequently only weakened. I believe, directed by observations of results obtained, that the treatment should be one of active assistance, not only of passive indifference.

The procedures to be employed I will therefore categorize as: 1, active treatment; a, by the use of pendulum machines; b, by the use of massage and electricity; c, by the use of hydrotherapy; 2, brace treatment; 3, operative treatment.

1, a, *Treatment by the Use of the Pendulum Machines*.—After the acute attack the lower (distal) part of the body is cut off from the brain by means of the changes in the spinal cord; the centres in the brain therefore not having to work any more, that is, to send out controlling impulses to these parts, return in a sense to their infant stage, in so far as to forget to frame and send out these complex impulses. But at the diseased area of the spinal cord not all—in fact, generally, not even the major

\*Read before the Medical Society of the County of Richmond, N. Y., March 11, 1908.

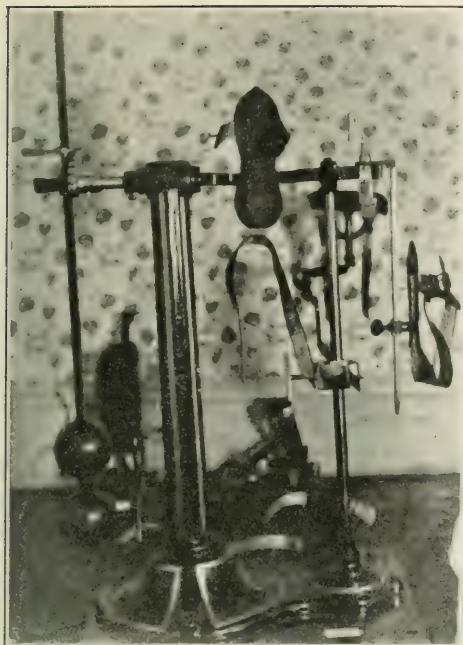


FIG. 1.—Pendulum machine.

portion—of the nerve tissue is absolutely degenerated, as one might be led to believe from the changes in the limbs. Many of the cells are still patent, having been simply put out of action and dormant following the intense acute inflammation of the affected area. If now we passively and rhythmically move the paralyzed limbs, using for this the basic principle of all motion, that is, the pendulum movement or swing, we send at equal intervals new impulses to the controlling brain centres—both through the medium of the still existing nerve filaments in the spinal cord, as well as through the medium of the child's eyes. The brain is thus called into activity and starts to imitate these simple pendulum movements; the impulses thus generated pass down to (and through) the partly degenerated, partly latent area in the spinal cord, causing renewed activity in the latter and possibly some regeneration in the former. All this time the effect of motion in the affected muscles of the limbs being exercised, is active in two ways: Firstly, from here impulses pass up through the peripheral nerves to their centres along the cord; these active impulses meet and mutually aid those coming from the brain, causing a two fold activity of repair in the diseased area. Secondly, the rhythmic expansion and contraction of the muscles increases the flow of blood to the limb, thus giving locally to the muscles and tissues added nutrition and consequent tissue change.

Passing now from theory to practice I can assure you that in a relatively short space of time the good results following the careful use of these machines

will become apparent in the children themselves. They are admonished to try and work the machine as soon as they appear to grasp its fundamental principle and have recovered from the first few frights anything new imparts. In this way they learn to use actively whatever muscular power is remaining—let us say alive—in the limb, increasing it; and thus bring the frequently only dormant fibres of apparently dead muscles into rhythmic play, soon becoming active. The effect is nearly magic. The flabby, thin, cold limb increases in size and solidity, and becomes pink and warm; contractures of the joints, if present, are gradually and painlessly overcome, in fact, can be prevented if they have not as yet occurred. The child's mind brightens, it loses its sickly stoicism consequent to long confinement, takes interest in its own progress, and will soon try to work its limbs actively without being urged. Furthermore, the general health of the child makes rapid strides forward, and there is an increase in its appetite and general body weight. No passive exercise manually done, no free exercise could so well accomplish this desired result; for in the first place the exercises would and could not be executed rhythmically and graded, and secondly, the child's brain cannot formulate any distinct movement independently and execute it. The fundamental principle upon which the pendulum machine is built is simple: Upon one end of a revolving axle a weight and pendulum are attached, at the other end by means of removable sandals or leg cups the limb or part to be exercised. The pendulum is now set in motion, either passively by the attendant or actively by the patient, and swinging to and fro gently and rhythmically exercises the part



FIG. 2.—Clockwork machine.

of the body attached at the other end. One advantage to note is that the pendulum can be attached at any plane to the axle so that one can stretch any group of muscles desired.'

At first the child spends about five minutes exercising each part, and, as the work becomes more active, this time is gradually increased to fifteen minutes, never up to the point of fatigue.

1, *b, Massage and Electricity*.—Massage I consider one of our main adjuncts to the successful treatment of infantile paralysis. The manipulations consequent to it are apparently so easily mastered that, unhappily, its professional standard in this country has been lowered by its promulgation in the hands of charlatans and fakirs. In fact, I have had to hear that it lowers the dignity of our professional standing to make use of it personally. I disagree with this, for it seems to me that what one

harmful and dangerous; correctly administered it is of marked benefit. Rubbing the limb, as so frequently done by parents, up and down more or less rapidly, is but misguided energy wasted.

Electricity can, in my opinion, hardly be placed in the same category with pendulum machine and massage treatment. The intermittent galvanic current is useful in that it momentarily excites the muscle fibres, thus causing frequent slight contractions and expansions of them, but the local and general toning nutritive effect before mentioned is lacking. It also cannot prevent contractures, nor overcome them when present. The faradic current, I think, only unduly excites and frightens the child, without much benefit; but I suppose on account of its wholesome, buzzing sound, pleases the parents.

1, *c, Hydrotherapy*.—The manner in which I advise it is the following: Into a basin, pail, or tub large enough to hold the affected limb, hot water of about 100° F. is poured. To this is added sea salt (one handful to about two gallons of water), and the limb is then allowed to soak in this for about five minutes. Upon withdrawal it is well dried with a coarse towel, and immediately encased in flannel bandages. This procedure is especially effective when the limb is blue and cold, as after long neglect, but I also advise its use in the lighter cases, as an adjunct to the other treatments just described, where the parents' intelligence promises its careful execution.

2, *Brace Treatment*.—The application of a brace to a child suffering from infantile paralysis is an absolute necessity, just as soon as it begins to use its limbs in trying to stand or walk. The brace is put on to keep the efforts of the still active muscles within normal bounds—aiding the weaker, restraining the stronger; to protect the weakened joints from injurious overstrain and stretching, and to hold the parts of the limb in their correct relationship to one another. The varieties of braces employed by their authors, and those indicated in each individual case, are too numerous to mention here, suffice it to say that in constructing the brace we must always bear in mind that it should be a help-mate, not a curse. It must therefore be as light as possible, extend no further than really necessary, and fit the limb correctly and snugly without causing undue constriction or discomfort.

But applying a brace is not the end of treatment, nor can an occasional visit for a new buckle or strap hardly be recommended. For if active remedial measures, such as just described, are not faithfully carried out during this time, regeneration may easily become degeneration, the limb getting miserably thin, hypersensitive, and the trophic changes in it marked.

3, *Operative Treatment*.—Under this heading many interesting treatises have been written and much progress made since Strömeyer's first epoch making tenotomy. The indications, in short, for operation are: a, To overcome those deformities resultant to the disease, not otherwise amenable to treatment. b, To reconstitute the limb and its parts to as nearly normal a relationship to one another as possible. c, To aid and increase the useful work of the still active muscles. d, If a limb is absolutely paralyzed and all joints are flabby (*Schlötter-*

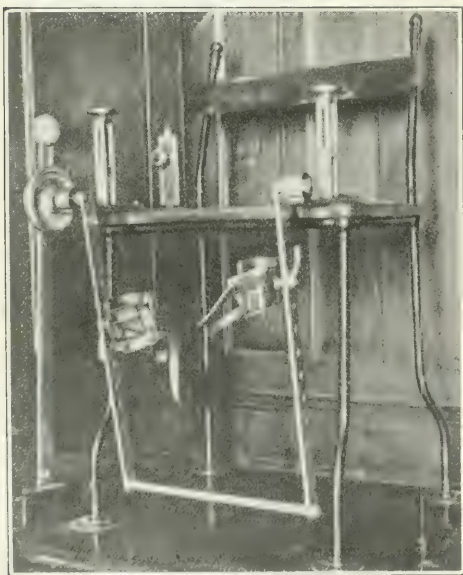


Fig. 1. Pendulum machine.

wishes to teach correctly, one has to have a thorough knowledge of, and I apply it, where possible, myself in every case until I have sufficiently instructed the parent or nurse to know that it is thoroughly done. I usually advise massage for both legs at the beginning of treatment in all cases—even in those where only one limb apparently remained paralyzed; and in the more severe forms also include the muscles of the buttocks and back, the abdominal muscles, and the arms if affected. Each individual group of muscles receives its share of stroking, kneading, striking, and vibration, as demanded, starting upward from the toes and following its defined anatomical distribution; the act becoming more severe as the hypersensitiveness of the parts decreases. Lack of knowledge of or carelessness in the employment of massage I warn is





Eyes: Complete temporal hemianopia with an excellent example of Wernicke's hemiopic pupillary reaction, that is, the pupils reacted to light when this was thrown on the temporal half of the retina of each eye, but did not react when the light was directed to the nasal or blind half of either retina, showing an interference with the nerves in the chiasm, where the nasal portions of each nerve cross to the opposite side.

There was some blurring of the disc edges, but the eye grounds were otherwise normal. He had a convergent squint of about 20 degrees, but this had been present from early childhood.

There was absolutely no history of, nor any evidence pointing to, specific disease. The ears were normal. The left side of his nose was badly occluded by a marked deflection of the septum to that side with thickening. He had some postnasal dropping and evidence of disease in the posterior ethmoid cells and sphenoid sinus of the left side.

The case cleared up completely with rest in bed. While it looked like a condition due to hemorrhage the age and general state of the patient were against such a diagnosis, and the presence of the nasal faults made it likely that conditions in the sphenoid sinus were responsible for the trouble.

CASE IV.—W. J., a young man, was struck in the left eye with the prickly husk of a chestnut while looking upward into a tree on a nutting expedition. When he presented himself next day for treatment, the cornea and conjunctiva were literally peppered with the barbed spicules from the burr and a severe inflammation had set in.

Something more than twenty of the small thorns were removed at the first visit. A number had to be left, as they were broken off in the tissue and an excessive amount of digging would have been required to remove them. Unless one has had to deal with such a case it is difficult to appreciate how troublesome the removal of such slender spicules, deeply embedded in the cornea, may be. There happened to be attending the clinic at the same time a patient who had suffered a similar accident some years ago. The vigorous effort made in his case to clear out all the spicules was followed by reaction so severe that the eye became of little use for visual purposes.

Careful watching of the injured eye, with the use of atropine, warm bathing, and suitable collyria, made it possible to remove the embedded spicules one by one as they betrayed their presence. The edema and softening of the cells immediately about them rendered this comparatively easy. In this way all were finally disposed of with excellent results.

1076 BOSTON ROAD.

## BOTHRIOCEPHALUS LATUS.

(Abnormal Segments.)

By FRANCIS HUBER, M. D.,  
New York.

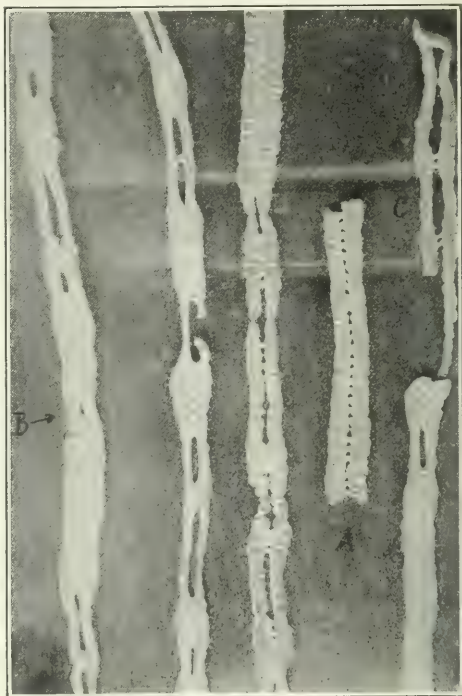
Though not indigenous in the United States, the occurrence of *Bothriocephalus latus* is not uncommon in our immigrant population. The geographical distribution of this variety is peculiar; it appears to have spread from certain points into the neighboring countries. In some places in Europe where it was formerly rare it is now becoming common. Common in Paris in the last century, it is now only seen in the imported cases.

The scolices, or plerocercoids, occur, especially in the pike, carp, salmon, etc. They are not killed by slight smoking, salting, or freezing. The mode of infection of fish is not known. The embryos of the *bothriocephalus* may be introduced through eating lettuce, as is stated to be the case in Switzerland. This is sometimes raised under irrigation from lake water, thus carrying eggs or meases to the plant, and thus explaining its occurrence in persons not fish eaters.

Stiles in Osler's *Modern Medicine* writes: "About thirty cases of infection with this parasite

have been recognized for the United States, chiefly among foreigners. Very probably it will become more commonly known in the United States, for now that special attention has been recently directed to it in several American medical journals, it will be more frequently recognized, and, further, it is highly probable that immigrants will infect the fish of some of our lake regions."

Nickerson (*Journal of the American Medical Association*, March 10, 1906), in speaking of the broad tapeworm in Minnesota, reports a case of infection acquired in the State. The latter occurred in a child of Finnish parentage, who was born in Minnesota, and had never been out of the State. This demonstrates the fact that the species has ob-



Anomalous variations of section of *Bothriocephalus latus*.

tained a foothold, at least locally, in this country. The author states that he has found the larvæ in American fish, caught in the Great Lakes. He attributes or explains the general freedom from infection enjoyed by Americans to the fact that our method of preparing fish for food tends to destroy the larvæ.

Some years ago, while still engaged in active practice, it was my fortune to run across seven instances in about as many years. These cases all occurred in people who had emigrated to this country from the Polish countries. The interesting specimen, the photographs of which are herewith presented, was passed by a woman about twenty-eight years old, who had been in this country some seven years. She was a neurasthenic creature, pre-

senting a high grade of anæmia. After the usual treatment with male fern, etc., a large quantity of the parasite, filling a large teacup about two-thirds, was expelled. Unfortunately no measurements were made. In examining the specimen, certain peculiarities were noted, which are brought out distinctly in the photographs. The best parts were preserved; the rest of the specimen, kept in another jar, was inadvertently thrown away. A careful examination of the separate portion shows the different stages of the anomalous variations of the different segments and sections.

As cases of bothriocephalus are infrequent in America, occurring only in immigrants, the topic is referred to in a superficial manner in most of the American textbooks. The abnormal appearance of the individual segment or series is not even referred to.

The subject of *Bothriocephalus latus*, particularly its relation to primary and secondary anæmia, has been thoroughly discussed by Dr. Robert N. Willson (*American Journal of the Medical Sciences*, August, 1902).

In describing the characteristics of the various parts he says: "Each segment contains at its centre a dark, bluish gray spot, which, on examination, appears in the form of an irregular rosette, marking the recurrence of the segments. This rosette never fails of appearance, though the segments, as already stated, may run together, be partially divided, or shown no demarcation whatsoever. The frequent occurrence of imperfect and abortive types of twin segments may be considered an almost distinctive feature of the bothriocephalus family, although seldom or never mentioned in the textbook descriptions. The segments may also be split, either at the free edge or in the parenchymatous lateral portion of the body. I do not look upon these irregularities as always due to traumatism or pressure, but consider them, especially the imperfect and twin segment formations, as typical malformations."

A more plausible explanation is given by Jacobi, and is as follows: "Sometimes they appear fenestrated in consequence of the bursting of the sexual apertures. Thus a genuine fissure may occur, which yields the impression of a double development" (Jacobi, *Intestinal Diseases*, etc., page 251).

209 EAST SEVENTEENTH STREET.

#### CHOLERA INFANTUM

*An Avoidable Plague which Annually Kills Forty Thousand Babies in the United States.*

By LEONARD K. HIRSHBERG, A. B., M. D.,  
Baltimore.

Assistant, Johns Hopkins Hospital.

Cholera infantum is a name loosely applied to a whole group of infantile maladies, which differ greatly in important particulars, though they have many characteristics in common. All are disorders of the digestive tract; all are caused by unclean or improper food, rarely by direct contagion; all are most prevalent in summer. A familiar synonym for cholera infantum, in fact, is "summer complaint." But this name is far from accurate, for cholera infantum, while most common and most

dangerous in the hot months, is by no means confined to the summer.

When cholera infantum appears in its true form—that is to say, as an infectious dysentery—it is an exceedingly fatal disease. Several authorities say that the death rate is more than 60 per cent., which means that two thirds of the children attacked by it die. In all large cities it is epidemic throughout the year, and in New York, where the dwellings of the poor are peculiarly crowded and insanitary, it causes approximately 12,000 deaths each summer. During the census year 1904, when the last mortality statistics were gathered by the federal government, there were 37,000 deaths from cholera infantum in the comparatively few cities and towns that made returns. In the whole country, the mortality was undoubtedly well above 50,000.

The most virulent and dangerous form of the malady is caused by a minute organism now believed to be identical with the germ which causes the terrible adult dysentery of the tropics. The germ was discovered by a Japanese scientist, Shiga, in 1898, and bacteriologists have, therefore, called it the *Bacillus dysenteriae* of Shiga. Two years later, the eminent American biologist, Dr. Simon Flexner, discovered an organism of similar appearance in the tissues of a patient named Harris, at Manila, and this was given the name of *Bacillus dysenteriae* of Flexner, or Flexner-Harris. It was soon noted that the two bacilli were practically identical, and since then it has been found that, besides causing tropical dysentery, they also cause cholera infantum.

Many able men are now studying cholera infantum and its organism, particularly at the Rockefeller Institute in New York, at the Johns Hopkins Hospital, and at some of the German universities. As yet no certain cure for the disease has been discovered, but there is good reason to believe that, within a few years, a protective vaccine will be perfected. When that is accomplished, it will be possible to vaccinate children against cholera infantum just as they are now vaccinated against smallpox. It is evident that this will mean a great reduction in infant mortality—a most important matter for the human race as a whole.

The cholera infantum bacillus, like that of typhoid fever, practically always enters the body through the stomach, and by the medium of bad milk or contaminated food. It lives and breeds in the intestinal tract, and manufactures powerful toxins or poisons which cause most of the familiar symptoms of the disease—the vomiting, the acute diarrhea, the fever, the abdominal pains, and the rapid wasting of strength. The onslaught is so severe that the little patient sometimes dies within a week, and even when recovery follows an attack, convalescence is always slow and precarious, and the danger of sudden relapse and collapse is always great.

In its war upon this terrible malady modern medicine must depend, as yet, on weapons that are necessarily crude. An effort is made to remove the bacilli and their toxins from the intestines by irrigation, and stimulants are employed to combat the distressing exhaustion. In addition, the fever and other symptoms are combated in the manner that seems least harmful, and an effort is made to administer nourishment. Further than that some aid from drugs and baths may be obtained, and it is there—



fore not remarkable that two thirds of the children who develop true cholera infantum die of it.

In many cases indeed, though the physician is practically impotent, hope must never yield to despair, and every effort must be made to keep the child comfortable and to prevent the spread of the disease to other children in the household. For cholera infantum, as has been mentioned, is decidedly infectious, and every case is apt to be followed by other cases. Therefore, when the disease appears in a house, it is well to employ the same safeguards against its spread as would be employed in a case of typhoid. All the bedclothes and other fabrics in use in the sick room should be well soaked in a mild solution of some effective germicide—carbolic acid or corrosive sublimate, for instance—before they are sent to the family laundry, and care should be exercised in disposing of the water used to wash the patient. Other appropriate precautions will suggest themselves when it is remembered that the intestines of the patient and their secretions are fairly alive with virulent bacilli.

To prevent cholera infantum it is necessary, first, to reduce the risk of direct infection to the minimum, and, secondly, to keep the child in good general health, so that in case of chance infection it may be in a good condition to make a successful fight against the disease. It must have fresh air, proper clothing, and nourishing food. Both results may be attained by a proper supervision of its food supply. It must be fed intelligently, and it must get pure food, which means, not food which merely looks good and smells good, but food which is nourishing, easily digested, and absolutely free of all deleterious organism. The child must also be kept clean by frequent bathing.

Volumes may be inscribed with rules for hygienic and dietetic prophylaxis of infantile dysentery. The opportunities for the greatest of modern philanthropies hovers about this important matter.

Calomel and castor oil are the cathartics of choice which act on the small bowel, but they must often give place to stomach lavage and colon irrigation; the latter are quicker and safer methods late in the attack.

The aid and importance of most drugs, except opium, resorcin, and bismuth, and their allied and analogous chemicals, is much overestimated.

Lime water, sodium bicarbonate, magnesium, and the alkalies help in the vomiting of the acute stage. In later stages, a few drops of a dilute acid help. Astringents usually do harm. In cases of severe prostration mustard baths, hot packs, and saline infusions may be employed. One half ounce of old brandy in twenty-four hours will be well borne by an infant ten months old.

It is a lamentable fact, but one which no observant physician will deny, that mother love causes almost as many deaths among babies as neglect. About the business of "raising" babies—certainly the most important profession in all the world—there has been grouped a mass of traditions and superstitions whose practical effect is a needless and enormous increase in the infantile death rate. Ancient grandmothers, entrenched behind the fact that they have "raised a dozen children and lost none," appear with all sorts of ridiculous lore regarding

baby food and baby dressing, and it takes a great deal of firmness and ingenuity on the part of the physician to combat them and put them to rout. Too often he is put to rout himself, and has to content himself with rectifying the damage they have worked.

For instance, I was called in to ease the last moments of a poor little child whose life was ending at four months. The baby had cholera infantum, and was dying of it, and nothing could be done but make its death painless. And why was it dying? Simply because its grandmother—a presumably sane and intelligent woman—had insisted that it be given a "taste" of every dish eaten by its mother, on the theory that it would thus progress most easily and safely from a diet of milk to one of adult food. The poor child's digestive apparatus was broken down entirely by this incredible barbarity, and stray germs of cholera infantum found it an easy victim. Yet if the grandmother had been told that she was directly and unmistakably responsible for the baby's death, she would have protested violently, and, in all probability, would have instituted an action for criminal slander.

Superstitions such as this are by no means few, nor are they confined to the ignorant. Many a mother of undoubted intelligence provides her baby with one of the rubber or ivory nipples called "comforters" or "pacifiers." The theory of this is that the "pacifier" will keep the baby quiet, divert it from sucking its thumbs, and, by giving it something to employ its gums on, help it to cut its teeth. This is the theory. In sober reality, the pacifier merely serves to make the baby querulous and peevish, to teach it bad habits, and to fill its mouth and body with the germs of half a dozen diseases—from cholera infantum to diphtheria and from chicken-pox to meningitis.

The baby is dumped into its perambulator, with a pacifier in its chubby fist, and a nurse girl is told off to take care of it. In a moment it drops the pacifier, and the nurse rescues the deadly implement from the sidewalk. If she is careful she wipes it with her apron or handkerchief; if not she jams it into the baby's mouth without wiping. In either case there are ten chances to one that it is fairly alive with germs. Wiping a thing with an apron or dusting it with a brush or washing it with soap does not rid it of the organisms of disease. The only way to do that effectively is to boil it steadily for at least half an hour. And whoever heard of a nurse girl who boiled her charge's pacifier for half an hour before putting it to its disgusting and nefarious uses?

In pacifiers, rubber rings, and things of that sort cholera infantum lies. One authority estimates that from 5 to 10 per cent. of all deaths among infants less than two years old are due to infections by such or similar means. The average child, luckily enough, has an almost uncanny power for resisting virulent organisms. Its hold on life, despite its physical weakness, is strong, and it has a wonderful capacity for recovery. If that were not true, the average child, in the face of its almost constant exposure, would die.

There is no truth whatever in the common superstition that children must have something to exercise their gums on. The baby's liking for such things is

a habit, pure and simple, and a bad habit at that. It is just as easy to teach it to do without its rubber ring—just as easy and a great deal more humane and sensible.

Ten days after they are born babies begin to acquire habits. These may be bad habits or good ones, according as the mothers act sensibly or the reverse. If the mother of an infant—or its grandmother or aunt or nurse—rocks, bounces, or nurses it every time it cries, it almost immediately notices the connection between the two things, and so a bad habit is formed. If, on the contrary, a deliberate effort is made to teach it good habits, it will acquire them just as quickly and cling to them just as tenaciously.

During its first few months a healthy infant should be fed regularly every two hours from daylight until eleven p. m. Then it should be put to bed and kept there, without food, until five o'clock the next morning. In the case of a baby who has been fed every time it cries, the inauguration of this régime will almost certainly bring forth heart breaking protests. The first night, for instance, it will yell most piteously, and so, too, the second and third nights. But after that it will go to sleep when it is put to bed, and sleep without interruption until daylight. And when it does that, it will have acquired a habit that is healthful and normal and one that will conduce to its good health to the end of its life.

The baby which sleeps by fits and starts and must be walked up and down the floor is a baby with an unwise mother. Any one who does not believe this should pay a visit some night to an up to date maternity hospital, wherein skilled nurses take the place of meddlesome grandmothers. There may be fifty babies in the place, but except among those who are violently ill not a sound will be heard between midnight and dawn.

The connection between bad habits and illness is obvious. The baby which frets and fumes is constantly wasting its energy and losing its proper rest. Its power of resistance is thus lowered, and when the germs of disease assail it, it falls an easy victim. The serene and good tempered child, which has been taught to eat and sleep with regularity, is almost invariably healthy. And the child who has a mother sensible enough to teach it good habits, almost always has a mother sensible enough, too, to protect it from pacifiers and to feed it upon appropriate and clean food.

The best of all food for the baby is that provided by Nature. When unavoidable conditions put this out of its reach, its mainstay should be pure or modified cows' milk. In all large cities there are companies which sell this milk, so prepared that it contains, in exact proportions, the ingredients recommended by the family physician. To feed the milk sold by the average neighborhood milk dealer to the baby, particularly if that milk be unboiled, is little short of assassination. There was no need for President Roosevelt to point out this fact. The mortality tables had revealed it long before it was brought to his attention.

Often it is difficult to inquire closely into the source of the family milk supply, but in all cases it pays to take the trouble. The milk given to infants

should be absolutely free of germs, and this freedom can only be obtained by proper pasteurizing. Therefore, the family physician should be consulted and his advice followed. He should be consulted, too, when it is proposed to feed the baby on any one of the many artificial foods on the market. Many of these are most excellent, but it is necessary that the peculiar needs and idiosyncrasies of each baby be properly studied and understood before they are administered.

Next to pure food, the most important thing for infants is fresh air. The atmosphere of the average house in the average city is heavy with the waste products of respiration, dried germs of all sorts, and various other things. A child breathing it day after day is almost certain to lose in vigor. Fortunately, however, parks are plentiful, and their air is always comparatively clean. Therefore, the baby should spend much time in its perambulator and under the trees, particularly in summer.

A great many children are made ill, in winter as well as in summer, by too much coddling. Infants, it should be remembered, are far more sensitive to heat than adults, and their skin, when the air does not reach it, is very liable to painful and persistent eruptions. A baby born during the warm weather should be put into short clothes at once—despite the ancient and powerful belief that the virtue and intelligence of a mother is to be measured by the length of her baby's clothes. After the second month, in the hot season, the child should be practically naked, day and night.

1937 MADISON AVENUE.

#### A SHORT RESUME OF THE COMMON CONJUNCTIVAL AND CORNEAL DISEASES.\*

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Before proceeding with the description of the various eye diseases thus enumerated, I will give a method of examining the conjunctiva and cornea. Exposure of the lower conjunctival sack is performed by pulling the lower lid downward with the thumb and telling your patient to look up. Exposure of the upper lid is as follows: Grasp the central lashes between the thumb and index finger, draw the lid forward, downward, and outward, while with the other hand press with the finger or toothpick at the upper margin of the tarsus, at the same time directing your patient to look downward. Pay special attention to the transition fold as to ulceration and granulations. Inspection of the cornea is as follows: Use a strong convex lens and concentrate the light from the window or any other artificial illumination on to the cornea. In examining children it is better to have them held from attendant's or parent's lap with the child's head between your knees.

#### Foreign Bodies in the Conjunctiva.

A foreign body in the conjunctiva is usually found under the upper lid and easily removed by forceps. A loose object may pass into the upper conjunctiva, and this often causes the characteristic

of the physician, who tells the patient there is nothing in the eye. When seen, it is easily removed by being pulled out with a small forceps.

#### *Injuries.*

Injuries to the conjunctiva are common, such as contusions, burns, wounds, insect bites. Contusion (black eye) is easily diagnosed. Treatment consists of ice applications and later massage. Should an abscess result, it should be incised and drained. Wounds should be dealt with surgically. Insect bites cause a great deal of swelling sometimes, but this is easily reduced by iced compresses. Burns are best treated by some bland ointment such as a one per cent. ointment of yellow oxide of mercury. In extensive burns, skin grafts are required after a proper treatment.

#### *Catarrhal Conjunctivitis.*

This is subdivided into acute, chronic, and follicular. Acute catarrhal conjunctivitis is usually accompanied by a mucoid or mucopurulent discharge; conjunctivæ red and swollen. There is a congestion of the bulbar conjunctiva. In severe cases œdema of the bulbar conjunctiva (chemosis) is present. Secretion also appears as scales adhering to the margins of the lids. The patient complains of an itching or burning sensation of the lids, which feel hot and heavy, as though there was a foreign body in the eye. There is more or less photophobia present, according to the degree of inflammation. This condition may affect one or both eyes. Treatment consists in applying hot or cold compresses. I usually find heat the best. The conjunctiva should be touched up daily until the acute symptoms have subsided with a one per cent. solution of silver nitrate. The patient is to use a mild astringent, such as a one half per cent. solution of zinc sulphate in camphor water, at his home every three hours and later three times a day.

#### *Chronic Catarrhal Conjunctivitis.*

This has similar symptoms to those of the acute form, but a great deal milder in severity. The secretion is slightly altered and more profuse in quantity. It is more mucoid in character. Treatment consists in the regular applications of a one per cent. solution of silver nitrate to the conjunctiva every two or three days, as is necessary. I usually give the patient a mild astringent to use at home. These remedies may have to be changed from time to time.

#### *Follicular Conjunctivitis.*

Follicular conjunctivitis is divided into two forms, namely, fine granules and those that have large lymphoid granules. Examination reveals in the former fine sandpaperlike granules, which appear on the upper conjunctiva and transition fold. These may be associated with large lymphoid granules so commonly met with and so often mistaken for trachoma. (Some authors state that this condition is a primary stage of trachoma). These lymphoid granules are found more commonly on the lower than on the upper lid, but are commonly present on both. Symptoms are those of catarrhal conjunctivitis, with a feeling of a foreign body in the eye and profuse discharge, although in some cases the discharge is absent. In the sandpaper like granular form, with

little secretion, I prefer to use a one per cent. yellow oxide of mercury ointment to be applied into the lower conjunctival sack three times a day and then gently massaged. It is a practice with me to treat these granular conditions with blue stone, as the large lymphoid variety succumbs to this treatment in very short order. These large lymphoid granules are easily expressed by a roller forceps, and cases have been credited to a cure of trachoma instead of granular conjunctivitis.

#### *Acute Epidemic Conjunctivitis, or Pink Eye.*

This disease occurs most frequently in the spring or fall season. It is generally bilateral and has all the symptoms of an acute conjunctivitis, with all the symptoms exaggerated, and a very profuse mucopurulent discharge. Treatment consists in giving the patient an astringent wash to use at home and to keep the eye free from irritation, such as dust and tobacco smoke. I treat these patients daily at first, and later as the condition gets better, less and less. I use a one per cent. silver solution in all these cases. Bathing the eyes with very hot water night and morning is of great benefit to these patients. It is well to keep these patients away from other children, as the disease is highly contagious, and also to caution them about being particular in avoiding to use other towels, napkins, etc., than their own.

#### *Trachoma.*

Trachoma is an infectious disease attacking the conjunctiva of the transition fold of the upper lid primarily, and firstly manifests itself by minute ulcerations along the transition fold with fine sandpaper like granules. These are very easily demonstrated by everting the upper lid and placing the margin of the lower lid under the transition fold. These ulcers are minute, and appear as a series of white spots in contradistinction to the red tissue intervening. The other of the granular forms of conjunctivitis may or may not accompany the trachoma. In the examination of trachoma I have been able to see and demonstrate this condition in every case of beginning or incipient trachoma. This was first brought to notice by Dr. R. O. Born in 1901, under whom I have had the opportunity of seeing and studying many cases. In the later stages these ulcers disappear, to be replaced by cicatricial tissue. In a hundred scrapings taken from these patients I have not been able to demonstrate any special organism, the staphylococcus being present in fourteen cases and the gonococcus in one case. Other examinations were negative. Treatment is nonoperative, as trachoma, being a nongranular disease, there is nothing to squeeze out. Truly, the large lymphoid granules are readily squeezed out and easily cured, but not the trachoma. The proof of this is that in a great number of cases where the patients have been operated upon for trachoma, these same patients come back after operation with the trachoma remaining. Trachoma is curable in the primary and secondary stages (hypertrophic) by the careful application of blue stone. The tertiary (or scar) stage is incurable as regards to curing the scars, although these patients are relieved from time to time by the use and application of blue stone and silver. The diagnosis of trachoma can



never be made without examining the transition fold for these ulcerations—that is, the incipient stage. Also, cases of trachoma should not be subjected to a squeezing operation, as the resulting scars of this method are worse than those of a trachoma. I have never seen a case of genuine trachoma successfully operated on and cured, while I have seen hundreds of cases cured by the application of the blue stone. Why operate when you can cure these patients by the applications of blue stone? In cases of so called trachoma I have, after eight to fifteen applications, found a good, clean, smooth conjunctiva resulting. In cases where there is an underlying trachoma, the trachoma will remain after the granules have disappeared. A word of advice as to the application of blue stone. *Never* apply blue stone to the upper portion of the everted lid, only under it and along the edge of the transition fold. The injudicious use of blue stone upon the upper tarsal folds causes scar tissue after long use. The home treatment of these cases is the same as that of conjunctivitis.

#### *Blennorrhæa (Adultorum).*

After a period of incubation the lids swell and become edematous, hot, and red. The conjunctiva is intensely swollen, very red, and often so intense as to prevent opening the lids to inspect the cornea. The secretion is often reddened like blood juice mixed with flakes of pus. The preauricular glands are often swollen and sensitive to the touch. The positive diagnosis is made by examining the secretion and the finding of Neisser's bacillus. It ordinarily takes from two to three days for the disease to reach its height, then the secretion becomes purulent. A membrane may often be seen superficially; small infiltrations may make their appearance now. This is the stage when the cornea is usually involved unless precautions are taken. The treatment consists in protecting the other eye by means of a shield of isinglass, and frequent cleansing of the affected eye with a 1 in 3,000 bichloride solution and the daily application of a two per cent. silver nitrate solution. I have these patients apply iced compresses continually day and night. This is best done by placing a small piece of ice in a basin, surrounding it with sterile gauze, and having quite a number of small cut squares of gauze about an inch square laid on this gauze. The gauze is changed every minute or so, so that the patient has the constant effect of the cold. After using these compresses for a time I advise them to be burnt. When the swelling has gone down considerably I substitute blue stone for the nitrate of silver solution.

#### *Blennorrhæa Neonatorum*

Blennorrhæa neonatorum occurs in newly born infants as a result of an infection of the eyes during the passage of the head through an infected vagina. The symptoms run the same as those in adults, only much less severe. The danger of suppurative of the cornea is not as great as in adults. The treatment is the same. In cases where the suppurative is profuse I apply the two per cent. silver nitrate solution twice daily. Prophylactic treatment should be more strongly advocated than it is. A two per cent. solution of silver nitrate should be dropped into the baby's eyes immediately after birth.

#### *Conjunctivitis Diphtheritica.*

This is an infectious disease of the eyelids caused by the Klebs-Loeffler bacillus, and resembles blennorrhæa in its symptoms and course. The infiltration in these cases is more marked than the blennorrhæal form, and the induration is greater. A membrane is seen which bleeds easily upon removal. This appearance with a positive culture concludes our diagnosis. Treatment consists in the injection of antitoxine, in keeping the eye clean with a mild antiseptic, and, lastly, in the application of cold.

#### *Croupous Membranes.*

They may also be seen in severe conjunctival catarrh or as a result of burns. Bacteriological examination will settle all doubt as to the cause of the membrane, and the treatment is symptomatic.

#### *Phlyctenular Conjunctivitis and Keratitis.*

These affections occur so frequently together that I will enumerate them under one heading. Some writers group these forms under those of conjunctivitis eczematosa. No real eczema occurs in these cases, for these so called eczematous symptoms disappear under proper treatment of the eye. These conditions occur most frequently in children who belong to that class designated lymphoid diathesis. They have the enlarged glands adenoids, tonsillar hypertrophies, and sometimes the large lymphoid granules of the conjunctiva. These conditions are dignosticated by small elevations being seen upon the conjunctiva or cornea followed by a streak of bloodvessels, which usually range themselves in the shape of a pyramid having the phlyctenule at the apex of the pyramid. Circumcorneal injection in these cases is marked, and blepharitis is often present. I treat these cases firstly by giving the patient calomel internally to use at home and also yellow oxide of mercury to be put into the lower conjunctival sack two or three times daily. Apply a one per cent. solution of silver to the phlyctenules direct; at first daily, and later as the condition improves two or three times weekly, etc. These phlyctenules usually disappear in from ten to twenty-one days under this treatment. If there is any coexisting condition of the lids treat it with castile soap and water.

#### *Ulcers.*

Ulcers of the conjunctiva sometimes occur after a severe conjunctivitis, but most commonly follow a burn by heat or caustics. These ulcers also occur during the various exanthemata, but the commoner forms are those of a chalazion breaking through the conjunctival wall. Acute ulcers of the conjunctiva are rare, and when seen are accompanied by a swelling of the lids, considerable pain, enlargement of the preauricular glands, and purulent secretion. Ulcers occurring as a result of degeneration of an epithelioma of the conjunctiva and specific ulcers from degeneration of a gum-sarcoma are our greatest rarities. The treatment of ulcers is the treatment of the cause.

#### *Injuries.*

Injuries of the conjunctiva are such as lacerations and burns. Wounds should receive proper surgical treatment; such burns are produced by hot water, steam, caustics, hot vapor, ashes, molten metal, electric flashes, exploding powder, and flames striking

the eye. Burns by caustics, especially lime in the form of mortar, cause eschars. These spots stand out as gray or white patches in a sea of swollen conjunctiva. These ulcers sometimes suppurate, and are always followed by a scar. Symblepharon often follows an extreme burn. Treatment consists in the use of a one per cent. solution of atropine sulphate every three or four hours, cold compresses, and a bland wash for the eye, such as a dilute solution of a concentrated solution of sugar, as that forms an insoluble compound with the lime. After a separation of the eschars, our aim is to draw the lids away from the eyeball to prevent adhesions. To enumerate these various methods would occupy too much time, and I only wish to suggest the use of the yellow ointment of mercury thoroughly applied into the upper conjunctival sack, as this has proved successful in my hands. In cases of burns by caustic alkalis do not use water, but use milk.

#### *A Pterygium.*

This is a triangular fold of mucous membrane which extends from the ocular conjunctiva to the cornea, either to the inner or outer side of the latter. A pterygium of recent origin is succulent, and is plentifully supplied with bloodvessels. We have two varieties of pterygium—a stationary and progressive variety. The progressive form keeps on growing until it reaches the centre of the cornea or crosses the centre. Its greatest danger lies in obstructing the vision. The stationary form remains stationary, but does not progress, as its name implies. The treatment of these conditions is entirely operative. We have numerous operations of this condition, but I will only describe the one which has proved most successful in my hands. I prefer the method of splitting the pterygium in the horizontal plane after having separated it from its corneal attachment and turning the lower flap downwards and backwards. I then fasten this flap into its position by several silk sutures. The same is done with the upper flap, only upwards.

#### *Symblepharon.*

Symblepharon occurs after wounds of the conjunctiva or cornea, by burns, etc. We have several degrees of symblepharon which I will not go into. Let it suffice to mention that the treatment consists of a plastic operation. Various varieties and positions of the symblepharon require different procedures, and to describe any of them in preference to the other would be great injustice, hence I leave this subject to your own individual experience.

#### *Subconjunctival Haemorrhage.*

Such a haemorrhage is easily diagnosed by a bright red patch of blood seen under the conjunctiva, usually under the bulbar. This condition develops after injuries (after squint operations) in severe inflammations of the eyeball, such as glaucoma or very commonly after a blow. Spontaneous effusions occur in old people, whose bloodvessels have brittle walls, or may be occasioned by any extreme exertion, such as sneezing, coughing, vomiting, or great straining. In children whooping cough is a great factor as a causative agent in producing subconjunctival haemorrhage. The treatment, provided that glaucoma be excluded as a causative factor, is *nil*. Application of iced compresses hastens absorp-

tion of the clotted blood and reduces the swelling. I have used adrenalin chloride in various strengths in these conditions without satisfactory results. I will next endeavor to point out and describe the various affections of the lid and lid margins. I will only briefly mention the local skin disorders one meets with in clinical and private practice. We see the various exanthemata, herpeszoster, eczema, erysipelas, etc. The treatment for these conditions must be sought for elsewhere. Plegmons of the lids are easily recognized, and should be treated by incision and drainage. Ulcers of the lids are caused by injuries such as burns, contusions, or occur spontaneously. We also have ulcers due to lupus and syphilis. The treatment for these conditions will be to treat the cause.

#### *Edema.*

Edema of the lids is a symptom and not a disease; it is of such great diagnostic importance that I mention it here and go into it in some detail. We see it in erysipelas, infection of an operative wound, such as iridectomy or cataract extraction, acute glaucoma, iridocyclitis, insect bites, ivy poisoning, severe blepharitis, infections from an abscess—e. g., hordeolum, gonorrhoeal ophthalmia, traumatism, panophthalmitis, tumors of the orbit, thrombosis of the cavernous sinus, angeioneurotic edema, tenonitis, and plegmon of the orbit. It also occurs with a severe ethmoiditis.

#### *Distinctive Diagnosis.*

Erysipelas.—The redness and swelling of the lid are uniform, circumscribed infiltration being absent. The skin of the lid when grasped between the fingers feels thicker and harder than the other varieties of edema. The swelling extends to both lids and also extends to neighboring parts. In post-operative infections the edema usually presents itself on the upper lid. The appearance of the operative wound will give us our diagnosis—that is, an amount of retained lachrymal secretion is present and a grayish discoloration is seen about the corneal wound. Edema accompanying acute glaucoma is diagnosed by the symptoms of glaucoma—e. g., foggy cornea, pain, increased tension during attack, dull iris, etc. Edema as a precursor of a severe iridocyclitis occurs along the upper lid usually. Diagnosis of iridocyclitis is made by its characteristic symptoms, which will define your cause of the edema. Insect bites causing edema are easily diagnosed by the small point which is seen where the insect has bitten. Ivy poisoning edema is shown by the characteristic skin lesion and the terrible pruritis. A severe blepharitis, whose diagnostic signs have already been pointed out, also causes edema. This is usually on the upper and lower lids, more so on the upper. Under this heading also comes hordeolum accompanied by edema of the upper lid. In palpating the swollen parts we find the edema close to the edge of the lid, and on looking at the lid margin see a yellow pinpoint between the cilia; we can be sure we are dealing with a hordeolum. Edema is also caused by an acute dacryocystitis, and is diagnosed by the character and situation of the swelling and the expression of secretion from the lachrymal duct by pressure. Another edema occurring during the treatment of an acute dacryocystitis is due to faulty

handling of the lacrymal spring, causing the medicated solution to enter the tissues surrounding the eye instead of the duct. Oedema caused by gonorrhoeal ophthalmia is severe and great in amount, involving the upper and lower lids. In some cases it is very difficult to inspect the cornea. When possible, a smear should be taken, the bacteriological finding of which will settle the diagnosis. Oedema caused by traumatism, the most common form being that of a black eye, is easily diagnosed by its history and appearance. Panophthalmitis having oedema as one of its signs is easily diagnosed by the previous course of the case, chemosis being present in these cases and the exudate purulent. Protrusion of the eyeball takes place early. Tumors of the orbit, causing oedema, speak for themselves as to their diagnosis. Thrombosis of the cavernous sinus is distinguished by the fact that the oedema also shows itself behind the ear of the affected side and that cerebral symptoms are present. Angioneurotic oedema is rare in this country, and occurs and disappears spontaneously; it occurs mostly in women. Oedema in other parts of the body are common in this condition. Absence of any inflammatory signs in the eyeball will also assist towards a correct diagnosis. Tenonitis and phlegmon of the orbit show similar symptoms, hence I mention both of them under the same heading. Oedema is present in both, as is chemosis, protrusion of the eyeball, and immobility of the eyeball. In tenonitis the protrusion of the eyeball is comparatively slight, while the oedema is marked; while in phlegmon of the orbit the oedema is less and the protrusion of the eyeball is very marked. Sometimes it is difficult to make a distinctive diagnosis till you see the pus breaking through. But, in all events, do not wait until this occurs.

Ethmoiditis causes oedema of the upper lid when it is pointing to an external opening. The diagnosis is made by an intranasal examination.

#### *Hyperæmia*

of the lid margin is seen in light complexioned people more readily than in those of darker countenances. It follows great weeping, late hours, bad dusty air, inveterate cigarette smoking, etc.

#### *Phthiriasis Palpebrarum*

This is due to the crab louse, which is very often found adhering to the hairs of the lids. The nits are adherent to the middle of the eyelashes in contradistinction to the scales of blepharitis, which are adherent to the roots of the eyelashes.

#### *Blepharitis.*

This is subdivided by some authors into an ulcerative and a nonulcerative form. I take it only as one form; the nonulcerative form being the primary stage of a blepharitis when the hairs have been attacked and loosened, the ulceration being the later stage of the disease. The diagnosis is made by excluding the crab louse, the scales being attached to the roots and not to the middle of the hairs, as previously mentioned. Removing the scales by means of castile soap and warm water will reveal brittle and stubby hairs, which fall out easily. In the latter stages small ulcerations are seen at the base of the hair follicles, which bleed easily. Treatment for hyperæmia of the lids is to remove the cause. The same holds true with the next subject, namely, the

crab louse. A three to five per cent. yellow oxide of mercury ointment applied to the lids will destroy the louse. Scrubbing the lashes with vinegar will greatly assist in removing the nits, which are most difficult to remove. In blepharitis I personally scrub the lids the first time with castile soap and water, in order to show the parents how to do this. I then apply a one per cent. solution of silver to the margin of the lids. Home treatment consists in giving these patients a one per cent. yellow oxide of mercury ointment to rub into the margins of the lids three times daily after thoroughly scrubbing the lids with castile soap and warm water and removing all the crusts. This latter operation is most important. The general system in these cases ought to be looked after and inquired into, as a great many of these little patients suffering from blepharitis have large glands, adenoids, etc. The administration of calomel in these cases is often of great advantage.

A *hordeolum* is an acute inflammatory condition of the glands of the lids, and may be external or internal in variety. *Hordeolum externum* is due to an infection of Zeiss's glands, while the internal variety, which is rarer than the former, is due to suppurative of the Meibomian glands. Diagnosis of the external hordeolum is made by palpating the lid and noting the proximity of the swollen tumor to the edge of the lids and its sensitiveness to the touch. Pain is present, and is often extreme. Pulling out a proximal eyelash will often reveal a drop of oozing pus. *Hordeolum externum* usually breaks through the skin; *hordeolum internum* hardly ever, as the tissue of the gland is denser and the root of exit of the pus is through the conjunctiva or through the only opening of the gland. Treatment of an external hordeolum is as follows: When I see a case not too far advanced I remove a hair, and this often drains the gland, in the meantime applying heat to the lids. When large or not responding to this treatment within forty-eight hours I advise incision. I incise the hordeolum along the edge of the lids preferably and thoroughly curette the cavity. In the internal variety I usually open and curette them at once. Yellow ointment may also be used, but I very seldom have seen its use abort a hordeolum as alleged by others.

*Chalazion* is a chronic affection of the Meibomian glands, and manifests itself by a hard swelling, which slowly increases in size. Inflammatory symptoms are very rare, but may be seen to occur should the chalazion become affected. The skin is perfectly movable over this variety of tumor, while it is not so over a hordeolum. This tumor can be felt attached to the underlying tissue. A chalazion does not lead to suppuration as a general rule, but keeps on enlarging from month to month until it reaches the size of a large pea.

Treatment.—Small tumors should not be touched. When larger and causing some interference with vision, or the patient's complaining of an unsightly appearance for which he consults you, they should be enucleated and not merely cauterized. This may be done externally through the skin, internally through the conjunctiva, or through the edge of the lid. Personally, I prefer the external incision, as it is the easiest and most satisfactory. The scar is so small as to be hardly noticeable; the incision be-



made horizontally. It is well to remove these tumors with their capsule, although often it is impossible to do so without cutting into them. The underlying necrotic tarsus should be thoroughly curetted. One or two silk sutures are put into the external wound and the eye bandaged.

#### *Trichiasis and Distichiasis.*

Trichiasis is a distortion of the cilia, which, instead of looking forward, look backward, so as to come in contact with the cornea. This condition occurs most frequently as a result of the cicatricial stage of trachoma. The contact of the eyelashes on the cornea finally causes ulcers and later blindness due to opacities. Distichiasis is where some cilia look forward and others backward, and in reality is a stage of trichiasis and need only be mentioned. Treatment is epilation. If this does not suffice I do plastic operation, which I will describe under treatment for entropion. Electrolysis has been used with fair success.

#### *Entropion.*

This denotes a rolling inward of the margin of the lids. The edge of the lid is inverted inwardly to various degrees, and, in fact, is a greater degree and later stages of trichiasis. The posterior margin of the lid is smoothed off, and the cilia brush up against the cornea. This is commonly caused by the later stages of trachoma. We have a spastic entropion, which is a spasm of the orbicularis palpebrarum and the cicatricial entropion, the latter of which I shall only take into consideration. The treatment is entirely surgical. The flap operation which I perform is as follows: The patient being properly prepared under cocaine anæsthesia (local) and an entropion clamp applied, I make an incision the whole length of the lid margin. I then excise the hair bearing portion of the tarsus with a scissor. My second step in the operation is to take a small narrow strip of skin from about the middle of the upper lid and place it in the excised portion, along the lid margin, where it is fastened with two end sutures of silk. The upper wound is closed by four to five sutures, the ends of which are drawn above the eyebrows and fastened there by strips of plaster, thus everting the lid margin and keeping it in this position until complete healing has taken place. The skin graft usually attaches itself within forty-eight to seventy-two hours. The patient is put to bed and kept there until the graft has attached itself. No other dressing except a clean piece of sterile gauze over the eye is necessary.

#### *Ectropion.*

This occurs as spastic, paralytic, senile, and cicatricial-forms. Spastic ectropion occurs mostly in children, and affects both upper and lower lids, and is easily seen by pulling the lids apart, when the lids readily evert themselves. Paralytic ectropion occurs as a result of paralysis of the orbicularis palpebralis and mostly affects the lower lid. The palpebral fissure cannot be perfectly shut. This condition is called lagophthalmus. Senile ectropion occurs in the aged, and involves only the lower lid. The giving of the elastic fibres in the tissues causes this condition. Cicatricial ectropion, which is due to burns or wounds, is the last of the varieties described here that is due to contraction of the lids by scar tissue. Treatment is only nonoperative in spastic ectropion.

It consists in applying a well fitting bandage over the weak tissues, so keeping the lids in place until the condition is cured. Electricity is used in the paralytic variety. If this fails operation is necessary. Senile ectropion is treated the same way as the spastic variety in its earlier and milder stage. In the extreme or later stage operation is indicated. Various plastic operations are in vogue, and to prefer one to the other would be foolishness. I use whichever operation suits my case.

#### *Injuries and Tumors*

of the lids must be treated surgically.

#### *Dacryocystitis.*

This may be acute and chronic. The diagnosis is made by the expression of mucopurulent or purulent secretion by pressure over the sack. Lachrymation is a constant symptom. In the acute form all the symptoms of an acute condition are present, namely, pain, tenderness, heat, and redness. Extreme swelling and œdema of the lid are frequently present. The chronic form gives a history of several years' standing, the acute symptoms being absent. The main symptoms being the purulent exudate which is easily expressed by pressure on the gland and intense lachrymation. Treatment of the acute condition is the same as that of any abscess, namely, drainage and relief of pain. This is often arrived at by the timely application of heat and passing a lacrimal probe through the duct, or at least attempting to pass it may open a way for drainage. This is often impossible. I give the patient a nasal spray of adrenalin chloride, 1 to 3,000. This helps a little in trying to open the lower end for drainage. When these measures fail, I make an external incision in the lacrimal sac and pass a large blunt probe through the incision to the nasal end of the duct, cleanse my wound, and drain it. I make daily applications of one to two per cent. solution of silver nitrate on a cotton swab to the interior of the abscess cavity. This will usually result in a cure. Should a fistula remain, proper measures must be taken for this condition. This will not be described here. Chronic dacryocystitis, in many instances, can be cured by probing the canaliculus and duct and having the patient constantly squeeze out the secretion at home. The office treatment consists of syringing the duct with a one per cent. solution of silver nitrate two to three times weekly, as is necessary. This has proved a cure in my hands in a great many cases. If after a thorough trial, say ten to twenty treatments with this method, I find no improvement, I advise enucleation of the sac. This may be done under local anæsthesia, using fifteen minims of a one half per cent. solution of sterilized cocaine and ten to fifteen minims of 1 to 1,000 adrenalin chloride injected around the field of operation. This anæsthesia usually lasts from thirty to forty minutes.

#### *Keratitis.*

Keratitis can be divided into suppurative and non-suppurative keratitis. Suppurative keratitis is subdivided as follows: Phlyctenular keratitis, ulcers of the cornea, keratitis due to lagophthalmus, neuro-paralytic keratitis, and xerotic keratitis. The non-suppurative forms are interstitial keratitis, pannus, vesicular keratitis, keratitis profunda, sclerosing keratitis, and ribbon shaped keratitis.

### *Phlyctenular Keratitis.*

This has been described under phlyctenular conjunctivitis. Its treatment is the same. Symptoms of ulcers of the cornea are the same, with different intensities, namely, pain, photophobia, blepharo-spasm, lachrymation, and interference with vision. Circumcorneal injection is intense. Neighboring parts are often involved, causing iritis, etc. Infiltration of the cornea is always present. Ulcer of the cornea shows itself as a grayish infiltration. This may extend, as an ulcer serpens, or remain stationary. It may advance around the corneal margin until crescent shaped as a catarrhal ulcer, or may appear as minute separate infiltrations along various portions of the corneal surface. These ulcers may be extensive, with great destruction of the superficial epithelium or even perforate. In the latter condition the irritation of the posterior endothelium of the cornea and the endothelium of the iris give off an exudate which settles in the anterior chamber as a hypopyon. In perforation we sometimes see Descemet's membrane bulging through the opening, forming a keratocele. Proptosis of the iris may take place at this stage.

### *Abscess of the Cornea.*

This occurs as a circumscribed yellow mass seen in the meshes of the cornea, and when seen must be incised and kept open. The crucial incision is the best. Symptoms of the above are severe, as those of an acute inflammation. Keratitis due to imperfect closure of the lids shows no different symptoms than those of any other form except the lagophthalmus is present.

### *Neuroparalytic Keratitis.*

This is observed after paralysis of the trigeminus. The keratitis may be trophic or due to exposure to foreign bodies and irritation on an insensitive cornea.

### *Xerotic Keratitis, or Keratomalacia.*

This is the result of malnutrition of the cornea. It is a rare disease and occurs mainly in greatly debilitated children. The diagnosis of ulcers of the cornea is aided by dropping two or three drops of a solution of fluorescein into the eye (fluorescein, 1.0; sodium carbonate, 1.5; distilled water, 30.0). The ulcers are stained green and are easily outlined in this way.

**Treatment of Ulcers of the Cornea.**—If the ulcer is small it will cleanse itself, which is shown by the appearance of sprouts of fine superficial bloodvessels running from the bulbar conjunctiva to the ulcer. In cases where the ulcer spreads, it is imperative to cauterize same. This may be done with the electrocautery or acids, tincture of iodine, or the actual cautery. The latter is done by heating a strabismus hook in an alcohol flame to red heat and cauterizing the ulcer and an area surrounding it, to prevent its spreading. This method is the safest, as the danger of burning deeply is done away with, for the iron cools readily. Should the ulcer perforate, a well fitting bandage is applied and complete rest ordered. Atropine sulphate, one per cent., should be instilled every four or five hours in all cases of ulcer of the cornea that have a tendency to extend or perforate. If the iris is seen protruding from the wound, it should be grasped with an iris forceps and excised. Samsa's method of splinting an ulcer with a Graefe knife is of value in severe forms of

indolent ulcers that perforate. In these cases the wound is probed daily and the anterior chamber is relieved of any secretion. In the other forms treat the cause. Ulcers after healing always leave scars in the shape of corneal opacities of varying intensities.

### *Interstitial Keratitis.*

This is seen first as a grayish infiltration, which is central and extending to the periphery. This infiltration is uniform in its distribution. Acute symptoms are present, such as pain, photophobia, lachrymation, and interference with vision. These latter symptoms gradually subside as the inflammation runs its course. This disease is usually bilateral, and usually occurs between the ages of fifteen and thirty, generally due to hereditary syphilis, although it may occur in acquired syphilis or tuberculosis or idiopathically; the three latter instances are extremely rare. Treatment is to treat the cause, namely, antisyphilitic treatment. Local treatment consists in the use of atropine and protection of the eye from light by means of smoked glasses or shields.

### *Pannus.*

This should have been described with trachoma, but as I wish to describe the various forms I will place it among the forms of keratitis. We have pannus due to trachoma, and pannus due to corneal ulcer. Pannus due to trachoma is a condition where the bloodvessels grown down and extend to the upper portion of the cornea and later cover it. These appearances, namely, broad expanses of vessels coming down from above with the appearance of ulcers along the transition fold (trachoma), completes your diagnosis. Pannus from corneal ulcer is demonstrated by the bloodvessels coming from any portion of the bulbar conjunctiva at the limbus and running to the ulcer. The bloodvessels range themselves fan shaped, having the ulcer at the apex. Both forms of pannus may be present in the same case. Treatment consists in treating the cause. If the vessels persist in spite of treatment of the cause, they may be scarified with a scalpel. Some cases resist all treatment. Pannus from corneal ulcer will usually clear up when the ulcer is cured.

### *Vesicular Keratitis.*

Large vesicles, such as buboes etc., occur under this head of vesicular keratitis, but as they are very rare, I will only name the common type, namely, herpes of the cornea. Herpes of the cornea is distinguished by a group of small, clear vesicles on the cornea. These are very painful and irritating, and cause considerable circumcorneal injection and lachrymation. This condition appears most frequently during febrile conditions—e. g., epidemic influenza, pneumonia, etc. Treatment consists in the local application of one per cent. of silver nitrate solution applied directly to these vesicles and an antiseptic wash for the patient to use at home.

### *Keratitis Perforans.*

This is a deep seated, gradual infiltration of the cornea, usually occurring in the centre of the cornea, in contradistinction to the interstitial keratitis, which is more extensive, and usually extends more toward the periphery. This condition usually disappears

spontaneously. Treatment consists of atropine and protecting the eyes from light and the underlying causes. Arlt gives rheumatism, intermittent fevers, and colds as common causes of the above named condition.

#### *Sclerosing Keratitis.*

This accompanies scleritis, and is a corneal manifestation of the latter. It is seen as a triangular opacity near the periphery of the cornea, having limbus as the basis of the triangle. Treatment is that of the scleritis.

#### *Ribbon Shaped Keratitis.*

This occurs as a gray film running as a band over the cornea. It occurs in old people, where the eyes have been injured by some intraocular affection. Treatment consists in removing this band and giving these patients an alkaline wash to use at home.

#### *Striped Keratitis.*

This occurs often after corneal section—e. g., cataract operations most frequently. Where the incision has been too small for the easy delivery of the opaque lens, this condition often occurs. It is of little moment, disappearing spontaneously in from eighteen to forty-eight hours, and requires no special treatment. This condition is seen as small parallel bands running up and down the posterior surface of the cornea.

#### *Foreign Bodies in the Cornea.*

They are easily seen by throwing a concentrated light on the cornea. They should be immediately removed, after dropping two or three drops of a four per cent. solution of cocaine into the eye. A spear shaped instrument which is made for this purpose is the best to use. If pigment or grayish ulceration accompany a foreign body in the cornea it should be scraped away, for, when left, it usually remains permanent. Very often ulcers form where the cornea has become infected, and it should be treated as such, after the foreign body has been removed. Warm compresses and a mild antiseptic, such as 1 in 5,000 bichloride solution, can be used after extraction of foreign body.

#### *Wounds of the Cornea.*

These should be treated by cleanliness, and if prolapse of the iris occurs it should be excised. Atropine should be used in both the above conditions, the eye bandaged and kept at complete rest. Burns by acids or alkalis have been fully described in burns of the conjunctiva, and usually affect both cornea and conjunctiva.

In conclusion I wish to state that I did not write this paper with an idea of giving a complete résumé of the subject, but rather a brief résumé, as the title of my paper states.

2040 SEVENTH AVENUE.

### CAUSE OF PREMATURE SEPARATION OF THE PLACENTA.

BY LIONEL ROSENBERG, M. D.,  
Brooklyn, N. Y.

I have come across some discussion in the medical journals about the cause of premature separation of the placenta, and among the causes mentioned I have found in the *New York Medical Journal* of March 14, 1908, that trauma is one of the causes.

This statement was made by Dr. Samuel Robbinovitz. I would like to call the doctor's attention that the cause given by him as trauma cannot act without a predisposing cause; and, furthermore, I would like to remark that the cause given by him is not original, as it is found among the exciting causes mentioned by Professor Jewett, given in the second edition of his well known work.

To state my opinion (that is, as far as my experience goes) of the causes of premature separation of the placenta, I would say that, in the cases I have had, I have found that metritis due to gonorrhoeal infection acted as a predisposing cause, and the least trauma caused by the midwife or physician in attendance acted as an exciting cause. To prove my statement I will cite the following case:

CASE.—Mrs. M. M., an Italian, age twenty-eight, multipara, came under my observation in September, 1907, and gave me a history of pain on urination, frequent urination, and a profuse vaginal discharge foul in odor. Upon examination I have found her to suffer from a gonorrhoeal infection probably due to her husband. Upon microscopic examination I found the gonococcus of Neisser in the vaginal discharge. I placed her under the usual treatment of gonorrhoea.

At the time she came to me she was about the end of the eighth month of pregnancy, and as she engaged me to deliver her infant, I inquired into her previous history, and found that she never had had any miscarriages or any complicated labors at all. She was healthy otherwise, and had no lacerations or injuries to any of the pelvic organs. Three weeks later she was confined, and as I could not come at the time of the delivery a midwife was called in to attend the case. The midwife, noticing some hæmorrhage, understood that the case was a complicated one and sent for me. I came and examined her, and found that the hæmorrhage was due to the premature separation of the placenta. After delivering the child, I injected a two per cent. solution of silver nitrate into the eyes of the child, as I knew that this was a gonorrhoeal case and was afraid for ophthalmia neonatorum.

I inquired of the midwife as to her procedure before I came, and she told me that she had applied friction over the abdomen in order to stimulate the pain, had also applied forcible pressure from above so as to help expulsion of the child.

Upon repeated examination I found that the patient had gonorrhoeal inflammation in its severest form, and so I came to the conclusion that premature separation of the placenta is due to the metritis set up by the gonorrhoeal infection, which acted as a predisposing cause, and that the manipulation of the midwife acted as an exciting cause.

I have had two more cases like this.

171 FLOYD STREET.

### IS IDIOPATHIC EPILEPSY WITH ASSOCIATED PARALYSIS DUE TO THE ACTION OF

A GERM?

BY BERNARD R. LE ROY, M. D.,  
Athens, Ohio,

Member of the Cleveland Academy of Medicine.

For some ten years the writer has suffered from the effects of paralysis of the lower bowels, following an operation for hæmorrhoids. Having been forced to give up practice because of the results of the paralysis and suffering want because of this restriction, the writer became interested in the study of paralysis, and after a careful preparation of several years' study began a laboratory study of all germs which would be possible to have any bearing upon such conditions; and this report is the first to be made public. After thousands of experiments I settled upon one germ, a spore bearing bacillus,



which in the normal state is about one to three micra in length by one half to two thirds in width, acid fast, motile, intensely so in certain media; is killed when grown on agar at 194° F., but when grown in media which have a small content of the silicates of calcium and magnesium it cannot be killed with prolonged boiling of the media; specimens living that have undergone fractional boiling of the media for over two hundred hours.

Growths taken from this specimen and grown as follows give peculiar results: In a faintly alkaline gelatine bouillon at 98.6° F. it resembles, when full grown, the *Bacillus typhosus*; transplanted to agar made less alkaline, and grown at 98.6° F., it resembles the *Bacillus tetani*; transfer to a faintly acid silicate lime, magnesium media, and grow to full size, then boil media and set aside for a few weeks, and the germ will resemble tubercle bacillus; now wash germs off and place in faintly acid gelatine media and grow for several weeks, and the germs will resemble *Bacillus diphtheria*.

Throughout all of these changes the germs will take the stain of the germ which it simulates, and can be distinguished with some difficulty; under certain conditions of growth the germ becomes ultramicroscopic in form, and after weeks of culture at 98.6° F. it reappears.

#### Clinical Use.

During the past summer it was my good fortune, through the courtesy of Dr. Hansen, the superintendent, to receive the privilege of studying for several months at the State Hospital for the Insane at this place, where, because of the more perfect conditions existing, the opsonins derived from these germs were first put into practical use.

In all cases no other remedial agent was or is being used except the opsonins. The opsonins were autogenous, and were made, as indeed all the work done, under strict laboratory methods and technique.

CASE I.—W. P., age twenty-eight, epileptic since childhood, was having many attacks daily, presented the typical appearance of such unfortunates. His mentality was clouded and he lived in that subconscious life which is so characteristic of these cases.

The germ was found in the discharge from the ear and in the upper nasal sinuses, was grown on agar until the germ was fully matured, then opsonins were made and a dose given; decided reaction resulted, and within twelve hours he commenced to feel better and more lively.

On the third day he was free from depressive effects and the attacks were much lighter in character and were not coming so often; by the fifth day his fits had vanished and was having auræ only. On the eleventh day his fits returned, and another dose was given him (one cubic centimetre); he then went nineteen days without an attack, auræ growing lighter, and improvement noticed generally; most interesting being the clearing away of the mental cloud and the peeping through of his normal mind.

Having no data to guide me, the index proving useless, I watched him until the spells or fits returned, when another dose of the opsonins was given, but during the next five days his fits came often but not very heavy; I then gave him a dose of the opsonins every four or five days thereafter, the reaction growing lighter with each dose, and at last did not even cause any remarks from the patient. After this he went nearly one month without spell or auræ, and was making fast improvement otherwise, especially in the clearing of his mentality.

CASE II.—J. V. F., aged forty-eight, inmate, suicidal homicidal, been confined within institutions for many years, was considered dangerous and an epileptic of severe form.

First dose was given in August and every four days thereafter, reaction severe, but gradually passing away as in Case I. This patient responded to the treatment slowly but steadily, and the fits died away, leaving auræ of a nervous type, which in turn faded away in much the same manner, but which had not entirely disappeared when I was compelled to stop all treatment on these two patients. Since then the fits have returned, but not so severe as before treatment.

CASE III, aged forty.—Wishing to try this treatment on a paralytic, I selected a case of hemiplegia (lucetic), and found the germ in the nasal cavity and in the groin.

A dose was given, and on the third day, after resting a while on a couch, he called to the attendant and asked if he were moving his fingers; he was doing so, opening and closing his fingers of the paralyzed hand, being hitherto unable to do so; five days after this he could move his arm and lift his hand into his lap; a second dose was given at the end of the second week, and within the next few days he was able to lift his hand up to his waist. Circumstances over which I had no control caused me to stop all work at this hospital; and I have not treated the patient since, and he has remained at a standstill since the last opsonic treatment was given, in spite of much medical treatment given him since.

CASE IV.—L. B., aged twenty, a private case. Epilepsy since early childhood, two to five fits daily; I found germs in the nasal cavity and in anal fold. I was at fault for some weeks in this case, and having discovered the fault I corrected it and at once obtained the usual good results, but along similar lines as described in Case II.

I hope to carry this case to a conclusion, it being still under treatment.

CASE V.—C. C., girl, aged nine, infantile paralysis, both lower limbs from waist down. I found germs in the nasal cavity and in anal fold. This child was a hopeless cripple, unable to move except to crawl in a peculiar fashion.

Treatments have been given once a week for several months, and the most decided improvement has resulted. With the aid of simple straight support to the knees, and crutches, she is able to travel about the house at will. The muscles are increasing in strength and in size, showing improved nutrition and action. I hope to carry this case out to a conclusion.

Thinking that there may be some other method of gauging the dose than by the index, which has proved useless, I made a careful analysis of the saliva in all my cases several times each day; the results proved to be quite interesting. I soon discovered that ammonia predominated in the saliva, with the chlorides second, an entire absence of the sulphocyanides. They may appear for a time, to again disappear before the fit and to be replaced by excess of ammonia.

Potassium as basic salt of the saliva is seldom found in cases of epilepsy, the base being sodium united with urea more often than with any other chemical.

Noticing the absence of the sulphocyanides from the saliva, I made use of the sodium sulphocyanide by the mouth and hypodermatically, and intend to write of my experiment later.

I also watched the effect upon epilepsy when the sulphocyanides were kept present in the saliva at all times.

I also found that when normal saliva was injected hypodermatically under proper precautions that it had a decided action upon the nerves, and may come into daily use as a therapeutic agent, it will stop mild cases of epileptic fits in young persons, but needs more study.

I am making a careful study of the germ, spoken of in this article, in all its forms and hope to be able to make a more full and complete report within the near future.

## Correspondence.

## LETTER FROM LONDON.

*A Sleeping Sickness Bureau.—The Royal Society of Medicine.—Tuberculin, etc., Administered by the Mouth.—Wright's Opsonic Method.—King Edward's Hospital Fund.—The General Medical Council.—The Death of Dr. Cullingworth.*

LONDON, June 2, 1908.

The British government has taken a very proper step to combat the alarming spread of sleeping sickness in Uganda and other districts. It will be remembered that a short time ago an international commission assembled in London to consider the question of a combined organization to deal with this problem. Unfortunately, owing to the disagreement between the delegates as to the locality of the central bureau, the commission dissolved without having accomplished anything definite. As the question is of pressing importance, the British government have now decided, without any further loss of time, to establish a central bureau in London with the object of collecting and distributing information with regard to sleeping sickness. The government of the Soudan will contribute one fourth of the cost of the maintenance of the bureau, and the Royal Society are allowing the use of Burlington House to provide the necessary accommodation. The bureau will be under the management of a committee consisting, among others, of Sir Patrick Manson, Sir Robert Boyce, Dr. Rose Bradford, and Colonel David Bruce. The main function of the bureau, which will be administered by a paid director, will be to collect from all sources information regarding sleeping sickness and to distribute this information as widely and as quickly as possible among those who are engaged in combating the disease. The publications of the bureau will consist of scientific works intended for those engaged in carrying on medical work in infected districts, and also publications of a less technical character for the use of government officials, missionaries, and others whose duties involve residence in those districts.

At a meeting of the Royal Society of Medicine held last Tuesday a discussion took place on the administration of vaccines and sera by the mouth. Dr. Latham made a communication on the treatment of phthisis by administering Koch's tuberculin "R." by the mouth, together with normal horse serum, 1/2,000 of a milligramme of tuberculin and 10 cubic centimetres of horse serum being given at intervals of a week. The temperature of the patient, which had previously been high, was reduced to normal and the general condition improved decidedly.

Dr. E. C. Hort said he had used normal horse serum with great benefit in various conditions. It was most valuable in hæmorrhagic diseases and in conditions associated with internal or external ulcerations. In bacterial lesions it seemed to stimulate repair of the tissues and inhibit the growth of the bacteria. The serum was administered by the mouth. He also referred to twenty cases, chiefly staphylococcal infections, which were treated by vaccines given by the mouth, and the results so far were encouraging. Dr. Rolleston also described a case of tuberculosis in which tuberculin was given by the

mouth, considerable improvement resulting. Dr. Hector MacKenzie said he was quite satisfied that staphylococcal vaccines could be administered by the mouth with good results, but he was still in doubt as to the value of the administration of tuberculin in that way. He also stated that in his opinion opsonic index estimations were not feasible as a routine control in actual medical practice.

The programme of the seventy-sixth annual meeting of the British Medical Association has now been issued. The meeting will take place in Sheffield from July 24th to July 31st, under the presidency of Dr. Henry Davy, physician to the Royal Devon and Exeter Hospital. The address in medicine will be delivered by Dr. Kingston Fowler, that in surgery by Dr. Pye-Smith, and Mr. Edmund Owen will deliver the popular lecture on Dust and Disease. The scientific business of the meeting will be conducted in seventeen sections. There will also be several social functions, including a reception of the members by the Lord Mayor. The annual dinner will be given on July 30th, and the programme includes also theatrical performances for the ladies and excursions into the country. The honorary local secretary is Mr. Sinclair White, F. R. C. S., Rammoor, Sheffield.

The *Practitioner* for May has a very important series of articles on the Opsonic Index and Vaccine Therapy. Sir A. E. Wright, in a long paper, very ably defends his theory, which has been subjected to considerable criticism lately. He maintains that clinical observations alone are uncertain guides to the administration of vaccines. The opsonic index, taken from time to time, gives the most reliable information as to the progress of immunization and as to the amount and frequency of inoculation of vaccines. He points out the service that opsonic index estimations have rendered to vaccine therapy, saying that all our present knowledge of the proper doses of vaccines, of the laws which govern the immunizing responses evoked by bacterial vaccines, and all our knowledge of the phenomena of autoinoculation have been derived from the opsonic index. The other papers in the *Practitioner* are all more or less in favor of Wright's theory. As there has been a growing tendency in England to dispense with opsonic index estimations during a course of therapeutic immunization by vaccines, owing to the difficulty in the technique, etc., this collection of articles in favor of Wright's method will perhaps result in further investigations on the opsonic index, so that a final verdict may be given as to its utility. For his work on opsonins, Sir A. E. Wright was presented with the Fothergillian gold medal by the Medical Society of London on May 18th.

King Edward's Hospital Fund has been enriched by a further munificent gift from Lord Mount Stephen. The same donor had previously given £400,000 to the endowment fund, yielding an income of about £23,000 a year, and the later gift will increase the annual income by over £7,000. The total income of the fund from investments is £60,000 per annum, so that over half the total income is derived from Lord Mount Stephen's gifts. It is suggested that an effort should be made to collect a further sum of £300,000 for investment purposes.

On Tuesday last the eighty-seventh session of the

General Medical Council was opened by the president, Dr. Donald MacAlister. In the business transacted was the adoption of a reciprocity agreement with the province of Quebec, whereby medical graduates of the McGill University, of Montreal, and of the Laval University, of Quebec, will be admitted to the Colonial List of the *Medical Register*. It was hoped that similar relations might soon be established with other provinces of the Dominion of Canada. It was also stated at the meeting that steps had been taken to secure a copyright of the *British Pharmacopœia*, to prevent unauthorized reprints. In November, 1908, the Medical Council will just have completed the first fifty years of its existence, and it is proposed to celebrate the jubilee by a friendly reunion to which all the survivors of the past members of the council should be invited.

Dr. Charles James Cullingworth, consulting obstetric physician to St. Thomas's Hospital, died last week at the age of sixty-seven. He was a general practitioner for some years after qualification. He then obtained an appointment at St. Mary's Hospital for Women, Manchester, and gradually gave up general practice and took up gynecology. He rapidly gained for himself a commanding position and was offered the post of obstetric physician at St. Thomas's Hospital, which he accepted. He took an active part in the promotion of those attempts at legislation which ended in the passing of the Midwives' Act of 1902. He was also editor in chief of the *Journal of Obstetrics and Gynecology* of the *British Empire*. He was the author of several articles and papers, the best known being his monograph on Diseases of the Fallopian Tubes and his article on Pelvic Inflammation, in Albutt and Playfair's *System of Gynecology*.

### Therapeutical Notes.

**The Desmond Reaction.**—An ingenious method of ascertaining the actual digestive power of the gastric secretion, suggested by Sahli, of Berne, was described in a recent issue of the *Bulletin des sciences pharmacologiques*, from which it is abstracted in *The Prescriber*, for June, 1908. The method is termed the "desmoid reaction" (Greek, *desmos*, a tendon or band), and consists in administering after the midday meal a pillule of methylene blue over which is stretched a piece of caoutchouc tied with catgut. Under the action of the gastric juice the catgut is dissolved, the caoutchouc contracts and sets free the methylene blue, which shortly afterwards appears in the urine. If the gastric juice be normal in composition the color appears in the urine in from five and one-half to seven and one-half hours after administration; a longer or shorter period indicates deficiency or excess of digestive power. The process is criticised by Altmann on the ground that the condition of the kidneys may affect the time of excretion, moreover, in the event of the gastric juice having no action on the catgut, the latter will dissolve in the intestine and similar results ensue. He therefore substitutes for the methylene blue a pearl of ether, coated with gelatin to prevent its floating, and tied up in caoutchouc as

already described. The sac is administered after an Ewald's test meal, and the exact time of solution is indicated by a characteristic eructation. In normal cases this occurs about an hour and a half after swallowing. The desmoid reaction is ingenious, but it is not exactly new. Günzberg, some fifteen years ago, suggested testing the stomach contents by administering a rubber capsule containing potassium iodide, and plugged with fibrin, and awaiting the appearance of iodine in the excretions.

**Laxative Preparations of Euonymus.**—In the *Journal of the American Medical Association* for May 2, 1908, a note is published on the therapy of euonymus or wahoo. The bark of the root is the most active part of the plant. It contains a bitter resin called euonymin, a crystalline glucoside termed atropurpurin, and citric, malic, and tartaric acids. The bitter principle euonymin is supposed to cause the laxative or purgative action of wahoo. Euonymus is a mild laxative, somewhat resembling podophyllum and rhubarb, only its action is weaker. It increases the secretion of the mucous membrane of the bowel, does not ordinarily cause griping, and as it acts but slowly, for laxative effects should be given from twelve to fifteen hours before its action is desired. It has been stated to have a slight tonic action on the circulation, slight expectorant and diuretic action, and to be a stomachic. None of these activities is of any importance. Some of its active principles are excreted by the kidneys, but probably it is mostly excreted by the intestines.

This drug is best used in combination, and may be combined with any other laxative to increase its action, as:

B Aloin, ..... gr. iii;  
Extract of euonymus, ..... gr. xv;  
Extract of belladonna leaves, ..... gr. iii.  
M. et fac pilulas 20.

Sig.: One pill after supper.

Or:

B Aloin, ..... gr. iss;  
Ipocastanea, ..... gr. iii;  
Extract of euonymus, ..... gr. xv;  
Resin of podophyllum, ..... gr. i.  
M. et fac pilulas 20.

Sig.: One pill after supper.

Or:

R Euonymus, ..... gr. iii;  
Extract of cascara sagrada, ..... gr. xlv;  
Extract of belladonna leaves, ..... gr. iiss;  
Extract of nux vomica,  
Oleoresin of capsicum, ..... aa gr. iii.

M. et fac pilulas 20.

Sig.: One pill after supper.

**A Normal Saline "Bomb,"** consisting of a cylindrical glass vessel having sealed tapering ends, is described by Dr. Brenner, in a recent number of the *Monatsschrift medizinische Wissenschaft* (1908, p. 188). This vessel has a capacity of 350 c.c. and is filled with sterile 0.6 per cent. salt solution, suitable for external or hypodermatic use. The "bomb" is of such a shape that it is easily packed for transportation, and may be heated to the proper temperature for use by placing it in hot water, the temperature being controlled by means of a bath thermometer. Other fluids intended for infusion may be put up in the same manner.



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## THE MEDICAL SERVICE OF THE NAVY.

In our department of Miscellany we publish this week almost the entire official circular of information for persons desirous of entering the Medical Corps of the United States Navy. We do so for the purpose of informing the younger of our readers concerning a most honorable career which is open to those of them who prove themselves worthy of entering upon it, because we are convinced that for the most part they must have overlooked its advantages. It is amazing that there should, in spite of those manifest advantages, still be fifty-four vacancies in the corps, though it is gratifying to know that the number is less than it was but a few months ago.

The surgeon general of the navy, Admiral Rixey, has, in his zeal for the welfare of the service and out of regard for the interests of our younger professional brethren, given out a printed statement of the attractiveness of life as a naval surgeon, and it is a "plain, unvarnished tale." The recent expansion of the navy and its prominence in the thoughts of the public, says Admiral Rixey, may or may not have stirred young medical graduates to think of the naval service as an opening for their professional career; but, whether they have or have not, it seems to him certain that such graduates are not fully apprised of the facts. He says of the medical officer of the navy that he "is vested with proper authority, receives unstinted praise and admiration, as in civil life, wherever and whenever merited, and

fills a position socially, professionally, and officially which self respect approves." He is a ward room officer, he continues, as soon as he enters the service, and his personal accommodations are as good as those of any of his brother officers, and represent comfort.

The naval medical officer's professional opportunities, says the surgeon general, are liberal, affording him time for following the practice of the great civil hospitals and clinics when his station is favorable, also liberty to engage in private practice to any extent not inconsistent with the performance of his official duties, and in this field many naval surgeons have added considerably to their income and to their reputation. In the great ports of the world, moreover, naval medical officers are freely received in the highest circles of society and view civilization from standpoints unattainable at home, and they have facilities denied to others for studying diseases and sanitary conditions which the civilian is debarred from observing.

In civil life the young graduate, already often almost impoverished by the cost of his professional education, has to make a considerable additional outlay for quarters and appliances at his very entrance on the tedious period of waiting for patronage. All this he escapes in the public service, where everything necessary is furnished by the government. At an age when his faculties and his capacity for enjoying life are still as a rule not sensibly impaired he is retired for the rest of his existence on remuneration reduced by only a quarter of his highest pay. Surely one would think that the career of a naval surgeon would prove alluring to a great number of young medical men.

## A NEW OPPORTUNITY FOR PSYCHIATRY.

THAT most baffling of all branches of medicine, psychiatry, dealing with the disorders of the most highly evolved and most important organ of the body, the brain, has finally come to its own. The all wise Greeks clearly grasped the essential fact that mental disorders were brain disorders, but for a thousand years or so the cobwebs of metaphysics have been spinning and obscuring men's minds to the obvious truths of cerebral mechanisms.

The extreme complexity of anatomical formation of the as yet incompletely analyzed brain structure has been an important factor in preventing psychiatry from assuming an authoritative position among its many sister branches, but it would seem that with the advances made by such anatomists as Golgi, Cajal, Van Gehuchten, Dejerine, Nissl, Alzheimer, Doziel, and Bielschowsky, such clinicians as Wernicke, Ziehen, Kraepelin, Tanzi, Head, Bi-

anchi, Jackson, Freud, Magnan, and Meyer, and such physiologists as Wundt, Munk, Luciani, Flechsig, Sherrington, Bechterew, and Lewandowsky, not to mention scores of others, psychiatry had reached a point when fundamental correlations are a reality and will remain for all time. It is therefore a welcome sign that this advanced position has been appreciated by men of enlightenment and public spirit, and embodied in a tangible gift to one of our foremost universities.

The gift of \$750,000 by Mr. Henry Phipps to Johns Hopkins University, for the foundation of a psychiatric clinic, will serve a threefold interest. In the first place, it will be the mental ward of the general hospital, in which patients may be received for treatment without the formality of commitment, and without the stigma that attaches itself to patients with mental trouble, a relic of the days of superstition and idolatry, when the mentally ill needed to have devils cast out of them; secondly, it will afford opportunities for instruction in this vast and much neglected field of medicine; and finally, by reason of the rich endowment, laboratories for research will afford unusual opportunities for the carrying out of the extremely technical studies that work in this field requires.

It is a subject for much congratulation that through such a gift the importance of mental disorders is emphasized. There is no field of preventive medicine that can reap such fruit as that of psychiatry. We have struggled for years to save legs, to patch up internal organs, to keep out and subdue infections; now is the time to reap a rich harvest in saving the mental powers of mankind. Is there a way to lessen crime, to limit the outlay of the public money in caring for the thousands of dependents, the idiots, imbeciles, demented, and chronic mentally ill? If there is, it will come about only by the better recognition of the mental factors which bring about such conditions. The new psychiatric clinic will serve as a useful beginning in this line, and we confidently look forward to the time when others will see the needs as Mr. Phipps has seen them, and respond to the call.

#### THE HEALTH OF THE PHILIPPINE ISLANDS.

In our news columns we recently published some figures taken from the annual report of the Bureau of Health of the Philippine Islands. The report, made by Dr. Victor G. Heiser, the director of health, contains some interesting statements outside of the purely statistical portion from which our figures were taken. These figures apply, as would be supposed, to the city of Manila, the agricultural and

mountainous districts of the archipelago not yet having been sufficiently organized to furnish reliable statistics. The report shows that, while the death rate to a thousand of population was 36.91, the sanitary reforms inaugurated in the city and carried out for the past few years are beginning to show results. The public health was more satisfactory during 1907 than at any previous time during the American occupation. In 1906 the death rate was 40.9 in a thousand. But the death rate for Americans shows even more gratifying figures; in 1906 it was 9.34; in 1907, 5.59 to a thousand of the population.

There has not been a single case of plague in the islands; there has not been one death from smallpox in Manila; cholera in recognizable form has disappeared; provinces in which formerly there had been 6,000 deaths annually from smallpox have not reported a single death from the disease, and this is the result of over 2,000,000 vaccinations. The number of lepers on September 1, 1905, was 3,580; the number on June 30, 1907, was 2,282.

The report takes up the various epidemic diseases in detail and describes the methods adopted by the Bureau of Health for their elimination. The smallpox campaign really shows the most striking results, although the cholera work is worthy of some comment and of sincere congratulation to those engaged in its conduct. At the time that the last annual report was sent to the press the authorities were engaged in handling an epidemic of cholera which threatened to assume serious proportions. The epidemic spread principally by land, both north and south. The measures adopted for the suppression of the epidemic were strict outgoing maritime quarantine, prompt isolation of the sick, and disinfection of premises, with no attempt at land quarantine. The discontinuance of a land quarantine is a feature that the health authorities of Manila are to be congratulated upon having courage to adopt. We are strongly of the opinion that land quarantine is of no value in preventing the spread of transmissible diseases, and that the important thing is to isolate the infected individual. In regard to this feature of the cholera campaign, Dr. Heiser says: "It is hardly possible to describe the feeling of security which seemed to pervade the public. With the exception of the comparatively small increase in the freight and passenger rates that was imposed upon interisland vessels leaving Manila, no large financial loss resulted. The regular machinery of the Bureau of Health worked so smoothly that it was able to meet all demands with practically no increased outlay above routine expenditures. If it had not been for the reports published daily, the people would scarcely have known that cholera was in

their midst, except in so far as they or their friends were directly affected by the disease. The feeling of security was directly responsible for the preservation of many lives, and, on account of there having been practically no disturbance to business, thousands of dollars were saved."

At the San Lázaro Hospital twenty-nine cases of leprosy have been treated with the x rays. Eight patients were very decidedly improved, thirteen were considerably improved, seven showed no change, and one died. The officials of the hospital intend to continue the experiments with this form of energy in the treatment of leprosy.

### POPULAR INSTRUCTION IN NURSING.

The Chautauqua School of Nursing, an institution which has its headquarters in Jamestown, N. Y., is undoubtedly doing a most excellent work, that of fitting young women for the profession of nursing in greater numbers than could be accommodated in the regular hospital training schools and without subjecting them to conditions which many of them might find onerous. The teaching is chiefly by means of printed lectures issued to the pupils. We have examined these lectures, which cover the whole range of medical, surgical, and obstetrical nursing, and they seem to us admirably adapted to their purpose. The necessary lack of personal demonstrations is in a great degree compensated for by ingenious engravings. The school does not content itself with furnishing this literature to its pupils, but requires them to fill out examination blanks which are so devised as to afford practical tests of the pupils' comprehension of the lectures. The school also prints for the use of the young women a number of narratives of the experiences of their predecessors who have completed the course, written by themselves. These also we have examined, and they have appealed to us as the productions of very intelligent and conscientious women, women who do not disdain to serve among the lowly and at rates of compensation which the poor can for the most part afford, or even wholly as a work of charity in case of need, in remote rural places. Such nurses are sorely needed by the overworked country practitioner and his patients, and it was this need that was the special incentive to the establishment of the school.

### PROVOKED ERUCTATION AS A REMEDIAL MEASURE.

In the *Semaine médicale* for June 3d we read that an Austrian physician, Dr. Max Herz, of Vienna, has succeeded in mitigating the painful attacks incident to cardiac disease, such as angina pectoris,

also paroxysms of tachycardia, by the expedient of causing the patient to belch up wind from the stomach. He has even prevented these attacks when the eructation was brought about early enough, at the time of the premonitory sensations. He attributes the efficiency of the procedure to the fact that the heart and the stomach are both innervated by the pneumogastric nerve.

Eructation is produced by the following procedure: The patient, seated, takes a small drink of water and holds it in his mouth. He then throws his head as far backward as possible and swallows the water. The posture is such as to stretch the œsophagus and induce in the pharynx a sensation which causes eructation, provided that result is not voluntarily prevented by the patient. It is well to warn the person that an eructation is desired; otherwise he may restrain it out of a sense of decency. Herz had observed the relief afforded by spontaneous belching, but it is not explained how he was led to devise the manœuvre for imitating it.

### A PROPOSED SCHOOL OF SANITARY SCIENCE.

The *Columbia University Quarterly* has issued a supplement of seventy pages devoted entirely to an essay entitled *Education and its Economic Value in the Field of Preventive Medicine; the Need for a School of Sanitary Science and Public Health*, by Dr. Norman Edward Ditman. Dr. Ditman depicts very graphically the ravages of preventable disease and their mitigation by preventive measures. One need not agree to all that is said in the essay to join with the author in his main contention that there is great need in this country of a school, one at least, for the diffusion of knowledge in regard to sanitary problems and their solution.

Dr. Ditman would have a school of preventive medicine planned to give instruction to students preparing for the practice of medicine, for offices of health boards and as sanitary inspectors, for sanitary engineering (civil, military, and naval), for work as school and college teachers, school nurses, or school inspectors, for work as officers of charity societies and institutions, visiting nurses, and "social workers," for the ministry, and for legislative work, also to the public. He specifies more than thirty subjects which he would have taught, mentioning also the groups of persons to whom the branches should be taught. There are at present courses in nearly half these branches in Columbia University. He would have medical students instructed in all these branches save the last, domestic science, which, indeed, as we understand his tabular statement, he does not recommend for anybody, al-



though it is set down among those already taught in Columbia. We fancy that in this particular the table has been incorrectly printed.

There can be no doubt that all the subjects mentioned should be taught to various classes of the community, especially to medical students, but it is questionable whether the teaching should be done in a special institution or in a department of a university. It would be in the interest of economy, it may be supposed, to have it done in a university, not as an integral part of the medical curriculum, but with all the students of the medical school privileged to attend the courses.

### News Items.

**Changes of Address.**—Dr. Isaac H. Jones, to 4501 Spruce Street, Philadelphia.

**The Hampden District, Mass., Medical Society** held its annual meeting in Springfield recently and elected the following officers: President, Dr. George L. Woods, of Springfield; vice president, Dr. C. W. Jackson, of Monson; secretary and treasurer, Dr. R. S. Benner, of Springfield.

**Society Meetings for the Coming Week:**

**Thursday, June 25.**—Buffalo Academy of Medicine (Section in Obstetrics and Gynecology).

**Thursday, June 25.**—New York Gynecological Society, Brooklyn Society for Neurology.

**Saturday, June 27.**—Harvard Medical Society.

**Contagious Diseases in Chicago.**—The following cases of communicable diseases were reported to the Bureau of Contagious Diseases during the week ending June 6, 1908: Measles, 269; scarlet fever, 63; diphtheria, 61; chickenpox, 36; tuberculosis, 21; whooping cough, 20; typhoid fever, 16; smallpox, 1; diseases of minor importance, 4; total, 491.

**Officers of the Massachusetts Medical Society.**—At the annual meeting of this society, which was held in Boston during the week of June 8th, the following officers were elected: President, Dr. Silas D. Presbrey, of Taunton; vice president, Dr. D. E. Keefe, of Springfield; secretary, Dr. E. W. Goss, of Roxbury; treasurer, Dr. G. M. Buckingham, of Boston.

**L'Association des Médecins de langue française de l'Amerique du Nord.**—The annual meeting of the association of French speaking physicians of North America will be held in the city of Quebec on the occasion of the centennial anniversary of the founding of the city. The sessions will be held in the buildings of Laval University on July 20th, 21st, and 22d.

**Scientific Society Meetings in Philadelphia for the Week Ending June 27, 1908.**—*Monday, June 22.* Philadelphia County Medical Society. *Tuesday, June 23.* Philadelphia Academy of Natural Sciences. *Wednesday, June 24.* Academy of Natural Sciences; Section Meeting, Franklin Institute. *Friday, June 26th.* South Branch, Philadelphia County Medical Society; Northern Medical Association; Philadelphia Neurological Society.

**A Campaign Against Bovine Tuberculosis.**—Governor Hendon has issued an order, which gives the New York State Department of Agriculture authority to campaign against bovine tuberculosis. Appropriations aggregating \$10,000 are available for the work. Included in this sum is an appropriation of \$7,000 made at the recent session of the legislature, to be used in payment for cattle so furnished by the department.

**The Medicochirurgical College of Philadelphia** held its annual commencement exercises on Saturday, June 13th. The degree of doctor of medicine was conferred on one hundred and fifty-two men. Dr. Henry C. Phillips presented the Dr. Samuel Morris prize and the faculty gold medal for the highest general average in the graduating class. Dr. Hudson Perry, Welch, vice president of the Pennsylvania State College, delivered the oration.

**Elmira, N. Y., Academy of Medicine.**—At a meeting of this academy, held on Wednesday evening, June 3d, Dr. R. P. Bush, of Horseheads, N. Y., read a paper on Endocarditis, and Dr. Alexander Mark, of Elmira, N. Y., read a paper on Diagnosis of Children's Diseases.

**Association of Ex-Resident Physicians of St. Joseph's Hospital, Philadelphia.**—At a recent meeting of this association permanent organization was effected, and officers for the ensuing year elected as follows: President, Dr. George Morley Marshall; vice president, Dr. David Moylan; historian, Dr. Joseph Roberts; secretary and treasurer, Dr. Joseph M. Spellissy.

**American Urological Association.**—A stated meeting of the New York Society was held in the New York Academy of Medicine on the evening of Wednesday, May 27th. The paper of the evening was read by Dr. G. Morgan Muren on Real Conservatism in the Treatment of the Prostate. Among those who took part in the discussion were Dr. Eugene Fuller, Dr. L. Bolton Bangs, and Dr. Follen Cabot.

**Medicochirurgical Society of Central New York.**—At the annual meeting of this organization, which was held in Syracuse recently, the following officers were elected for the ensuing year: President, Dr. C. T. Haines, of Utica; first vice president, Dr. W. H. Sweeting, of Savannah; second vice president, Dr. C. W. Radway, of Medico; secretary and treasurer, Dr. George J. Gannette, of Syracuse.

**Obstetrical Society of Philadelphia.**—At a stated of this society, which was held on Thursday evening, June 4th, the programme included the following papers: Uncontrollable Hemorrhage Associated with Diseases of the Uterine Wall, by Dr. Brooke M. Anspach; The Early Diagnosis of the Cancer of the Uterus, by Dr. R. F. Woods; Rupture of the Uterus, with Report of Two Cases, by Dr. Frank C. Hammond.

**Southwestern Kentucky Medical Society.**—At the annual meeting of this society, which was held in Paducah recently, the following officers were elected for the ensuing year: President, Dr. Vernon Blythe, of Paducah; first vice president, Dr. H. T. Crouch, of Bardwell; second vice president, Dr. L. W. Ogilvie, of Birmingham; secretary, Dr. C. E. Purcell, of Paducah; treasurer, Dr. C. H. Brothers, of Paducah; and historian, Dr. R. T. Hoeker, of Arlington.

**Missouri State Medical Society.**—At the annual meeting of this society, which was held in Springfield recently, the following officers were elected for the ensuing year: President, Dr. A. R. Kieffer, of St. Louis; secretary, Dr. A. W. McAllister, Jr., of Kansas City; treasurer, Dr. J. F. Walsh, of Salisbury. Dr. R. L. Goodier, of Hannibal, was elected orator in medicine, and Dr. F. J. Lutz, of St. Louis, orator in surgery. Jefferson City was chosen as the next meeting place.

**The West Virginia State Medical Association.**—At the annual meeting of this society, which was held recently at Clarksburg, the following officers were elected: President, Dr. Fleming Howell, of Clarksburg; president elect, Dr. V. T. Churchman, of Charleston; first vice president, Dr. R. J. Reed, of Wheeling; second vice president, Dr. R. S. Powell, of Grafton; third vice president, Dr. H. D. Hatfield, of Elchman; secretary, Dr. T. C. Moore, of Huntington; treasurer, Dr. T. L. Barber, of Charleston.

**Gift to the Garfield Memorial Hospital, Washington, D. C.**—Dr. Loren B. T. Johnson, of Washington, has donated to the trustees of the hospital an amount of \$10,000 for the erection of an annex to the hospital as a memorial to his wife. The annex is to be devoted exclusively to the care of women patients. It is proposed to place a tablet in some suitable place in the building to indicate his purpose in erecting it. The proposed annex will be called the Johnson Building.

**Officers of the Tennessee State Medical Association.**—At the annual meeting of this association, which was held recently, the following officers were elected to serve for the ensuing year: President, Dr. H. D. Knapp, of Knoxville; vice president for East Tennessee, Dr. C. T. Carroll, of Clarksville; vice president for West Tennessee, Dr. M. A. Raper, of Memphis; secretary, Dr. J. W. Brainerd, of Clarksville; treasurer, Dr. George H. Price, of Nashville; Dr. W. C. Bollen, of Memphis, historian.

**The Health of Pittsburgh.**—During the week ending June 6, 1908, the following cases of transmissible diseases were reported to the Bureau of Health: Chickenpox, 5 cases, 0 deaths; typhoid fever, 26 cases, 4 deaths; scarlet fever, 12 cases, 0 deaths; diphtheria, 8 cases, 0 deaths; measles, 230 cases, 7 deaths; whooping cough, 7 cases, 1 death; pulmonary tuberculosis, 30 cases, 10 deaths. The total deaths for the week numbered 144, in an estimated population of 403,330, corresponding to an annual death rate of 18.56 in 1,000 of population.

**Medical Society of the Woman's Hospital of Philadelphia.**—At a regular meeting of this society, held on Monday evening, June 15th, the following papers were read: Review of Our Present Knowledge of the Physiology of Digestion, by Dr. Martha Tracy; Acute Dilatation of the Stomach associated with Operation, by Dr. Ellen C. Peiter; Perforation of the Uterus, with a Report of Two Cases, by Dr. Sarah H. Lockrey; Report of the 1908 meeting of the International Congress of Laryngologists, by Dr. Margaret F. Butler.

**Philadelphia County Medical Society.**—At a meeting of the Central Branch of this society, which was held on the evening of Wednesday, June 10th, Dr. F. A. Faught and Dr. J. F. Dever gave a demonstration of a device for facilitating test meal removal and gastric lavage. A paper entitled Fibroid Tumors of the Uterus Complicating Pregnancy was read by Dr. Wilmer Krusen and discussed by Dr. Barton Cooke Hirst, Dr. Charles P. Noble, Dr. J. M. Baldy, and Dr. Swithin Chandler. Dr. E. J. Gillespie Beardsley read a paper on the Anamnesis of Subjects of Exophthalmic Goitre.

**The Jefferson Medical College of Philadelphia** held its eighty-third annual commencement on Monday, June 8th. One hundred and seventy men received the degree of doctor of medicine. Dr. William H. Howell, dean of the medical faculty and professor of physiology in the Johns Hopkins University, delivered the oration. Two prizes of \$75 each, awarded upon recommendation of the professor of medicine and of the professor of surgery to the student in each branch considered the most worthy, were awarded to Dr. Joseph Lloyd Warne and to Dr. George Elmer Krout, respectively.

**Charitable Bequests.**—By the will of Mrs. Jerome H. Jones, the Brookline, Mass., Free Hospital for Women receives \$10,000; the Industrial School for Crippled and Deformed Children, Boston, receives \$10,000; the Children's Hospital, Boston, receives \$10,000; and the Home for Aged Couples, Boston, receives \$5,000.

By the will of George Bliss Griggs, the Springfield, Mass., Hospital receives \$10,000.

By the will of Letitia Bentz the Little Sisters of the Poor receive \$250, and St. John's Orphan Asylum and St. Agnes's Hospital, Philadelphia, receive \$100 each.

**The Annual Convocation of the Medical Faculty of McGill University, Montreal,** was held on the afternoon of June 12th. Eighty-six students received the degree of M. D., C. M. The degree of LL. D. was conferred upon Dr. Edward Albert Schäfer, professor of physiology at the University of Edinburgh, who made a brief address. The annual address to the graduates was delivered by Professor T. A. Starkey, M. B., D. P. H., Fellow of the Royal Sanitary Institute, and the class valedictory was read by Dr. Donald F. Macdonell. Dr. Thomas G. Roddick announced his resignation as dean of the faculty, and the appointment of Professor F. J. Shephard as his successor.

**The Burlington County, New Jersey, Medical Society.**—The regular meeting of the Burlington County Medical Society was held at Morristown, N. J., on Wednesday, June 10th. Dr. Ernest Laplace, of the Medico-Chirurgical College, read a paper on the Significance of Pain in Abdominal Diagnosis. Dr. John M. Swan, of the Philadelphia Polyclinic, read a paper on the Diagnostic Significance of Leucocytosis. Dr. L. Napoleon Boston, of the Medico-Chirurgical College, read a paper on Bacteriemia following Surgical Conditions and in Acute Fevers. There was a short discussion on Hydrophobia. A dinner followed the scientific business of the meeting. About twenty-five members and guests were present.

**Cornell University Medical College** held its tenth annual commencement on June 10th. The degree of doctor of medicine was conferred on fifty-eight graduates, among whom was one woman, Miss Phoebe Lott Du Bois, of Freehold, N. J. The prize winners were Dr. Willis Gaylord Graves, of Binghamton, N. Y.; Dr. Rodney Ralph Williams, of Fredonia, N. Y.; Dr. Harry Clifton Luke, of Salamanca, N. Y.; Dr. Harold Elmore Santee, of Hornellsville, N. Y.; and Dr. Harold de Wolf, of Bristol, R. I. Dr. J. G. Schurman, president of Cornell University, delivered the address. The commencement exercises were followed by the annual banquet of the Cornell Medical Alumni Association at the Hotel Manhattan.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending June 13, 1908:*

	—June 6.—		—June 13.—	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	440	161	409	189
Diphtheria	268	25	353	37
Measles	1,432	17	1,031	21
Scarlet fever	498	22	513	27
Smallpox	..	..	..	..
Varicella	74	..	122	..
Typhoid fever	45	7	35	5
Whooping cough	25	5	25	4
Cerebrospinal meningitis	7	5	7	4
Totals	2,776	242	2,486	278

**School of Instruction for Health Officers.**—The tenth annual course of instruction for the health officers of the State of Vermont will be held in Burlington on June 29th to July 2d, inclusive. All health officers of the State are required to attend the sessions of this school, and no one will be excused for nonattendance except in case of illness. The public are invited to attend. According to the provisional programme, which we have just received, the first session will be held on Monday, June 29th, at 8 p. m., when addresses will be delivered by Dr. Charles S. Caverly, president of the State Board of Health; the Hon. F. D. Proctor, Governor of the State; the Hon. Walter J. Bigelow, Mayor of Burlington, and Judge Edward C. Mower, of Burlington. There will be three sessions daily on Tuesday and Wednesday, at 9:30 a. m., at 2 p. m., and at 8 p. m., and the final session will be held on Thursday morning at 9 o'clock.

**A Psychiatric Clinic for Johns Hopkins Hospital.**—Dr. William H. Welch, of Johns Hopkins University, announces that Mr. Henry Phipps, of Pittsburgh, has arranged for a large gift to the Johns Hopkins Hospital and University for the founding of a psychiatric clinic on the lines of well known similar institutions in Europe. The total amount of the gift is withheld in accordance with the wishes of Mr. Phipps, but it is understood that it will exceed half a million dollars. The funds provide for the erection of a four story building, with accommodations for sixty patients, with rooms for private patients. The building will be equipped with all the most modern appliances and apparatus for use in the treatment of patients, and laboratories for scientific investigation of the nature, cure, and prevention of mental diseases. Provision has also been made for the establishment of a professorship of psychiatry at the university, the professor to be the director of the clinic.

**The American Academy of Ophthalmology and Otolaryngology.**—The thirteenth annual meeting of this organization will be held in Cleveland, Ohio, on Thursday, Friday, and Saturday, August 27, 28, and 29, 1908. The preliminary programme of the Oto-Laryngological Section includes sixteen papers on subjects relating to diseases of the throat and ear, and a symposium on the past, present, and future of oto-laryngological teaching. More than twenty papers have been promised for the Section in Ophthalmology, exclusive of a symposium on ophthalmic pedagogy. The officers of the society are: President, Dr. Derrick T. Vail, of Cincinnati; first vice president, Dr. Joseph C. Beck, of Chicago; second vice president, Dr. Theodore B. Scheidman, of Philadelphia; third vice president, Dr. F. S. Owen, of Omaha; treasurer, Dr. Otto J. Stein, of Chicago; secretary, Dr. George F. Suker, of Chicago; chairman of the committee on arrangements, Dr. Second H. Lutz, of Cleveland.

**The Mortality of Chicago.**—During the week ending June 6, 1908, there were reported to the Department of Health of the City of Chicago 483 deaths from all causes, as compared with 578 for the previous week and 574 for the corresponding period in 1907. The annual death rate in 1,000 of population was 11.63, which comes close to the lowest rate ever recorded in Chicago at this time of the year. The principal causes of death were: Apoplexy, 8; Bright's disease, 35; bronchitis, 13; consumption, 63; cancer, 26; convulsions, 1; diphtheria, 7; heart diseases, 40; influenza, 2; intestinal diseases, acute, 29; measles, 5; nervous diseases, 19; pneumonia, 42; scarlet fever, 5; suicide, 10; violence (other than suicide), 52; whooping cough, 1; all other causes, 125.

**Vital Statistics of New York.**—During the week ending June 6, 1908, there were reported to the Department of Health of the City of New York 1,222 deaths from all causes, as compared with 1,434 for the corresponding period in 1907. The annual death rate in 1,000 of population was 14.41, in an estimated population of 4,422,685. Of the five boroughs, Manhattan had the highest death rate, 15.20 in 1,000 of population, while the Bronx came second with a death rate of 14.81. The death rate of Brooklyn for the week was 13.49, that of Queens was 12.11, the lowest for the five boroughs, and of Richmond, 14.20. Of the total number of deaths 668 were in Manhattan, 93 in the Bronx, 386 in Brooklyn, 54 in Queens, and 21 in Richmond. The total infant mortality was 307; 242 under one year of age, and 65 between one and two years of age. There were 144 still births. Seven hundred and thirty-five marriages and 3,008 births were recorded during the week.

**American Climatological Association.**—The twenty-fifth annual meeting of this organization took place in Boston on June 9th, 10th, and 11th. The attendance was large, members being present from all parts of the United States, and all agreed that the meeting was one of the best ever held by the association. The scientific programme, which was one of unusual interest, included a number of papers dealing with the treatment of tuberculosis. The newly elected officers are: President, Dr. Charles E. Quimby, of New York; first vice president, Dr. Edward R. Baldwin, of Saranac Lake, N. Y.; second vice president, Dr. Carroll E. Edson, of Denver, Col.; secretary and treasurer, Dr. Guy Hinsdale, of Hot Springs, Va.; council, Dr. James C. Wilson, of Philadelphia; Dr. W. F. R. Phillips, of Washington, D. C.; Dr. E. L. Shurly, of Detroit; Dr. Thomas Darlington, of New York; and Dr. Thomas D. Coleman, of Augusta, Ga.; delegate to the council of the congress at Washington in 1910, Dr. Frederick T. Knight, of Boston, with Dr. Roland G. Curtin, of Philadelphia, alternate.

**Rules Governing the Use of the Library of the New York Academy of Medicine.**—We present herewith extracts from the rules governing the use of the library of the New York Academy of Medicine by others than members of the academy.

**Bylaw XIII. Section 7.** Candidates for fellowship, after announcement by the committee on admission, may be granted the privilege of the library on the payment of a fee of \$20 a calendar year or pro rata in advance. The amount so paid in a given calendar year shall be refunded from the candidate's admission fee if he be elected to fellowship in a calendar year for which the fee was paid.

**Section 8.** Any person approved by the library committee and by the council may become an associated reader on such conditions as the council may impose. Associated readers shall be entitled to a card giving the privileges of the library, good for one year from the date of their acceptance.

**Section 9.** The privilege of consulting the library, but not of taking out books, may be granted for one month, when authorized by a card signed by the executive librarian or his representative, on written request by the applicant, to accredited representatives of fellows of the academy on application by the latter. No one shall be introduced under the provision of this section more than once in six months, except by special permission of the council.

**Section 18.** The library shall be open to the public from 9 a. m. to 6 p. m. Fellows and persons included in Sections 7, 8, and 9 shall have access to the library from 9 a. m. to 6 p. m.

The fee of general subscription, \$100.00, is paid in advance.

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL.

June 11, 1908.

1. On Some Relations of the Physician to the Public. Duties and Opportunities.  
By WILLIAM SYDNEY THAYER.
2. Modern Medicine and Surgery in the Orient (to be continued).  
By J. EWING MEARS.
3. Modes of Infection in Tuberculosis.  
By SILVIO VON RUCK.
4. Composition of Large Curds in Infants' Stools.  
By FRITZ B. TALBOT.
5. Camphoric Acid, Its Action and Uses.  
By MAURICE VEJUX TYRODE.

3. **Modes of Infection in Tuberculosis.**—Von Ruck reviews our present knowledge of the modes of infection in tuberculosis: As concerns the tuberculosis of animals as a source of infection, it is with food products that we have chiefly to deal, especially with meat and milk. The possibility of such infection has at no time been denied, but the question of its frequency has given rise to varied opinions, and in recent years has become of renewed interest as the result of Professor Koch's announcement, at the London Congress, of the nonidentity of the human and bovine type of bacillus, and of his conviction that the tuberculosis of these respective species is not readily communicated from the one to the other. The question has not been settled, and we have to wait until more accurate study in the isolation of cultures and experimental proof of their respective virulence affords reliable data. Since 1902 such investigations at Koch's suggestion have been vigorously prosecuted at the German Imperial Health Bureau and also by others. Up to the present time the cases in which bovine infection has been proved to have occurred in man are but thirty-three in number, eighteen of which have been examined at the German Imperial Health Bureau, while fifteen are reported by other observers. There are three groups of infections: Infections of directly accessible surfaces, which may be termed local or contact infection; infection through the air by inhalation; and infection through food by ingestion. To the group of local infections belong all cases of skin tuberculosis and the majority of the primary cases of tuberculosis of the mucosa of the several orifices of the body. In these cases the tendency is for the disease to remain localized unless in young children, in whom the contrary is true, as is shown by cases of tuberculous infection during ritual circumcision, when generalization appears to be frequent. Occasional cases of accidental infection of the hands at autopsies of tuberculous subjects are known. Cases of local infection after piercing the lobule of the ear for earrings, after the use of an infected hypodermic syringe, after tattooing, and after similar slight wounds are to be found in the literature. Occasional tuberculous infection of surgical wounds occurs. It has frequently been both asserted and denied that tuberculosis may be conveyed by vaccination, but vaccine, the lymph from tuberculous cattle, and the contents of vesicles in the arms of human subjects have been repeatedly examined for the presence of tubercle bacilli with negative results. Even in arm to arm vaccination, if the person furnishing the lymph was tuberculous, the tubercle bacilli would be present in the blood before they can pass into the vaccinee.



tents of the vaccine pustule, and even then the probabilities would still be against infection, unless present in considerable numbers. The mode of infection by inhalation is the one in which all the older authors believed, who held consumption to be contagious. Especially is this the case with sputum droplets. The distance to which such droplets are projected is usually stated to be about three feet, although Engelmann found it one and a half metres, while Bing found bacilli at a distance as great as three metres, and Fluegge found that under artificial conditions they could be projected even as far as ten metres. The degree of danger attaching to droplet infection has thus been variously estimated, but the writer is not inclined to consider suspended droplets as the most important source of infection. Such droplets do not remain suspended indefinitely, and most of them must gravitate immediately. It is when deposited in the form of dust or from dust containing tubercle bacilli that the greatest danger exists, although the danger is not to be minimized. The third group is the most important one, the infection of the digestive tract by ingestion of tubercle bacilli. It is possible that food may serve as a medium for infection with the bacilli of human type, but the probability that enough bacilli are introduced by its contamination with infectious dust or droplets in its preparation by consumptives, or that flies are likely to play an important part by transferring tubercle bacilli from sputum to food, would seem slight, and especially so if alimentary infection of the human subject conforms to the experience we have with the lower animals, in which enormous quantities of tubercle bacilli must be fed to produce a positive result. That the human subject is not an exception in this respect is indicated by the infrequency of primary infections of the intestine, and, moreover, by the clinical fact that the autoinfection of the digestive tract is, as a rule, an occurrence deferred to the advanced stages of pulmonary phthisis. Of greater importance for primary infection of the digestive tract appears the inhalation of infectious dust and its deposit in the pharynx or the mouth, whence it is swallowed with mucus and saliva, and with food and drink. It undoubtedly occurs, it is more frequent in children than in adults, and the origin of tuberculosis in the abdominal cavity appears to be less frequent than it is in that of the chest. The author also mentions the contention of Behring that practically all tuberculous infections in man are due to feeding the milk of tuberculous cows to nurslings as a substitute for mother's milk. Behring has even gone so far as to announce that not a single case of epidemiological human infection has been proved.

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 15, 1908.

1. State's Right and the National Health. Oration on State Medicine at the Fifty-ninth Annual Session of the American Medical Association, at Chicago, June 2-5, 1908. By CHARLES HARRINGTON.
2. Indolaceturia. By C. A. HERTER.
3. Streptococcal Infections of the Pharyngeal Adenoid Tissue in Adults. By ALICE G. BRYANT.
4. Laryngeal Manifestations in Locomotor Ataxia and Multiple Sclerosis. By WOLFF FREUDENTHAL.
5. The Phorbiden Test, with Special Reference to the In-

fluence Exerted by a Diseased Kidney on the Excretory Work of the Second Organ. By EDWIN BEEER.

6. An Epidemic of Cerebrospinal Meningitis. Successful Use of Flexner's Antiserum. By AUSTIN MILLER and S. A. BARBER.
7. Arthritis Deformans of the Hip. Preliminary Report of a New Operation. By FRED H. ALBEE.
8. The Eye as a Contributing Factor in Tuberculosis. By F. PARK LEWIS.
9. Ocular Reaction to Tuberculin. By FREDERICK TICE.

2. **Indolaceturia.**—Herter points out that it appears probable that the excessive feeding of proteins may be concerned with the development of indolaceturia. But indolaceturia appears also in persons who are taking no excess of protein food. Moreover, in pathological cases of indolaceturia, in which the protein food has been restricted, the indolaceturia may be still persistent. It is thus clear that, while the intake of a large amount of protein is a factor highly favorable to the development of indolaceturia, the occurrence of this condition must be regarded as depending rather on delayed absorption of tryptophan and suitable bacterial conditions than on mere over feeding with proteins. Assuming that both indolacetic acid and the indol formed in the intestinal tract are derived from tryptophan through the action of bacteria, the fact remains still to be accounted for that sometimes the decomposition of tryptophan yields mainly indolacetic acid and at other times mainly indol. As is well known, bacteria of the *Bacillus coli* group are capable of clearing tryptophan to indol and that these organisms are able to form indolacetic acid from tryptophan. It is doubtless true that in the intestinal tract the bacteria associated with the colon bacilli play a part in determining the direction of the main cleavage of tryptophan, and I think it possible that through the careful study of the symbiotic action of bacteria on this substance it will be possible to gain an insight into the different bacterial conditions that determine the production of indolacetic acid rather than indol.

4. **Laryngeal Manifestations in Locomotor Ataxia and Multiple Sclerosis.**—Freudenthal concludes that the larynx is frequently the seat of serious affections in tabetics. Laryngeal crises are met with so often that they are almost of pathognomonic significance. Unilateral and bilateral paralysis of the postici muscles are the affections par excellence in tabetics, but a unilateral paralysis of the recurrent nerve, often with the vocal cord in a hyperabducted position, as mentioned by Harland, is nothing uncommon. The abductor fibres of the recurrent laryngeal nerve are affected primarily in tabes as well as in multiple sclerosis. The voice in tabetics is often not changed, in spite of advanced lesions. In order to reach a positive diagnosis all these cases have to be observed during a considerable period. In multiple sclerosis there is frequently present a subjective dyspnea that can not be explained by the objective signs.

7. **Arthritis Deformans of the Hip.**—Albee describes his method of operation, which he has used in five cases: The hip joint is reached by an anterior incision five inches long, through skin and subcutaneous tissues, starting from just below and inside of anterior superior spine of the ilium, and extending

downward along the inner border of the sartorius muscle, which is retracted outward. The muscles and the deep structures are separated by blunt dissection and the iliacus and the rectus femoris muscles are retracted inward. A part of a large ring of osteophytes about the rim of the acetabulum is turned upward with the soft tissues adherent to them. With the head of the femur *in situ* about one half of its upper hemisphere is removed with a large chisel, through a plane nearly parallel to the long axis of the neck of the femur. Then with the same instrument the acetabulum is transformed into a flat surfaced roof against which the fresh surface of the head is finally brought into firm contact by abduction of the thigh. The bone is removed from the acetabulum so that the flat surface is tilted somewhat upward internally in order to produce, in a way, locking of the fragments and also to prevent any possibility of dislocation. Further abduction is impossible on account of the shortened abductors and an open tenotomy of these tendons and muscles, at their origins, is found necessary before the leg can be brought into proper position. The plain surfaces of the head and acetabulum are brought together by simply abducting the thigh. The capsule and soft tissues are then sutured. Access to the joint is much facilitated by a position of extreme adduction of the limb. For purposes of orientation an assistant is kept in constant readiness to rotate the femur when desired. The leg in strong abduction is finally put in a spica from axilla to toes. The patient upon whom this operation was performed made an uneventful recovery and was walking about with crutches at the end of four weeks. A short spica bandage was applied at the end of five weeks. At the end of nine weeks he was able to walk without cane or crutch and he went back to work as patrolman in four months. He states that he has not suffered any pain since operation. The leg has remained well in corrected position and only an extra lift of leather has been worn on the heel. His occupation since the operation vouches for his locomotive abilities. He has continued as a patrolman, working nine hours a day, and has not lost a day on account of his hip since he went back to work in September, 1907.

9. **Ocular Reaction to Tuberculin.**—Tice finds that as a diagnostic method Calmette's test is by no means positive or even specific. In a varying proportion of tuberculous cases of various forms a positive reaction will occur, but not in all. In distinctive diagnosis it can be of but limited service as it appears, apparently, in nontuberculous affections. When the subcutaneous use of tuberculin in doubtful cases of tuberculosis is not possible on account of fever the ocular test may be employed. In incipient cases in which an early positive diagnosis was most desired it was of no service. In a review of the literature no reference is made to the therapeutic possibilities in this method of administering tuberculin. The absorption by the conjunctiva is rapid and considerable, as can be demonstrated by the use of other drugs. Just what effect early administration of tuberculin has in the power of resistance as indicated by the opsonic index has not been determined. If the ocular reaction is con-

logous to the local or general reaction produced by subcutaneous injections of tuberculin, and it is found feasible to administer it in this manner, it may be found necessary to avoid the pronounced and severe reactions. As the reaction occurs apparently in patients in whom no tuberculosis can be demonstrated it may, like the reaction from subcutaneous use of tuberculin, belong to the "group reactions." From all we can now judge, the ocular reaction to tuberculin must be considered simply as confirmatory, and must always be considered secondary to the findings as determined by a careful physical examination.

#### MEDICAL RECORD

June 13, 1908.

1. The Winning Fight Against Consumption, By JOHN B. HUBER.
  2. The Unfinished Business of General Hospitals, By S. S. GOLDWATER.
  3. Recurrent Vomiting, By HERBERT SWIFT CARTER.
  4. The New School Hygiene, By GEORGE W. VANDERGRIFF.
  5. A Preliminary Note on the Disinfection of Body Cavities by Injection of Suspensions of Living Nonpathogenic Bacteria, By CHARLES E. NORTHE.
4. **The New School Hygiene.**—Vandergriff states that a subdepartment of hygiene in the department of health or education might be established, not only in cities, but in every rural district, under the sole authority of an associate superintendent, who shall be a physician, and have full charge not only of the discovery and correction of physical defects, but of all school matters pertaining to the welfare of school children, embodying questions of properly constructed buildings, of playgrounds, of books, curriculum, home study, and physical training. Under such a régime there will be no division of authority, the single aim being the physical welfare of the school children. Special appropriations should be made by the board of estimate for its furtherance, and this appropriation should be used for no other purpose. The department should not be, as the board of health now is, forced to live from hand to mouth, borrowing in advance to pay for work done in the past. To earn the confidence of the people, to do its work efficiently, this new department should show clearly what the needs of these defective children are, and should place squarely upon the fiscal authorities the responsibility for success or failure in this labor of "new school hygiene."
5. **Preliminary Note on the Disinfection of Body Cavities by Nonpathogenic Bacteria.**—North deducts from the action of the lactic acid bacteria and other nonpathogenic bacteria, from the killing of the boll weevil by another insect, etc., that the judicious administration of properly selected nonpathogenic bacteria as a means of opposing infections has a basis in reason. If the immunity of any body cavity is largely dependent upon the integrity of its garrison of nonpathogenic bacteria, the question arises whether this integrity cannot be maintained and the personnel of the garrison even improved by trained culture strains introduced by the bacteriologist. Metchnikoff and his followers have already made a beginning. They recommend the drinking of milk soured by selected lactic acid bacteria for the purpose of maintaining the immu-

with these bacteria. The spraying of any infected parts with antiseptics is at best only a superficial method of disinfection. In some of the body cavities—the middle ear, the vagina, and the urethra, and in sinuses and abscesses—it may be that the natural antagonisms which exist between nonpathogenic bacteria and pathogenic forms can be of therapeutic use. The suspensions of lactic acid bacteria may prove to be of service in these cavities, especially where putrefactive processes are causing the irritation.

# BRITISH MEDICAL JOURNAL.

May 30, 1908.

1. The Present Condition of Our Knowledge Regarding the Functions of the Suprarenal Capsules (Oliver-Sharpey Lectures, I), By E. A. SCHÄFER.
2. Recent Progress in the Serum Therapy of Plague, By K. B. N. H. CHOKSY.
3. Cats as Plague Preventers, By A. BUCHANAN.
4. Sporadic Kala Azar in Calcutta, with Notes of a Case Treated with Atoxyl, By U. N. BRAHMACHARI.
5. On Measles, By E. WARD.
6. The Use of Serum in Scarlet Fever, By H. CUMPTON.
7. Horsepox Directly Transmitted to Man, By A. F. CAMERON.
8. Primary Pneumococcic Peritonitis, By A. SMITH.

1. **The Suprarenal Capsules.**—Schäfer, in the first of the Oliver-Sharpey lectures, begins by giving the history of the investigation of the suprarenal capsules, and also a brief account of their structure and development. The work of many observers, beginning with Oliver, has shown that the suprarenal capsules, and to a less extent the pituitary body, yield to glycerin and to water and saline solutions, principles which have an extraordinary effect upon the tone of the heart and arteries, transcending that of any known drug. The active principle is a substance of relatively simple constitution: It may be boiled for a short time without deterioration, is dialysable and insoluble in absolute alcohol, and is not destroyed by acids or gastric juice. For this substance the author suggests the name "adrenin" in preference to the proprietary term "adrenalin." Nothing is known as to the substances from which adrenin is formed in the organism, but it has been suggested that one of these may be tyrosin, which undergoes transformation into adrenin under the influence of a ferment in the suprarenal.

2. **Serum Therapy of Plague.**—Choksy's paper is based on the results obtained during the last two and a half years by thirty observers in different parts of India. The main conclusion deduced is that in the Yersin-Roux antiplague serum we possess a useful and efficacious remedy against the plague. The absence of all antitoxic action is responsible for its limited utility. It must, however, be pointed out that a disease like plague, with a mortality of 80.9 per cent., is not likely to yield to serum therapeutics as well as diphtheria has done. The whole secret of the treatment lies in applying the serum very early. Among patients subjected to this treatment within the first few or even twenty-four hours, it is noticed that the whole course of the disease becomes altered, the normal duration of eight or ten days is reduced to four or five, serious complications of the nervous, circulatory, and other systems are averted, the buboes become absorbed, and convalescence is rapid. If the serum is given between twenty-four

and forty-eight hours after the onset of the disease its action is not so well marked and after the expiration of forty-eight hours it does not appear to influence the course of the disease perceptibly. Small as these gains appear, they are not to be despised in a disease so virulent as plague.

3. **Cats and Plague.**—Buchanan is firmly of the belief that the best way to prevent plague is to keep cats. Plague is spread by rats, and without rats there will be no epidemic. Inoculation against the disease in order to prevent its spread is efficient only for a few months; it does not strike at the root of the trouble, and, further, is not an absolute preventive. It causes sore arms, fever, and absence from work, is greatly objected to by the people, and is not favored by tradition or religion. It is very expensive, a large establishment being required, as it is necessary to inoculate every member of every household. The extensive keeping of cats as preventive of the disease is, on the other hand, of permanent efficiency. The root of the trouble is destroyed, and once the number of cats is sufficient and all rats killed, then all risk of plague is abolished. The cost is *nil*, as no establishment is required—one cat protects a household. And finally there is a very strong tradition in favor of keeping cats, the only exception being the Parsees and Bhowani Dhers. Shotgun quarantines and disinfection are useless, and will continue to be so until proper steps are taken to destroy the rats.

4. **Kala Azar.**—Brahmachari defines kala azar as the disease caused by the Leishmann-Donovan bodies. Hindus are more frequently affected by the disease than Mohammedans, the proportion being about four to one. About one third of the cases are under twenty years of age. Most of the cases are chronic when first seen, with a history of illness for several months, and a spleen extending below the ribs. In many the liver is also moderately enlarged. Our knowledge of the early symptoms of the disease is limited. In one class of cases there is a history of intermittent attacks of fever, lasting for some months, and not benefited by quinine. In another class there is a steady enlargement of the spleen, with only a few attacks of fever. In a third there is a history of attacks of low fever, with progressive enlargement of the spleen. In a fourth the history suggests that of one or two attacks of typhoid fever. In a fifth class there is a history of gastrointestinal troubles, with dysenteric or diarrhetic attacks, followed by œdema of the lower extremities, and aguelike attacks of fever. Other symptoms are progressive emaciation, with anæmia, cachexia, œdema, diarrhœa, dysentery, and hæmorrhages from the skin and mucous membranes. (Edema may appear very early or not until the last. There may be fever of the pyæmic type, with two or more remissions in the twenty-four hours. Among the complications may be mentioned pneumonia, pulmonary tuberculosis, cancer oris, delirium or coma, splenalgia due to infarcts in the spleen, hæmorrhoids which may bleed obstinately and profusely, and large abscesses. The prognosis is always grave. Forty per cent. of the author's hospital cases died, the most frequent cause of death being intractable diarrhœa or dysentery. No drug can kill the parasites.



A prolonged and thorough trial was given to atoxyl in one case, the drug being given for almost six months. The patient improved in general health, there were no symptoms of arsenic poisoning, and no local action of the drug; but the parasites were still to be found in the splenic blood in large numbers. A characteristic feature of the disease is the reduction in number of the leucocytes—this leucopenia may be extreme, and in many cases the proportion of white to red corpuscles is less than one to one thousand. Such a count is almost diagnostic of kala azar. In order that atoxyl may do any good in these cases it must be given in very large doses (gr. xv) every seven to ten days by injection, continued for several months. Splenic puncture for diagnosis is a safe procedure if one uses a hypodermatic needle and does not draw more than one or two drops of blood.

## LANCET.

May 30, 1908.

1. The Present Condition of Our Knowledge Regarding the Functions of the Suprarenal Capsules (Oliver Sharpey Lectures, I). By E. A. SCHÄFER.
2. The Connective Tissue in Carcinoma and in Certain Inflammatory States that Precede its Onset (Hunterian Lectures, III). By V. BONNEY.
3. Analgesia vs. Anæsthesia in Obstetrics and Gynecology. By SIR W. J. SINCLAIR.
4. Hemiatrophia Facialis Progressiva, or Facial Hemiatrophia (Prosopodismorpha): Aplasia Lamineuse Progressive). By J. R. WILLIAMSON.
5. The Treatment of Pulmonary Tuberculosis by a Postural Method, Encouraging Drainage of the Lung and Inducing Artificial Hyperæmia of the Apex. By A. T. T. WISE.
6. A Case of Enteric Intussusception. By F. DEH. HALL.
7. A Case of Pemphigus Vegetans. By C. W. YOUNG.
8. Motoring Notes. By C. T. W. HIRSCH.

2. **Connective Tissue in Cancer.**—Bonney in the third of his Hunterian lectures summarizes the results of his observations on the connective tissue in cancer. The changes in the connective tissue in cancer are identical with those met with in precarcinomatous states. And these precarcinomatous states can be attained by many different routes, starting in inflammatory conditions which histologically are at first quite distinct from each other and which are initially due to entirely different forms of irritant. In short, it is conceivable that the immediate agent of the precarcinomatous states may be identical in them all, although the initial changes in the tissues were due to totally different causes. The carcinoma cell does not act as a specific irritant—indeed, it is probable that it does not act as a tissue excitant at all *per se*. Tumor cells often penetrate beyond the area of tissue cell proliferation, and lie between the tissue elements without exciting any action in them whatsoever. The tissue cell proliferation accompanying a primary carcinoma cannot be regarded as protective, for the following reasons: (a) There is no evidence of any destruction of the active carcinoma by the tissue cells comparable to those seen in break-in bone metastases or in mental tissue implantations. (b) The infiltrative character of the primary tumor is in marked contrast to the circumscription that obtains in permeated lymphatic and in a lesser extent in venous nodules, in both of which latter conditions no tissue

cell proliferation occurs. (c) The tissue cell proliferation results in a rarefaction of the connective tissue in front of the advancing carcinoma cells, in the course of which mechanically resistant structures such as fibrous tissue and elastic fibres become softened and destroyed. On the other hand, while there is no evidence of active destruction of the carcinoma cells by the proliferating tissue cells, neither are there indications of any active destruction of the inflammatory tissue cells by the carcinoma cells. In the older parts of the growth degenerating stroma may be seen, but the epithelial cells are also coincidentally degenerative. Vigor of cancer cells accompanies vigor of tissue cells, and vice versa. The author's final conclusions are: 1. The onset of the ordinary forms of carcinoma is always preceded by a condition characterized by epithelial hypertrophy and certain constant changes in the subepithelial tissue. 2. This precarcinomatous state may be attained through various inflammatory processes, at first quite distinct from one another, but culminating in the same histological picture. 3. The tissue cell proliferation occurring round a primary carcinoma is part of the precarcinomatous process, and materially assists the progress of the growth. 4. There is no histological evidence of a protective reaction on the part of the tissues to the carcinoma cell. 5. Though changes in the adjoining connective tissue bear some very close relation to the cause of epithelial ingrowth, yet, malignancy having been established, the further spread of the tumor is independent of such assistance.

5. **Postural Treatment of Pulmonary Tuberculosis.**—Wise has devised a lying-out chair for patients suffering from pulmonary tuberculosis which they have used with great benefit. This chair consists of two parts—a downward inclined plane, on which the upper part of the body rests, and a lower portion, which supports the knees and feet. In this way a double inclined plane is thus formed, and while the patient gets all the benefit of gravity—drainage of the cavities, etc., in the lung—yet excessive blood pressure in the cerebral vessels is obviated, as the lower extremities of the patient are not raised above the level of the head. In all other previous attempts to invert a patient, congestion of the head has proved a great obstacle to maintaining the position for any length of time. The patient at first uses the inclined plane for only half an hour, three times a day. Later some hours may be spent in this position, either waking or sleeping. In addition to using the force of gravitation for the drainage of corrupt accumulations in the lung, an important modification of the pulmonary circulation is brought about by the forward inclination of the thorax. The apices of the lungs, now in a more dependent situation, have at once a fuller blood supply, and some parts of the pulmonary tissue become relieved from the weight of the heart, which falls forward to be supported by the arms. A decrease in greater accumulation in the dependent tissues of blood which supervenes in the upper and more con-

nervous centres which control the pulmonary vessels, and on the individual rising from the prone position the blood supply to the lungs and other organs will gradually resume its ordinary condition. This go and come of blood surplusage or recurrent hyperæmia is, to the deteriorating apex, what takes place in the normal being under conditions of rest, alternating with healthy plethora caused by vigorous muscular effort. The bactericidal power of the blood circulating actively in a part has been demonstrated, and artificial hyperæmia as a remedial measure has been attempted in various ways. Cases of pulmonary tuberculosis which should not undergo this mode of treatment are those with a tendency to hæmorrhage, those with disease of a pronounced pneumonic type, or with fluid in the pleural cavity.

## LA PRESSE MEDICALE.

May 13, 1908.

1. The Functions of the Liver and of the Spleen in Their Relations to Hæmolytic Icterus, By L. HALLION.
2. Accidents Following the Injection of Quinine, By R. DE GAULEJAC.

### 1. The Functions of the Liver and of the Spleen in Their Relations to Hæmolytic Icterus.

—Hallion asserts that the spleen intervenes more or less in the three varieties of hæmolytic jaundice. In the first variety the hæmolysis is caused by a fault of hæmatopoiesis. The spleen is perhaps one of the organs of hæmatopoiesis and can intervene as such. But it is rather as a destroyer than as a generator of the red blood corpuscles that it appears capable of acting as a cause; an excessive number of destructible red blood corpuscles influence the increase of its work. In another variety of hæmolytic jaundice it is the plasma that destroys the elsewhere normal globules. The spleen receives an excess of hæmoglobin set at liberty, which is stored up and remains in the tissue. There remains the possibility of a third variety in which the spleen is primarily overworked.

2. Accidents Following the Injection of Quinine.—Gaulejac says that the sloughs that follow a very superficial subcutaneous injection can always be avoided if the general condition of the patient is not bad. An abscess almost always follows an intramuscular injection in a patient formerly infected or intoxicated. It follows then that every intramuscular injection of quinine should be given by preference with slowness, in small doses, at a point unaffected by previous treatment, in the gluteal or abdominal regions, and the patient remain quiet and limit as far as possible the number and force of the contractions of the muscles affected during the day following the intervention.

May 16, 1908.

1. The Surgical Treatment of Cancer of the Neck of the Uterus, By FAURÉ.
2. Cardiac Asthenia and its Treatment with Injections of Serum in the Right Dorsal Region, By ALBERT DESCHAMPS.
3. Diabetes Mellitus in Infants, By R. ROMME.

2. Cardiac Asthenia and Its Treatment with Injections of Serum.—Deschamps says that the proper use of injections of serum in minimum dose gives adequate results in the treatment of cardiac asthenia. The injections should be given in the

right dorsal region. This treatment does not exclude the means ordinarily employed of cardiac hygiene or cardiac tonic, but it contributes to the direct stimulation of the pneumogastric and cervical sympathetic nerves and their centres, to sustain the nutrition of the myocardium, and thus to prolong the resistance of the heart, the aim of all therapeutics.

## BERLINER KLINISCHE WOCHENSCHRIFT.

May 11, 1908.

1. Acute Yellow Atrophy of the Liver in Syphilis, By W. FISCHER.
2. Contributions to the Normal Histology of the Cortex of the Suprarenal Capsule, By OSKAR STÖRCK.
3. Some Remarks on Touch Percussion, By WILHELM EBSTEIN.
4. An Atypical Case of Disturbance of Conduction of Stimulation in the Cardiac Muscle, By G. JOACHIM.
5. Contribution to the Pathology of Metabolism in Gout, By W. LAQUEUR.
6. Connection between Diseases of the Nose and of the Nasopharyngeal Space with those of the Eye, By A. ONODI.
7. Concerning the Hæmolysis of the Streptococci, By T. HEYNEMANN.
8. Critical Review of the Action of the Lactobacillus and the Yoghurt Milk, By J. LEVA.
9. Sarcoma of the Prostate (Concluded), By WOLFGANG VEIL.
10. Difficulties in the Diagnosis of Cerebral Tumors, By EDMUND FORSTER.

2. Histology of the Cortex of the Suprarenal Capsule.—Störck says that the overwhelming majority of the so called adenomata of the cortex of the suprarenal capsule have in fact no right to such a designation. The formations of this kind situated at a greater or less distance outside the suprarenal capsule originate in foetal processes of detachment of the cortex, which later in life might be looked upon as hypertrophic new formations of tissue. Similarly there arise foetal and postfoetal formations within the suprarenal capsule, on the inner surface of the cortex and extending beyond its limits. Only circumscribed formations of this kind which present the criterion of continual growth are entitled to the designation adenoma. A distinctive histological diagnosis of the adenoma from the appearance of the cells, perhaps from peculiarities in the size, form, and constitution of the cells and cell bands in contrast to the picture of the physiological paradigm seems to the author scarcely possible.

7. Hæmolysis of Streptococci.—Heynemann alleges that the highly virulent streptococci, such as those productive of puerperal fever, produce on a certain blood agar plate, 5 c.c. agar and 2 c.c. blood, a characteristic clear hæmolytic areola about each colony, and that by this peculiarity virulent streptococci may be distinguished from those which are little if at all pathogenic.

9. Sarcoma of the Prostate.—Veil reports and discusses a case of primary sarcoma of the prostate with metastases in the liver. The sarcoma was spindle-celled and contained also a highly distinctive form of cell, very large, rich in protoplasm, sometimes multinuclear, in the form of long fibres which resembled contractile elements. These cells were not found in the metastases.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 12, 1908.

1. Concerning Focal Symptoms in Diffuse Diseases of the Brain, By SÄNGER.
2. Advances in the Diagnosis of Tumors of the Brain, By KNAPP.
3. Concerning the Use of Gum Arabic as an Addition to the Anæsthetic in Lumbar Anæsthesia, By ERHARDT.
4. Concerning the Demonstration of Typhobacilli in the Cerebrospinal Fluid in Typhoid Fever, By NIETER.
5. Concerning the Signification of Soapy Stools in Infancy, By HECHT.
6. Concerning the Operative Treatment of Hernia in Children, By GROSSMANN.
7. Concerning the Signification of the Reflex of the Tendo Achillis, By CONZEN.
8. Remarks Concerning the Pathogenic Microorganisms "Chlamydozoa," By PROWAZEK.
9. Experiences with and Studies of Lumière's Three Color Photography, By SIEVERS.
10. Treatment of Fractures of the Forearm, By KÄFER.
11. Treatment of the Decubitus, By TELLER.
12. A Congenital Hairy Pharyngeal Polyp, By LEVINGER.
13. Concerning Gastrosocopy, By LÖNING and STRIEDA.
14. Cataplasma Redivivum, By PAULL.
15. Obituary of Geh. Medizinalrat Dr. Baer, By HOPPE.

1. **Focal Symptoms in Diffuse Diseases of the Brain.**—Sänger states that in multiple sclerosis and progressive paralysis focal symptoms play a great part, as they do also in the obscure cases which have been termed by Nonne pseudotumors of the cerebrum. He reports several cases, among them that of a man, sixty-two years of age, who was suddenly attacked with a right sided hemiparesis and disturbance of speech associated with a bilateral choked disc. Nothing wrong could be found with the brain, either macroscopically or microscopically.

3. **Addition of Gum Arabic in Lumbar Anæsthesia.**—Erhardt recommends the addition of three per cent. gum Arabic to a one per cent. solution of tropacocaine for use in lumbar anæsthesia. He does not consider the combination with other narcotics to be advisable.

4. **Typhobacilli in the Cerebrospinal Fluid in Typhoid Fever.**—Nieter alleges that in certain doubtful cases the diagnosis of typhoid fever may be determined by an examination of the cerebrospinal fluid.

5. **Soapy Stools in Children.**—Hecht says that the fat dyspeptic stools of the artificially and breast fed children contain abundant mucus, while on the contrary the soapy stools contain no mucus, as the mucus prevents the soapy appearance. His conclusions concerning the semeiology of the soapy stools are: 1, A moderate degree of disturbance of the resorption of fat must be present; 2, there can be no hindrance to the subdivision of the fat; 3, much acidity must be absent; 4, peristalsis cannot be greatly accelerated; and, 5, much catarrhal irritation cannot be present.

7. **Reflex of the Tendo Achillis.**—Conzen states that he has examined 3,200 cases, and found the reflex of the tendo Achillis lost or reduced only when something pathological could be demonstrated in the nervous or muscular system. Examination of this reflex should never be omitted, because it is as constant a symptom as the patellar reflex, it reacts at least just as sensitively as the patellar reflex to diseases of the nervous system, and frequent-

ly a difference in the tendon reflex may indicate pathological processes in the nervous system.

12. **Congenital Hairy Pharyngeal Polyp.**—Levinger removed from the pharynx of a child six and a half months old a polyp measuring six by one and a half centimetres, covered with skin and numerous fine hairs.

## ANNALS OF SURGERY

May, 1908.

1. Subtemporal Decompressive Operations for the Intracranial Complications Associated with Bursting Fractures of the Skull, By A. CUSHING.
2. Osteoplastic Resection of the Skull, with Description of a Modification of Stellwagen's Instrument for Performing this Operation, By H. C. WOOD.
3. Atlodiscepal Dislocation. A Case of Fracture of the Atlas and Axis, and Forward Dislocation of the Occiput on the Spinal Column, Life being Maintained for Thirty-four Hours and Forty Minutes by Artificial Respiration, during which a Laminectomy was Performed upon the Third Cervical Vertebra, By N. J. BLACKWOOD.
4. Fracture through the Anatomical Neck of the Humerus with Dislocation of the Head, By J. J. BUCHANAN.
5. The Treatment of Dislocation of the Shoulder Joint Complicated by Fracture of the Upper Extremity of the Humerus, with an Analysis of Sixty-three Cases with Fracture at the Neck of the Humerus and Twenty-one Cases with Fracture of the Greater Tuberosity Reported since 1894, By J. M. MASON.
6. A Treatment of Epiphysal Displacements and Fractures of the upper Extremity of the Humerus Designed to Assure Definite Adjustment and Fixation of the Fragments, By R. WHITMAN.
7. Traumatic Subluxation of the Humerus, By F. P. VALE.
8. Occluding Pulmonary Embolism, By W. BARTLETT.
9. Primary Carcinoma of the Hepatic Ducts. The Report of a Case with the Autopsy, By C. L. SCUDDER.
10. The Operative Treatment of Intractable Vomiting, not due to Pyloric Obstruction. Neurosis of the Stomach, By W. MEYER.
11. The Value of Enterostomy and Conservative Operative Methods in the Surgical Treatment of Acute Intestinal Obstruction, with Remarks on the Importance of Operations in Two Stages, By C. A. ELSBERG.
12. The Nonabsorbable Suture and Ligature, By O. H. ALLIS.
13. Report of Saturday Surgical Clinics for Students held at the German Hospital, Philadelphia, 1906 and 1907, By J. B. DEWEY.

1. **Subtemporal Decompressive Operations for the Intracranial Complications Associated with Bursting Fractures of the Skull.**—Cushing finds the following advantages from this procedure: 1. The approach is made through the thinnest available part of the skull. 2. The opening is made under the temporal muscle. When the split fibres of the muscle are closed there is little tendency to bulging of the brain, or to subsequent obtrusive depression. A subsequent defect in this situation is harmless. 3. With rupture of the meningeal or its branches the extradural clot is brought into view and the vessel can be easily ligated. 4. In bursting fractures, with laceration of the brain, the tips of the temporal and base of the frontal lobes suffer most frequently, and subdural extravasation from this source can be most easily removed through an opening in this situation. 5. Since the lines of fracture in these accidents usually seek the midcranial fossa, bleeding from the base can be easily drained from under the temporal lobes through the temporal



fossa. 6. Subsequent edema of the brain can be best met with by an opening in this situation, under the muscle. 7. In addition to promoting subsidence of acute symptoms, these operations also lessen many of the unpleasant signals, such as traumatic neuroses.

2. **Osteoplastic Resection of the Skull.**—Wood notes the great advantage of this method of entering the skull. The instrument devised by Stellwagen marked a great advance in this department of surgery. Its objections were the fatigue which its use entailed to the forearm muscles, the insecurity of the plate upon which the shaft of the instrument revolved, and the free hæmorrhage from the scalp while the bone was being sawn. These objections have been effectively remedied in the author's instrument, which he has used with satisfaction in a number of instances. He asserts for it the following advantages: 1. It enables one to cut an osteoplastic flap quickly and safely. 2. No injury can be done, even if the instrument is used carelessly or clumsily. 3. Every part can be sterilized by boiling. 4. It is always ready for use, and there are no complicated parts to get out of order. 5. It is complete in itself and does not depend upon electric currents, motors, assistants, or anything, but the operator's hands.

5. **The Treatment of Dislocation of the Shoulder Joint Complicated by Fracture of the Upper Extremity of the Humerus.**—Mason offers the following conclusions: 1. Every dislocation of the shoulder, associated with fracture of the upper extremity of the humerus, is a grave injury, and is likely to result in serious impairment of function, if not promptly treated. 2. Every such injury should be subjected to x ray examination. 3. All manipulative efforts at reduction should be gentle, and should never bruise or lacerate the tissues. 4. Excision should be practised only after failure to reduce with open arthrotomy, or when there is extensive comminution of the upper extremity of the humerus, or when, in fracture of the anatomical neck, it is improbable that the upper fragment will unite with the lower. 5. After reduction, the broken tuberosity should be nailed into position, or should be removed, if necessary. 6. Manipulation failing to produce reduction, immediate arthrotomy, and reduction, with suitable treatment of the fracture, are indicated. 7. Rigid asepsis is essential, and the operations should not be undertaken if asepsis is impossible.

#### AMERICAN JOURNAL OF OBSTETRICS.

MAY 1906.

1. The Crime of Gynæcology. By C. W. BARRETT.
2. Preservation of the Ovaries Entire or in Part in Supravaginal or Panhysterectomy. By R. PETERSON.
3. Rupture of the Uterus through the Cæsarean Cicatrix. By G. L. BRODHEAD.
4. Report of Two Cases. (A) Myxosarcoma of the Round Ligament. (B) Fibroma of the Anterior Abdominal Wall. By W. KRUSEN.
5. The Necessity for the Artificial Feeding of Infants. By L. JOHNSON.
6. Menorrhagia and Metrorrhagia (Uterine Hæmorrhage). By T. KUHO.

1. **The Crime of Gynæcology.**—Barrett's conclusions are the following ones: 1. Charity patients in hospitals do not generally have the privilege of choosing their physicians. 2. They should there-

fore be attended by men trained in the care of their particular diseases. 3. One fourth or more of the charity surgical beds are occupied by gynæcological patients. 4. Many gynæcological diseases are not surgical. 5. Gynecologists are prepared and trained to treat pelvic disease. 6. General surgery has other problems for its proper field. 7. Gynecology should be recognized in order that the pelvic diseases of women be efficiently treated. 8. Gynecology is a special department of knowledge. 9. Its clinical teaching should be in the hands of those who are informed on such matters. 10. The Cook County hospital should have a large gynæcological clinic. 11. Many gynæcological cases require both vaginal and abdominal work. The gynæcologist should have the choice of either. 12. If this is not conceded, inefficiency will be the result. 13. The crime of gynæcology is that it stands in the way of the surgeon's economic interest. 14. The crime of general surgery is that it encroaches upon other specialties. 15. This results in less efficient work. 16. The question should be, what is best for the patient? 17. Reforms are necessary in the direction referred to to obtain the best results.

2. **Preservation of the Ovaries Entire or in Part in Supravaginal or Panhysterectomy.**—Peterson's conclusions are as follows: 1. Ten per cent. of those who are still menstruating at the time the uterus and ovaries are removed will not be troubled by the artificial menopause. 2. This percentage will be more than doubled if a portion of ovarian tissue is retained. 3. Symptoms due to the artificial menopause are not severe when the ovaries are not removed with the uterus. 4. A young woman from whom uterus and ovaries are removed does not necessarily have a troublesome menopause. Those who are operated upon between the ages of forty and forty-four suffer the most. 5. It should not be the rule to remove the ovaries with the uterus in those who have passed forty. 6. The severity of the artificial menopause is by the variety of hysterectomy, whether the ovaries are removed or not. 7. The severity of the artificial menopause is uninfluenced whether the uterus and ovaries are removed for fibroid or inflammatory disease. 8. If a portion of the ovaries is retained after hysterectomy, the period of bad symptoms from the menopause will be shortened. 9. The larger the portion of the ovaries retained, the less severe will the menopause symptoms be.

3. **Rupture of the Uterus Through the Cæsarean Cicatrix.**—Brodhead draws the following conclusions. 1. Rupture of the uterus through the Cæsarean cicatrix is of rare occurrence. 2. With prompt operative methods the mortality is comparatively low. 3. When pregnancy follows Cæsarean section the patient can usually be again delivered with safety by the same method. 4. In repeating a section labor should be anticipated by a week or ten days. 5. If section is to be repeated and labor sets in prior to the time elected for operation, the Cæsarean should be performed as soon as possible after the onset of labor pains. 6. Sterilization may be done at the time of section if the patient so desires. 7. Suture of the laceration has proved successful, but in some instances hysterectomy will be the method of choice.

## THE PRACTITIONER.

May, 1908.

1. On Some Points in Connection with Vaccine Therapy and Therapeutic Immunization Generally, By SIR A. E. WRIGHT.
2. Some Observations on the Opsonic Index, with Special Reference to the Accuracy of the Method and to Some of the Sources of Error, By A. FLEMING.
3. Observations on the Opsonic Index in Infants, By J. H. WELLS.
4. Note on the Experimental Error in the Method of Determining the Tuberculoopsonic Index of the Blood, By A. H. WHITE.
5. Statistical Considerations Relative to the Opsonic Index, By M. GREENWOOD.
6. Treatment by Bacterial Vaccines, By A. B. HARRIS.
7. The Value of the Opsonic Index in the Treatment of Pulmonary Tuberculosis, By A. C. INMAN.
8. The Treatment of Pulmonary Affections by the Inoculation of Vaccines Controlled by the Opsonic Index, By J. C. BRISCOE and E. U. WILLIAMS.
9. A Surgical View of the Opsonic Method, By H. S. COLLIER.
10. On the Treatment of Skin Diseases by Inoculation after the Opsonic Method, By A. WHITFIELD.
11. The Treatment of Lupus and Tuberculous Disease of the Ear, Nose, and Throat by Inoculation, By H. F. TOD and G. T. WESTERN.
12. Ulcerative Endocarditis and Its Treatment by Vaccine Therapy, By T. J. HORDER.
13. The Tuberculin (T. R.) Treatment of Tuberculosis of the Genitourinary Organs, By J. W. T. WALKER.
14. The Opsonic Method and Vaccine Therapy in Relation to Diseases of the Eye, By R. W. ALLEN.

2. **Some Observations on the Opsonic Index.**—Fleming summarizes his paper as follows. 1. The variation in the tuberculoopsonic index of healthy individuals is very small, normal serum furnishing a good standard for the comparison of infected persons from day to day. 2. With a diminution of the number of washed corpuscles in the opsonic mixture there is an increase in the amount of phagocytosis. 3. Agglutination of the washed red corpuscles increases the amount of phagocytosis. 4. The tuberculoopsonic index is the same whether washed corpuscles are used from a healthy or tuberculous individual. 5. If red corpuscles are taken up with serum, the amount of phagocytosis is reduced. 6. Serum sealed in a capsule at room temperature retains its full power in healthy blood for a week, and in pathological blood for a day or two less. 7. Blood capsules left open for several hours give untrustworthy readings. 8. Two practised observers counting the same slides can obtain results varying not more than ten per cent. 9. Duplicate estimations of the tuberculoopsonic index of tuberculous patients can be performed, the results rarely differing from each other by less than twenty per cent.

3. **Opsonic Index in Infants.**—Wells draws the following conclusions: 1. A low opsonic index is not diagnostic in children under one year of age. 2. In infants a low opsonic index is not inconsistent with health, and a child may be thriving well with a declining index. 3. Where the opsonic index is low, it will rise in response to the stimulus of an inoculation with bacterial vaccine. 4. Inspection of the results tabulated by the author seems to show that the healthy breast fed infant possesses no advantages over the healthy artificially fed child. 5. The author feels definite in children cannot depend on the opsonic content of the serum.

4. The Experimental Error in the Method of Determining the Tuberculoopsonic Index of the Blood.—White refers to recent attempts to impugn the accuracy of the method of determining the opsonic index of the blood. Of course, no method is free from error, and the error must vary with the worker. This is especially true in a complicated process like this, in which every step is a possible pitfall. If one has imperfectly mastered the details of the procedure the error in determining the opsonic index may be very great. When these details are mastered the experimental error will be insignificant. The author gives a table in which the variations between the counts of the different normals employed on the same day and incubated with different batches are only from four to eight per cent. With increased experience the author believes that this error can be still further lowered.

5. **Statistical Considerations Relative to the Opsonic Index.**—Greenwood thinks that in the present state of the question we can say: 1. There is no valid evidence that the limits of error do not exceed twenty per cent. of the mean value. 2. The skewness of the distributions thus far examined is so great that, in the case of low emulsions, errors in excess are more frequent than errors in defect of the mean. 3. There is reason to hope that with high emulsions the variation may become more symmetrical. The practical suggestions are that (a) high indices should be more carefully scrutinized than low values; (b) that it is better to work with rather thick emulsion, giving an average for the normal serum of not less than three bacilli per cell.

7. **The Value of the Opsonic Index in the Treatment of Pulmonary Tuberculosis.**—Inman finds that: 1. Early or febrile cases of pulmonary tuberculosis may be treated with advantage by means of pure air and graduated exercise. If such treatment is used it must be remembered that tuberculin by autoinoculation is being employed. 2. The opsonic index is a valuable guide to such treatment and also gives useful information if inoculations of Koch's tuberculin are employed. 3. Rest is essential in febrile cases of consumption, and in these cases injections of tuberculin, using as a guide the opsonic index, is the proper treatment. The latest methods of treating consumption are those which cooperate with the natural methods employed by the body itself for its own protection and defense. Both in febrile and afebrile cases a watch is kept over the blood by the opsonic index.

9. **A Surgical View of the Opsonic Method.**—Collier states that he was formerly opposed to this method for diagnostic and prognostic purposes, but that he was converted by several cases in which the opsonic method was successful as compared with methods previously in use. It must be remembered that with opsonins, if such substances really exist, there is no such accuracy of treatment as is obtained by chemistry. In eleven specimens of blood from a patient with influenza, the white cells were sent to ten laboratories, the results varied between 84 and 114. A case of myeloid leukaemia with this result is not far from the truth in the present organism. A case like a few in a group of leukæmic tumours, in which the white cells

cases. If an operation is contemplated, a period of low opsonic index will usually offer the best results. The author recommends that surgeons be clinically associated with opsonists.

#### ARCHIVES OF PÆDIATRICS

May, 1908.

1. A Case of Anorexia Nervosa in an Infant.  
By J. P. C. GRIFFITH.
2. Kidney Lesions in the Infant. Pathological Aspects.  
By R. L. THOMPSON.
3. Kidney Lesions in the Infant. Clinical Aspects.  
By J. M. BRADY.
4. The Calculation of Milk Percentages with Rules and Examples.  
By H. E. HALE.
5. Empyema and Gangrene of the Lung Complicating Typhoid Fever.  
By D. J. M. MILLER.
6. The Indication for Stimulants in Pædiatric Practice.  
By SARA WELT KAKELS.
7. Hydrotherapy in Childhood.  
By F. GROSSE.
8. The Use of Analgesics in Pædiatric Practice.  
By LE GRAND KERR.

2, 3. **Kidney Lesions in the Infant.**—*Pathological Aspects.* Thompson states that literature on the infant kidney is scanty. Pathologically kidney lesions may be acute or chronic; they may also be degenerative, exudative, or proliferative. The author analyzes the kidney conditions in fifty autopsies upon infants as follows: In one case there was congenital narrowing of the ureter at its vesical insertion. In one case there was abnormal hyperplasia of the pyramidal portion of a foetal lobe in one kidney. Uric acid infarcts were frequent in those who had died within three weeks from birth. Three calculi were found in the pelvis of one kidney, composed of acid urate of ammonium. Small cysts connected with the tubules and glomeruli were found in five cases. Congestion was frequently observed in the capillaries between the convoluted tubules, the glomeruli and their interspaces being filled with blood. Thrombi of fibrin were found in the junctional veins. Severe exudative and proliferative lesions were not found, but degenerative changes resulting in albumin and casts were frequent. Microscopically there were frequent examples of cloudy swelling of the tubular epithelium. In many of the glomerular tufts there was an increase in cells, but not so as to constitute glomerular nephritis. The conclusion is that marked disturbances of circulation and slight or moderate degenerative processes are very common in the infant kidney. *Clinical Aspects.* Brady quotes Baginsky as to the importance of kidney lesions in infants in diarrhoea. The convulsions which so often end such cases are frequently uræmic. Morse thinks true nephritis a rare complication of dysentery, but that degenerative changes of the epithelium due to bacteria and their toxins are not infrequent. Vaccinia, pneumonia, and malaria are mentioned as forerunners of nephritis. Nephritis is often complicated with congenital syphilis, again it may be excited by potassium chlorate, salicylic acid, and carbolic acid, and the irritating action of metabolic products may cause it in connection with marasmus and rickets. With albuminuria, which is almost constantly present in infants, are often found hyaline and epithelial casts. Hæmaturia may be present as the result of scorbutus, purpura, uric acid infarcts and calculi, pyelitis, tumors of the kidney, and acute

nephritis. Holt states that acute nephritis in infants is not so rare as might be supposed. Neither casts and albumin nor œdema and anasarca are necessarily evidences of nephritis in infants. The disease usually tends to complete recovery.

### Proceedings of Societies.

#### THE ASSOCIATION OF AMERICAN PHYSICIANS.

*Twenty-third Annual Meeting, Held in Washington, May 12 and 13, 1908.*

The President, Dr. JAMES TYSON, of Philadelphia, in the Chair.

(Concluded from page 1126.)

**Cases of Relapsing Fever, with Demonstrations of the Spirochætæ in the Blood of Patients and of Inoculated Rats.**—Dr. JOHN W. HUNTER and Dr. THOMAS A. COPE, of Philadelphia, reported two cases of relapsing fever. Both patients were natives of Turkey; the first patient had arrived in Philadelphia from France and had slept with the second patient; on three of the nights he had had fever. Ten days after the patient was exposed to infection from the first patient he was admitted to the hospital. In one of the patients the leucocyte count was normal; in the other there was a leucocytosis of 15,000. The authors believed that the spirochætæ belonged to the bacteria. They had not succeeded in demonstrating cilia on them, or in cultivating them except for a short time in rats, where a few organisms were seen; they had been unable to inaugurate bedbug experiments. The organisms disappeared from the peripheral blood in both cases when the crisis occurred.

**The Action of Purgatin on the Kidneys.**—Dr. FRANZ PFAFF, of Boston, said that purgatin had been alleged to be the best of all the organic purgative compounds synthetically prepared. It was said that it did not produce griping, and, although excreted by the urine, that it did not cause renal irritation. Pfaff had studied the action of purgatin on dogs, cats, rabbits, and guinea pigs. Dogs and cats were not affected by it; rabbits and guinea pigs, on the other hand, were affected by the drug. The intestines and the other internal organs were discolored at autopsy, after the animals had lost weight and died of exhaustion. In nine out of ten rabbits there was marked acute nephritis. In dogs there was no acute nephritis. The experiments showed that purgatin did cause acute Bright's disease and death in certain animals. It might cause irritation of the kidneys in certain human beings and ought not to be used in therapeutics.

#### THERAPEUTICS.

**The Therapeutics of Self Repair.**—Dr. S. J. MELTZER, of New York, said that millions of men have meddled with the phenomena of life for hundreds of years without the proper knowledge of the organism or its physiology; but no serious results had followed, because of the power of the organism to recover from its own disorders. The power of automatic repair was not even now thoroughly appreciated. Therapeutics was the most important part of



medicine, and contempt for treatment was an anomaly. It was the duty of the physician to discover artificial remedies; not to depend entirely upon the fact that self repair was possible. Therapeutics might be divided into, first, rational therapeutics, which was inactive; and, second, empirical therapeutics, which was active but unreliable. The attempt to produce immunity was the most rational of the therapeutic procedures. The signs of inflammation were considered as attempts at self repair, and all these signs were employed in therapeutics as aids in the correction of inflammatory conditions—for example, Bier's method of artificial hyperæmia, the artificial production of leucocytosis, the artificial production of fever, and the artificial injection of sterile pus. The methods followed by Nature for the repair of injuries to the organism should not be followed strictly by the therapist, however, but they should be improved upon if possible. We should not make the patient uncomfortable for mere theories, but we should attempt to make life bearable as well as to save life. The phenomena of disease should be treated even if they belonged to the phenomena of self repair, provided they made the patient miserable. The fact of continuous recoveries was an argument in favor of rational therapeutics, both physiological and pathological.

**Dietetic and Hygienic Therapeutics.**—Dr. DAVID L. EDSALL, of Philadelphia, said that there was a growing tendency to condemn drug treatment and to laud hygiene and diet as therapeutic measures. The majority of young men, however, got better results from drugs than from diet and hygiene, because they used drugs more rationally. This was due to the point of view of the student, who was instructed systematically in drug therapeutics, but not in the rationale of hygiene and diet. The student overlooked the importance of the commonplace, particularly the things that occurred in relation to occupation. He was unable to correlate his scientific and practical knowledge. In dietetics the great fault was that of treating the name of the disease rather than the disturbance of function, and foods were often used without a knowledge of their nutritive value.

**Organotherapeutics.**—Dr. REID HUNT, of Washington, said that organotherapy was the utilization of the internal secretions. The present tendency was to study the rôle of the hormones in the body, to attempt to obtain them in a suitable form for therapeutic purposes, and to try to influence them as they occurred in the body. The secretion of the suprarenal body was the typical example of a hormone. There had not recently been much advance in thyroid therapy, but the discovery of the independent function of the parathyroids was of great importance. The recognition of the uses of a liquid waste product, such as carbon dioxide, the rôle of the internal secretion of the organs of reproduction; and the discovery that embryos produced an internal secretion which appeared to exercise a restraining influence on malignant growths were of great importance. The substances offered for therapeutic purposes were about the same as they had been one hundred years ago, and they were advertised in much the same language as was used a century ago. Many hormones might in the future be made synthetically, and the synthetic product would probably

be better than the natural hormone. The only function of certain organs was to produce hormones; in other cases the organ also destroyed poisons. As an example of the possibility of influencing the production of hormones in the body the author referred to the effect of hydrochloric acid on the mucous membrane of the duodenum, the influence of the x rays on the internal secretion of the ovary, and the influence of iodine on the secretion of the thyroid body. The activity of extracts of the thyroid body depended upon the iodine contained in them. Investigations conducted by the author had shown that "protonuclein" was, to all intents and purposes, desiccated thyroids, and so unsafe.

**Serum Therapeutics, Including Treatment with Specific Vaccines.**—Dr. MARK W. RICHARDSON, of Boston, reviewed the results with the various sera that were in common use at the present time. He spoke of the use of fresh normal serum in doses of fifteen to twenty cubic centimetres in the treatment of hæmorrhage and of the hæmorrhagic diathesis. He referred to the serum treatment of actinomycosis, anthrax, carcinoma, cerebrospinal meningitis, cholera, colon infections, diphtheria, bacillary dysentery, erysipelas, gonorrhœa, plague, pneumonia, sarcoma, snake poisoning, tuberculosis, etc. He spoke of the treatment of cerebrospinal meningitis, colon infections, gonorrhœa, staphylococcus and streptococcus infections, tetanus, and tuberculosis with bacterial vaccines. In Dr. Richardson's own service, in Boston, the treatment of 132 cases of typhoid fever with typhoid products had reduced the relapses from twenty to five per cent. He thought that the determination of the opsonic index was unreliable as a guide to the administration of bacterial vaccines.

**Psychotherapeutics.**—Dr. LEWELLYS F. BARKER, of Baltimore, read a paper on this phase of the therapeutic art. He reviewed the psychotherapeutic methods, both the conscious and the unconscious ones, practised in the past, as well as those practised at the present time. He described those methods that were used in a legitimate way as well as those that were used illegitimately. He said that psychotherapy was also physical therapy, and probably psychophysical therapeutics would be a better name for the collection of methods which made up the subdivision of therapeutics under consideration. Mesmerism, hypnotism, isolation, suggestion, persuasion, and inspiration of authority all belonged to the class of measures referred to. The use of psychotherapeutic means should always be preceded by an accurate diagnosis.

**The Radical Cure of Constipation by Psychotherapy.**—Dr. IRVING P. LYON, of Buffalo, described his method of treating chronic constipation. He considered the disorder to be, generally, a simple psychoneurosis which altered or obstructed the normal innervation of the intestine. The faulty nerve control was further intensified by dependence upon cathartics, so that there were two bad habits to correct instead of one. Drugs, he regarded as unnecessary in the treatment of the disorder if not positively harmful, and the attention of the physician should be given to instructing the patient how to get himself into the habit of having a regular stool daily. Dr. Lyon reported sixty-seven cures out of sixty-nine attempts.

**Physical Therapeutics.**—Dr. R. TAIT MCKENZIE, of Philadelphia, said that exercise as a therapeutic agent should include all means by which the body might be acted upon by movements, active or passive, with or without the aid of apparatus. Active exercise included games which preserved and cultivated the old coordinations of throwing, catching, striking, climbing, running, and leaping necessary for complete development of the individual, difficult to get naturally under city conditions. This form of exercise might be subdivided into exercises of effort and exercises of endurance. Exercises of effort were contraindicated in cases of arteriosclerosis, advancing age, valvular heart lesions, and active tuberculosis of the lungs. Exercises of endurance were contraindicated in cases of anemia or cachexia from any cause. In sound young men exercises combining both effort and endurance were productive of no evil after effects. In duplicate movements the direction of the movement was controlled and the resistance was prescribed; in other words, the dose was measured. The advantages of this method were its accuracy, the possibility of specializing on isolated muscle groups, and the possibility of stretching contracted parts beyond what was possible by the voluntary power of the patients. In passive movements no will power was required, and the action on muscular nutrition was mechanical. These movements, as was well known, came under the heads of massage and mechanotherapy. The speaker then took up the various diseases in which the different methods of exercise were applicable. In conclusion, he said that exercise in its application to pathological conditions of posture, circulation, nutrition, and the nervous system must depend for success on accuracy of dose, persistence in following out the treatment prescribed, and the careful observation of the patient by a competent observer during the course of the treatment.

Dr. HOBART A. HARE, of Philadelphia, said that there was a wide breach between experimental pharmacology and bedside experience, and that the greater success of the older man depended upon this experience. The ability of the body to adjust itself to the onslaught of disease and the active medication of disease could but be apparent to any one who was at all observant. The accepted pharmacological action of a drug might not be its true physiological action. Some drugs must influence the metabolic processes. The administration of antitoxines and bacterial vaccines converted the patient into a battlefield between the invading organisms and the antitoxines, and they should be used with great care. The adoption of psychotherapeutic measures should not lead to the exclusion of other satisfactory methods. He would urge that, in addition to the encouragement of research to produce new drugs, we should not give up methods of treatment which had been uniformly successful in the hands of our forefathers.

Dr. M. J. ROSENAU, of Washington, said that the administration of ether, referred to by Dr. Meltzer, did not save life when life was imperiled by the phenomenon of anaphylaxis.

**The Clinical Value of the Tests of von Pirquet and Calmette, Based upon Personal Observation.**—Dr. CHARLES L. GREENE and Dr. FRANK E. BURCH, of St. Paul, gave an account of the prac-

tical utility of the cutaneous and ophthalmic tuberculin tests, based upon their experience in eighty-three cases. The patients were all over eight years of age. The authors concluded that the reactions were comparable to that of the old injection test with tuberculin; that the two tests ran parallel; that both tests were active, but that the subcutaneous test was the more reliable; that all patients with tuberculosis reacted; that the late reaction was more common in cases of arrested tuberculosis; that advanced cases with a low resisting power gave a slight reaction; that a failure to react was of great clinical value; that the tests were of genuine clinical service; that the reported bad results following the ophthalmic test indicated the necessity for caution in its application; and that relatively few persons reacted who did not show tuberculosis on careful examination.

**A Comparison of the von Pirquet, Calmette, and Moro Tuberculin Tests and their Diagnostic Value.**—Dr. SAMUEL MCC. HAMILL, Dr. HOWARD CHILDS CARPENTER, and Dr. THOMAS A. COPE, of Philadelphia, reported the results obtained in 134 cases in children under complete control, in one of the orphan asylums in Philadelphia. The tuberculin was prepared in one laboratory, by a uniform method, the doses were uniform, and all the patients were subjected to a careful physical examination after the tests were made. All the patients were under eight years of age. They had found uniformity of reaction with all three methods. The conjunctival test was sometimes followed by serious inflammations of the eye with subsequent loss of vision. The cutaneous and the ointment tests were both better than the ophthalmic test. The ointment test offered the further advantage that it did not furnish a portal of entry for secondary infections through abraded surfaces. They considered that all these methods were of less value than it had been hoped they would be for the diagnosis of the irregular forms of tuberculosis; that a negative reaction was of more value than a positive one; and that the type of the reaction bore no relation to the type of the disease.

**The Ophthalmotuberculin Reaction; A Warning.**—Dr. M. J. ROSENAU and Dr. JOHN F. ANDERSON, of Washington, said that the normal conjunctiva might be sensitized by the instillation of tuberculin. After fifty-one days a second instillation in one case was followed by a rapid and severe reaction. Such a reaction had no clinical significance, because a tissue which responded to ordinary irritants so quickly as the conjunctiva would concentrate the immunizing forces upon the spot at which the material was applied.

Dr. W. P. NORTHRUP, of New York, said that he considered the ophthalmotuberculin reaction dangerous, but believed that the cutaneous test was reliable.

Dr. HAMILL said that in his tests he had used three points of inoculation; one for the Moro test, one for the von Pirquet test, and the third for salt solution as a control.

Dr. W. R. BALDWIN, of Saranac Lake, N. Y., said that the amount of tuberculin used in the test should be as small as possible, so as to prevent the

reaction of nontuberculous patients. The tests did not appear to offer any prognostic aid.

**Tronchin. A Sketch of His Life.**—Dr. F. C. SHATTUCK, of Boston, read a sketch of Tronchin, whom he described as a great practitioner, who never wrote a book, and who was, consequently, almost unknown.

**Fatigue in School Children as Tested by the Ergograph.**—Dr. R. G. FREEMAN, of New York, said that the theory as usually stated was that school children possessed a power for increased work from morning till noon, that the working power lessened during the noon hour, and that it was lowest when the children left school in the afternoon. In children whom he had tested in the New York public schools, he had not found evidences of fatigue with the ergograph. He said that the Crampton test was of no value and neither was the Storey ergograph in testing for fatigue in school children. He thought that an ergograph might be of some value in "trying out" children so that the day might be modified for those who did show fatigue.

**Ascitic Exudate in Typhoid Fever.**—Dr. ALEXANDER MCPHEDRAN, of Toronto, reported six cases of typhoid fever in which ascites occurred without demonstrable peritonitis. All the patients recovered.

**Further Observations on the Pleural Reflexes.**—Dr. JOSEPH A. CAPPS and Dr. D. D. LEWIS, of Chicago, described further experiments on the influence of mechanical and chemical irritants on the blood pressure of dogs when they were applied to the pleuræ. In a series of dogs with normal pleuræ and in a second series with artificially induced pleurises, the pleural cavities were washed out with various solutions. Fifty cubic centimetres of fluid were used in each case. If this solution was very irritating, it was subsequently washed out with sterile water. Hot water alone was used in eight cases of normal pleuræ, with no fall in the blood pressure, and in five cases of empyema, with no fall; cold water was used in four normal pleuræ, with one fall of pressure, and in four cases of pleurisy, with two falls; formalin and glycerin were used in eleven normal pleuræ, with four falls, and in eleven cases of pleurisy, with six falls; a one per cent. solution of iodine (Lugol's solution) was used in six normal pleuræ, with one fall, and in nine cases of pleurisy, with two falls; hydrogen peroxide was used in nine cases of normal pleuræ, with one fall, and in eleven cases of pleurisy, with six falls. The pleura seemed to be supplied with nerves that communicated with the depressor nerves of the heart. In cases of pleurisy the action of these nerves was increased, so that it was not altogether safe to use these solutions on the human subjects.

Dr. F. C. SHATTUCK, of Boston, asked if the authors had used a solution of chlorinated soda in their experiments, a solution used by some surgeons for irrigating the pleural cavity in cases of empyema.

Dr. S. J. MERRILL, of New York, said that it was an interesting fact that the nerve fibres distributed to a surface covered with fibrin had a more pronounced action than the fibres distributed to a normal pleura.

Dr. CARRIE said that in some of their experiments there had been a rise of blood pressure, but the important point in their studies was the decrease in

of the fact that in some cases the blood pressure did fall. It was in these cases that there was danger.

**Acute Pancreatitis.**—Dr. JOSEPH SAILER, of Philadelphia, described some experiments that he had conducted, in conjunction with Dr. C. B. FARR and Dr. JOHN SPEESE, in order to produce pancreatitis. He suggested that in acute pancreatitis certain ferments might escape from the pancreas and exert their fat splitting function on the neighboring tissues. The method of the production of this result was not understood. Almost any foreign substance injected into the duct of Wirsung, with ligation of the duct, would produce it, and, in some cases, ligation of the duct alone was followed by it. In a case of acute pancreatitis, produced by the injection of oil and the ligation of the duct, which was followed by death in twelve hours, the necrotic pancreas was emulsified and injected into guinea pigs. Four of these animals died, but there were no toxic effects. Dogs were injected with this emulsified pancreas, and when they were moribund they were bled and their blood serum was injected into guinea pigs. The guinea pigs died. There was no evidence of bacterial infection. The necrosis of the pancreas was most marked near the bloodvessels. Normal blood serum did not produce the same results. It appeared that a partial immunization could be produced after two or three injections of small amounts of the dog serum. The serum of the dogs injected with emulsified pancreas was more toxic than the serum of normal dogs. The lesions produced were not like any others described.

**Some Clinical Features of Pancreatitis.**—Dr. JOHN H. MESSER, of Philadelphia, described the clinical findings in nine cases of acute pancreatitis. Trauma was an ætiological factor in one, gallbladder disease in eight. There was epigastric tumor in seven, diarrhoea in six, acute anæmia in five, leucocytosis in the six cases in which a blood count was made, shock in six, dyspnoea in eight, and a rapid pulse in all. Cammidge's test was positive in the last four cases.

Dr. REGINALD FITZ, of Boston, said that not much had been added to the methods of diagnosis in cases of pancreatitis in recent years. The work of Dr. Sailer was suggestive because the injection of animals with the serum of a suspected patient might be developed into a diagnostic method.

Dr. WILLIAM H. WELCH, of Baltimore, asked whether Dr. Sailer had tested the toxic action of the serum of his dogs on other dogs. Dog serum was normally toxic for guinea pigs, and it was possible that the results obtained by Dr. Sailer might be those of any alien serum. He would be inclined to doubt the diagnostic value of injection of human serum into animals in suspected cases.

Dr. S. J. MERRILL, of New York, referred to the report of the autopsy on Professor von Bergmann, which seemed to point to acute pancreatitis as the cause of von Bergmann's death.

**Hypernephroma with Metastasis to the Sternum Simulating Aneurysm of the Aorta.**—Dr. ARTHUR A. LINDEN, of Philadelphia, reported the case of a woman aged sixty years, who died of anæmia, and in whom a diagnosis of hypernephroma, accompanied by metastasis to the sternum, had been made. There was a possibility that the tumor of the sternum was the



sternum, in the line of the aorta, which gave a systolic murmur on auscultation. After death this tumor was found to involve the sternum and ribs and was seen to be a metastatic growth secondary to a hypernephroma. There were other secondary growths in the lungs, the uterus, and the liver.

Dr. CHARLES G. STOCKTON, of Buffalo, referred to a case of hypernephroma in which there was intermittent fever. The symptoms of hypernephroma were not unlike those of other malignant tumors.

**The Importance of the Consideration of Negative Results in Blood Cultures.**—Dr. E. LIBMAN, of New York, described the results of systematic blood cultures in 1,500 cases of fever made in the Mount Sinai Hospital in New York. In cases in which the blood culture was negative the disease might be due to an organism not easily cultivated; the organism might not be present in the blood when the culture was made; the organism might not be demonstrable; or the organism might have disappeared from the circulation after the local lesion had been operated upon. In local infections of various kinds, when the local lesion was out of the general blood current, there might be no bacteriæmia. In cases of suspected typhoid fever a negative culture should lead to the suspicion of another disease. A negative blood culture was valuable in the diagnosis of acute articular rheumatism. In a case of local infection with severe constitutional disturbance a negative blood culture indicated that there was no general infection. There was a general infection only when bacteria were found in the blood. A negative blood culture excluded acute ulcerative endocarditis. In chronic endocarditis with fever a negative blood culture was of value in excluding a fresh infection. A negative culture was of value in the diagnosis of infective thrombosis of the veins.

Dr. WILLIAM H. WELCH, of Baltimore, said that when bacteria were found in the blood in the human subject their significance was not the same as when they were found in the blood of the lower animals suffering from septicæmia. In the latter instance the organisms were actually multiplying in the blood stream. In human pathology, on the other hand, the organisms were usually swept into the blood current and were not actively multiplying there.

Dr. LIBMAN said that he had reached the conclusion from his studies that bacteria were found in the blood only when the original focus of the infection ruptured into the blood stream. The organisms were found in the blood all the time in cases of acute ulcerative endocarditis.

**Obstruction of the Superior Vena Cava in Graves's Disease.**—Dr. CHARLES G. STOCKTON and Dr. ALBERT E. WOHNERT, of Buffalo, reported the case (to be published).

Dr. WILLIAM H. WELCH, of Baltimore, asked whether the patient had shown tricuspid regurgitation.

Dr. ABRAHAM JACOBI, of New York, asked whether the enlarged thyroid body had interfered with the venous circulation.

Dr. STOCKTON said that there had been no tricuspid lesion found at the autopsy. The thyroid apparently did not obstruct the veins. The process was not, strictly speaking, a terminal one.

**The Relation of Anaphylaxis to the Toxæmia of Pregnancy.**—Dr. M. J. ROSENAU, of Washing-

ton, said that in his experiments on the phenomenon of anaphylaxis he had found that the guinea pig could not be sensitized with the blood of foetal guinea pigs. The placental juice of the guinea pig, however, when injected into the mother, would sensitize the animal to the placental juice. In man it might be that the toxæmia of pregnancy was due to poisoning with placental cells.

Dr. VICTOR C. VAUGHAN, of Ann Arbor, Mich., said that he had been struck with the resemblance between anaphylaxis and eclampsia.

Eight other papers were read by title.

The following active members were elected: Dr. E. R. Baldwin, of Saranac Lake, N. Y.; Dr. J. A. Capps, of Chicago; Dr. Theodore C. Janeway, of New York; Dr. L. A. Conner, of New York; Dr. R. G. Freeman, of New York; Dr. J. Dutton Steele, of Philadelphia; Dr. Joseph Sailer, of Philadelphia; Dr. H. C. Moffitt, of San Francisco, and Dr. W. F. Hamilton, of Montreal.

The following associate members were elected: Dr. Harlow Brooks, of New York; Dr. J. Alison Scott, of Philadelphia; Dr. W. T. Longcope, of Philadelphia; Dr. J. C. DaCosta, of Philadelphia; Dr. Rufus I. Cole, of Baltimore; Dr. T. A. Claytor, of Washington; Dr. L. Brown, of Saranac Lake, N. Y.; Dr. Victor C. Vaughan, Jr., of Detroit; Dr. J. T. Halsey, of New Orleans, and Dr. C. H. Bunting, of Madison, Wis.

The following officers were elected for the coming year: President, Dr. Victor C. Vaughan, of Ann Arbor, Mich.; vice-president, Dr. Henry Hun, of Albany; secretary, Dr. George M. Kober, of Washington; recorder, Dr. S. Solis-Cohen, of Philadelphia; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia; councillor, Dr. S. J. Meltzer, of New York; representative on the executive committee of the Congress of American Physicians and Surgeons, Dr. F. H. Williams, of Boston (alternate, Dr. W. S. Thayer, of Baltimore).

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Principles and Practice of Hydrotherapy.* A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By SIMON BARUCH, M. D., Professor of Hydrotherapy in Columbia University (College of Physicians and Surgeons), New York, etc. Third Edition, Revised and Enlarged. With Numerous Illustrations. New York: William Wood & Co., 1908. Pp. 544.

Scientific hydrotherapeutics has rapidly come to the foreground during the last twenty-five years, and its representative in America is Dr. Simon Baruch, of New York. A book on hydrotherapy from his pen is therefore a well authenticated report on this branch of therapeutics, which is now represented by a department of the Vanderbilt Clinic of the College of Physicians and Surgeons, Columbia University, probably the first school of medicine in America to make hydrotherapy an obligatory study in its curriculum.

Although the book before us is the third edition, we deem it proper to review it at some length, as we have not done so before.

It is divided into two parts, the first part treating, in ninety-five pages, of the physical properties of water and its mode of action in health. The second part deals, in 422 pages, with the practice of hydrotherapy. It contains descriptions and rules of applying water in disease, and then goes into fuller detail as to treatment of diseases, giving the reason for each procedure and its therapeutic indications, with reports of cases. We thus find that Baruch discusses water in the treatment of typhoid fever, measles, scarlatina, pneumonia, enterocolitis, Asiatic cholera, sunstroke, anæmia and chlorosis, phthisis, diabetes, malarial diseases, neurasthenia, neuralgia, hysteria, rheumatism and gout, dyspepsia, and insanity. A full chapter is devoted to hydropic prescriptions. The last chapter of the book gives an historical sketch of hydrotherapeutics. The book may well be recommended to every practitioner.

*The Sexual Question.* A Scientific, Psychological, Hygienic, and Sociological Study for the Cultured Classes. By AUGUST FOREL, M. D., Ph. D., LL. D., Formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich (Switzerland). English Adaptation by C. F. MARSHALL, M. D., F. R. C. S., Late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Illustrated. New York: Rebman Company, 1908. Pp. 536.

Dr. Marshall has produced a very valuable translation of Forel's *Question sexuelle*, which we reviewed in our issue of July 6, 1907, page 46. The translator as well as the publishers is to be congratulated on having made, through this English version, the French work accessible to a much wider circle of readers. The book is such that, although we may not agree to all of Forel's conclusions, it should be read by every one interested in not only the scientific but also the sociological side of the sexual question.

*The Operations of General Practice.* By EDRED M. CORNER, M. A., M. C., M. B. (Cantab.), B. Sc. (London), F. R. C. S. (England), Surgeon in Charge of Out Patients at St. Thomas's Hospital and to the Children's Hospital, etc., and H. IRVING PINCHES, M. A., M. B., B. C. (Cantab.), M. R. C. S., L. R. C. P. (London), Clinical Assistant to the Children's Hospital, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. xii-206. (Price, £5.50.)

The authors have presented in this volume an excellent manual of the minor surgery that the general practitioner is called on to perform and that he is too frequently unfamiliar with, because it was so insignificant that it was not brought into his surgical course when he was in college. The operations are described under the several anatomical regions, and the book will serve a very practical purpose.

Miscellany.

**How to Enter the Naval Medical Corps.**—We quote the following from the official circular for the information of persons desiring to enter the Medical Corps of the United States Navy:

A candidate for appointment in the Medical Corps of the navy must be a citizen of the United States, between twenty-one and thirty years of age, and must apply to the Honorable Secretary of the Navy for permission to appear

before a naval medical examining board. The application must be in the *handwriting of the applicant*, stating age and place of birth; also the place and State of which he is a permanent resident, and must be accompanied by letters or certificates from two or more persons of repute, testifying from personal knowledge to his good habits and moral character, and that he is a citizen of the United States.

## FORM OF APPLICATION.

(This form is not to be filled in here, but copied on a separate sheet.)

SIR—I request permission to be examined for an appointment as assistant surgeon in the United States Navy.

I was born at....., and was..... years of age on the..... day of....., 190 , and am a citizen of the United States, residing in..... county of..... in the State of.....

I inclose herewith certificates as to moral character, habits, and citizenship.

Very respectfully,

The Honorable Secretary of the Navy,  
Navy Department, Washington, D. C.

If, in reply, the candidate receives a permit, he will notify the president of the naval medical examining board at the U. S. Naval Medical School, Washington, D. C., or at the U. S. Naval Hospital, Mare Island, Cal., the only places where the examinations are held, stating approximately the time at which he desires to be examined and requesting that a date be fixed for his examination.

## THE EXAMINATION

When a candidate presents himself for examination on the date fixed by the president of the board, he must bring with him testimonials as to character and professional fitness, diplomas, and a certificate that he is a citizen of the United States. While it is not essential, it is desirable that candidates should have had hospital experience or at least a year's practice in their profession. The examination usually occupies about nine days, and is conducted in the following order: I.—Physical. II.—Professional. III.—Collateral.

### I.—PHYSICAL EXAMINATION.

The physical examination is thorough, and the candidate is required to certify, on oath, that he is free from all mental, physical, and constitutional defects. Acuteness of vision, 12/20 for each eye, unaided by glasses, but capable of correction by each eye of lenses to 20/20, is obligatory. Color perception must be normal and the teeth good. If the candidate is found to be physically disqualified his examination is concluded; if found to be physically qualified his examination is continued as follows: (1) Letter to the board describing in detail his general and professional education.

## II—PROFESSIONAL EXAMINATION.

Subjects	Wrong answers questions	Percentages required.
Botany (e.g. and physiology) (1)	1	100
Chemistry (e.g. and physiology) (1)	1	100
Mathematics (1)	1	100
English (1)	1	100
Geography (e.g. and history) (1)	1	100
Modern history and modern geography (1)	1	100
Physics (e.g. and modern history) (1)	1	100
Psychology (e.g. and modern history) (1)	1	100
Law (1)	1	100
Language and literature (1)	1	100

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clinical cases (a written report being made in one case giving history, diagnosis, prognosis, treatment, one case being treated at home, being written up as follows: in 1870, a patient was referred to me and was found to have a large, hard, indurated, and painful swelling of the right testis, which was found to be a carcinoma of the testis. The patient was treated with iodine and had a complete cure. The patient was followed up for several years and was found to be well. The patient was then referred to me again and was found to have a large, hard, indurated, and painful swelling of the left testis, which was found to be a carcinoma of the testis. The patient was treated with iodine and had a complete cure. The patient was followed up for several years and was found to be well.

## CONCLUSIONS

This follows the written work in early stages and the required presentation is then made in front of the class of the written and the oral presentation. The questions given are not the only ones to be asked. In some instances, they may be made good in the oral presentation. It is suggested that the required periods of approximately 15 min. each, and longer.

### III.—COLLATERAL EXAMINATION.

This embraces spelling, punctuation, the use of capital letters, grammar, arithmetic, geography (descriptive and physical), languages, history, general literature, elementary botany, geology, and zoology. While due credit is given for a knowledge of languages and the sciences it is not essential except in the case of physics, but a knowledge of the common school branches is essential. This examination will be omitted, in the discretion of the naval medical examining board, in the case of applicants holding diplomas or certificates from reputable literary or scientific colleges, normal schools, or high schools, or of graduates of medical schools which require an entrance examination satisfactory to the naval medical examining board.

The boards are required, under oath, to report on the physical, mental, moral, and professional qualifications of the candidate, so that the examinations are necessarily comprehensive, though simple and practical, and not beyond the attainments of any well educated physician. The oral and written questions are similar to those asked by the best medical colleges in examinations for graduation. A successful candidate, upon completion of his examination, will be notified by the president of the board that he has been found qualified. With the consent of the board, a candidate may withdraw at any period from further examination, and may at a future time present himself for reexamination. The board may conclude the examination (written, oral, and practical) at any time, and may deviate from this general plan as it may deem best for the interests of the naval service. No allowances will be made for the expenses of persons appearing for examination. The tenure of office in the Medical Corps of the Navy is for life, unless sooner terminated by removal, resignation, disability, or other casualty. All commissioned officers of the navy, including the Medical Corps, are retired from active service at the age of sixty-two years, and when so retired (or when retired from active service for disability or other casualty contracted in line of duty before that age) receive an annual pay for life amounting to three fourths of the highest pay of their grade at the time of retirement. When any officer of the navy, including medical officers, has been thirty years in the service, he may, upon his own application, in the discretion of the President, be retired from active service and placed upon the retired list with an annual pay for life amounting to three fourths of the highest pay of his grade at the time of retirement. Upon the death from wounds or disease contracted in line of duty of any officer, including medical officers (and immediately upon official notification thereof, there will be paid to the widow of such officer, or any person previously designated by him, an amount equal to six months' pay at the rate received by such officers at the date of his death, less \$75 to defray expenses of interment; but the residue, if any, of the amount so reserved will be paid subsequently to the widow or other designated beneficiary. When traveling in the United States under orders, officers of the navy, including medical officers, receive 8 cents a mile to defray the expenses incident thereto, and when traveling by other than public conveyance at sea or outside the continental limits of the United States, such officers are allowed actual expenses, estimated on a liberal basis and in accord with the position of an officer, both as regards admissible items of expense and the cost of such items.

On entering the naval service medical officers are credited with five years' service (in recognition of the fact that they have been at their own expense in preparing themselves for government service) for the purpose of establishing their date of precedence as regards rank and for calculating their increase of pay for length of service, as follows: For every five years' service the pay of officers is increased 10 per cent. (though not to exceed 40 per cent.), calculated on the annual base pay of their grade, as shown in the appended table; but the pay of medical director is limited to \$5,000; that of medical inspector to \$4,500; and that of surgeon to \$4,000. When an officer goes to sea or leaves the continental limits of the United States under assignment to stations or for the performance of other duty beyond the continental limits, his pay is increased 10 per cent., and this increase is calculated upon the pay, including increases for length of service, which said officer may be receiving at the time of entering upon such duty or to which he may succeed by virtue of promotion or length of service during the performance of such duty, as shown in the

yond the continental limits of the United States does not fall under the statutory restrictions above mentioned, which control the increase of pay for length of service in the grades above passed assistant surgeon, and the operation of this benefit is shown in the second column of the appended table. The officers of the medical corps of the navy, and their respective base pays, upon which the figures of the appended table have been calculated, are as follows: Medical directors, \$4,000; medical inspectors, \$3,500; surgeons, \$3,000; passed assistant surgeons, \$2,400; and assistant surgeons, \$2,000. Assistant surgeons are examined at the expiration of three years' service for promotion, and if successful, become passed assistant surgeons. Promotions to the higher grades are made in the order of seniority to fill vacancies as they are created (by resignation, retirement, death, and the operation of the thirty year retirement privilege), and for each promotion a physical and professional examination is required by law. The examination for appointment is noncompetitive, but if two or more candidates are examined at the same time their appointments will be in the order of merit reported by the board.

For further information address the president of the naval medical examining board, U. S. Naval Medical School, corner Twenty-third and E streets, N.W., Washington, D. C., or the president of the naval medical examining board, U. S. Naval Hospital, Mare Island, Cal.

### PAY AND ALLOWANCE TABLE.

Rank and Length of Service	Pay per annum on shore.	Pay per annum at sea.	Allowances (per annum for quarters.)
Assistant surgeons, rank of lieutenant (junior grade) .....	\$2,200	\$2,420	\$432
Passed assistant surgeons, rank of lieutenant .....	2,640	2,904	576
After 5 years in the service .....	2,880	3,168	576
After 10 years in the service .....	3,120	3,432	576
Surgeons, rank of lieutenant commander .....	3,600	3,960	720
After 10 years in the service .....	3,900	4,290	720
After 15 years in the service .....	4,000	4,400	720
Medical inspectors, rank of commander: .....			
After 15 years in the service .....	4,500	4,950	864
Medical directors, rank of captain: .....			
After 15 years in the service .....	5,000	5,500	1,008
Surgeon general, rank of rear admiral .....	6,000	6,600	1,152

NOTE.—There are also liberal allowances for fuel and light when on shore, at home, and beyond the continental limits of the United States, the amount varying according to rank, season, and the latitude of the station at which the officer is serving.

Both within and (on shore duty) beyond the continental limits of the United States, but only when quarters are not furnished by the Government.

The requirements are substantially the same in the case of applicants for appointment as acting assistant surgeon, and they may at any time subsequent to their appointment be ordered for examination for the grade of regular assistant surgeon.

**Resolutions Adopted at the Death of Dr. Farrington.**—At a meeting of the Harlem Medical Association, held June 3, 1908, the following minutes and resolutions were adopted:

*Whereas*, Death has removed from among us a former president and one of the founders of this association, Dr. Joseph Oakley Farrington, unusually long and favorably known, and highly respected by us, therefore, be it

*Resolved*, That we deeply regret the loss the association has sustained in the death of its second president, who enjoyed the fruits of his profession for over half a century;

*Resolved*, That the association extends its sympathy to the family of the deceased, and that a copy of these resolutions be spread in full upon the minutes of this association; that they be forwarded





FIELD, P. C., Captain. Ordered to accompany Seventh Infantry to duty at manœuvre camp, Chickamauga Park, Ga.

RAYMOND, H. L., Major. Ordered to return from treatment at Washington, D. C., to Columbus Barracks, Ohio.

SCHREINER, E. R., Captain. Assigned to temporary charge of San Francisco Medical Supply Depot, during the absence of Lieutenant Colonel D. M. Appel, medical corps.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers of the medical corps of the United States Navy for the week ending June 13, 1908:*

BARBER, G. H., Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to the Naval Hospital, Boston, Mass.

BLACKWELL, E. M., Passed Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to report in that city on June 15th for examination for promotion, and then to await orders.

BOGERT, E. S., Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to the naval war college, Newport, R. I.

BROWN, E. M., Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to the Naval Hospital, Norfolk, Va.

BUNKER, C. W. O., Assistant Surgeon. Detached from the naval academy and ordered to the *Arkansas*.

CLARK, G. F., Acting Assistant Surgeon. Appointed an acting assistant surgeon from June 6, 1908.

COLE, H. W., Jr., Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., ordered home, and granted leave for one month.

DONELSON, M., Assistant Surgeon. Detached from the *Porter*, and ordered to the *Biddle*.

DUHIGG, J. T., Assistant Surgeon. Ordered to the naval recruiting station, Los Angeles, Cal.

FAUNTILERY, A. M., Passed Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to the naval medical school hospital, Washington, D. C.

FREEMAN, G. F., Passed Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to the navy yard, Boston, Mass.

LANE, H. H., Assistant Surgeon. Ordered to duty in the department of government and sanitation, Canal Zone, Panama.

MCDOWELL, R. W., Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia, Pa.

MELHORN, K. C., Assistant Surgeon. Detached from the *Wabash* and ordered to the *Yankee*.

PECK, A. E., Passed Assistant Surgeon. Detached from the naval station, Cavite, P. I., and ordered home.

SELLERS, F. E., Assistant Surgeon. Detached from the naval academy and ordered to the *Nevada*.

SMITH, G. T., Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to the Naval Hospital, New York, N. Y., July 1.

SNYDER, J. J., Passed Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to report in that city June 15th, for examination for promotion, and then to await orders.

STALNAKER, P. R., Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to report in that city June 15th, for examination for promotion, and then to await orders.

TAYLOR, J. L., Assistant Surgeon. Detached from course of instruction at the naval medical school, Washington, D. C., and ordered to report in that city, June 15th, for examination for promotion, and then to await orders.

VERNEK, W. W., Passed Assistant Surgeon. Resignation accepted from June 10, 1908.

WILSON, G. B., Surgeon. Detached from the course of instruction at the naval medical school, Washington, D. C., and ordered to the *Wabash*.

## Births, Marriages, and Deaths.

### Born.

SHOOK.—In Pinar del Rio, Cuba, on Saturday, May 30th, to Dr. J. Ralph Shook, United States Army, and Mrs. Shook, a daughter.

### Married.

ALBEE—SUMMEY.—In Philadelphia, on Saturday, June 6th, Dr. William Albee and Miss Nellie Summey.

ATWELL—MURDOCK.—In Fly Creek, New York, on Wednesday, June 3d, Dr. Floyd Jerome Atwell and Miss Helen Williams Murdock.

CARLTON—WINSTEAD.—In Rocky Mount, North Carolina, on Tuesday, June 9th, Dr. J. Lane Carlton, of Salisbury, and Miss Meta May Winstead.

COULTES—BRIGHAM.—In Philadelphia, on Wednesday, June 10th, Dr. J. F. Coultres and Miss Imogene Brigham.

CROFUTT—LAPE.—In Chicago, on Thursday, June 4th, Dr. Edward F. Crofutt, of New York, and Miss Janet D. Lape.

DOUGHERTY—MERKLEE.—In Philadelphia, on Wednesday, June 17th, Dr. Clarence C. Dougherty and Miss Florence Lillian Merklee.

GAGE—MORLEY.—In Troy, N. Y., on Wednesday, June 3d, Dr. George Henry Gage and Miss Ethel Morley.

GOOD—MUNDER.—In Philadelphia, on Wednesday, June 10th, Dr. William Harmar Good and Miss Helen Agnes Munder.

IVERSEN—SMITH.—In Palmyra, Nebraska, on Saturday, June 6th, Dr. John C. Iversen and Miss Catherine Smith.

JACKSON—STEVENS.—In Madison, Wisconsin, on Thursday, June 4th, Dr. Reginald Harry Jackson and Miss Elizabeth Breeze Stevens.

PORTER—MACMAHON.—In Washington, D. C., on Wednesday, June 10th, Dr. Frederick E. Porter, United States Navy, and Miss Lillian B. MacMahon.

WORSLEY—MUSSELMAN.—In Bethlehem, Pennsylvania, on Thursday, June 4th, Dr. A. Sweden Worsley, of Philadelphia, and Miss Bertha M. Musselman.

ZOLLER—HOFFMAN.—In St. Louis, Missouri, on Tuesday, June 2d, Dr. C. H. Zoller and Miss Philippine Hoffman.

### Died.

ALDRICH.—In Fall River, Massachusetts, on Saturday, June 6th, Dr. Nathaniel Borden Aldrich, aged forty-two years.

ANDERSON.—In Grosse Isle, Michigan, on Monday, June 8th, Dr. Frederick Pope Anderson, aged sixty-six years.

ASHLEY.—In Machias, New York, on Friday June 5th, Dr. Harmon J. Ashley.

AUSPITZ.—In New York, on Sunday, June 7th, Dr. Martin W. Auspitz, aged thirty-five years.

BLACKFORD.—In Middletown, Ohio, on Monday, June 8th, Dr. Harry Blackford, aged forty-two years.

CLOUGH.—In Honduras, Central America, on Saturday, May 30th, Dr. A. A. Clough, of Denver, Colorado.

DAVIE.—In Boston, on Thursday, June 4th, Dr. Charles H. Davie, of Scituate, Maine, aged sixty-five years.

FOLTZ.—In Cincinnati, Ohio, on Saturday, June 6th, Dr. Kent Oscanyan Foltz, aged fifty-one years.

GALT.—In Richmond, Virginia, on Monday, June 8th, Dr. T. A. D. Galt, aged seventy-four years.

GARDNER.—In Washington, D. C., on Wednesday, June 3d, Lieutenant Colonel William H. Gardner, Medical Corps, United States Army, aged seventy-one years.

MERCER.—In Pittsfield, Massachusetts, on Thursday, June 11th, Dr. William M. Mercer, aged sixty-five years.

NAUTZE.—In St. Louis, Missouri, on Sunday, June 7th, Dr. Gustave Nautze, aged thirty-eight years.

POSPISIEL.—In Washington, D. C., on Sunday, June 7th, Dr. Joseph Pospisiel, aged forty-five years.

REGENT.—In Chicago, on Friday, June 5th, Dr. Michael N. Regent, aged forty-four years.

STODDARD.—In Rochester, New York, on Saturday, June 6th, Dr. Enoch Vine Stoddard, aged sixty-eight years.

SHERMAN.—In Yonkers, N. Y., on Thursday, June 11th, Dr. William H. Sherman, aged forty-nine years.

SPOOR.—In Schenectady, New York, on Friday, May 20th, Dr. David E. Spoor, aged sixty-two years.

# New York Medical Journal

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### Original Communications.

#### REVIEW OF THEORETICAL CONSIDERATIONS AND EXPERIMENTAL WORK RELATIVE TO OPSONINS WITH OBSERVATIONS AT THE SARANAC LABORATORY.\*

[Abstract.]

By E. R. BALDWIN, M. D.,  
Saranac Lake, N. Y.

The writer first drew attention to the fact that the view at first held, that opsonic substances were distinct from other ingredients of serum, is now doubted. Dean, Cowie, and Chapin, Sleeswijk, and Levaditi have shown that the normal serum has opsonic functions associated with the normal amboceptor and complement which cannot be separated from them. Heat and absorption affect them to the same degree as the opsonic activity. The substance favoring phagocytosis need not be assumed to be wholly distinct, because chemical and physical differences in bacteria may account for varying manifestations, sometimes phagocytic, at others bactericidal or agglutinating. The opsonic and complement functions are regarded as indistinguishable by Muir and Levaditi. There is more reason to think that immune or specific opsonic functions are due to separate substances. Their presence may be demonstrated when corresponding lysins and agglutinins are absent or removed, as shown by Neufeld and Topfer and Hecht.

Even here differences in the chemical or physical affinities or experimental limitations may obscure the relations of these antifections due to a single substance. In most immune sera removal of immune amboceptors by absorption is accompanied by a simultaneous loss of lytic, agglutinative, and opsonic functions. The general result of such experiments has been to class the specific opsonins with the amboceptors, whether identical or not with the lysins, etc., is difficult to prove.

The subject is of importance because of the use of the opsonic index as a standard of resistance, and in diagnosis. The practical value in this clinical application has lessened, as further study reveals its limitations. If it is the best it is yet a very imperfect standard, and other factors must be reckoned of considerable importance. The majority of clinical

studies published will not bear criticism for accuracy, as shown by mathematical calculations (see *Cambridge Committee Report*). In some local infections with tubercle bacillus and cocci the opsonic estimations have appeared useful in diagnosis and treatment. In progressive or generalized infections the results have been of doubtful value. C. P. Ritchie has successfully applied the method of absorption followed by opsonic estimations for diagnosis. It is analogous to that of Bordet and Gengou recently employed by Wassermann in lues diagnosis, except that the phagocytic test is substituted for the hæmolytic one.

Experiments at the Saranac Laboratory reported last year on the effect of opsonized tubercle bacilli have been confirmed and extended. Virulent tubercle bacilli treated with the fresh serum of an immunized cow produce more decided reactive inflammation when inoculated into rabbits' corneæ, in comparison with controls, and weak virulent bacilli treated in like manner appeared to be slightly more protective to guinea pigs subsequently inoculated to test their immunity.

The reaction described is characterized by an increased leucocytosis, whether beneficial or not to the animal is undetermined, but presumably it is conservative. Morphological changes in the bacilli were not demonstrated by staining.

Dr. Kinghorn and Dr. Twichell have made clinical studies with the tuberculoopsonic index in sixty-three supposedly healthy persons and in thirty-six tuberculous patients, controlling their technique frequently by duplicate tests of four to six preparations of the same serum.

They found a range from 0.02 to 1.04 in the healthy sera, and from 0.26 to 2.26 in the tuberculous.

They also made daily estimations of the sera of seven persons six or seven days before and after the subcutaneous tuberculin test for diagnosis. No regular reaction curve was detected, though after a tuberculin reaction the index was generally higher. Likewise in eleven patients undergoing tuberculin treatment without reference to the index, no characteristic or uniform curve was manifest. Their ascertained average technical error was  $\pm 4$  per cent, as determined from duplicate tests. Their results do not encourage the expectation of much practical use of the index in pulmonary tuberculosis in the usual method of its application.

\*Read at the annual meeting of the Association of American Physicians, Washington, D. C., May 15, 1907.



## THE OPSONIC TREATMENT OF DISEASE.

*With a Report of Thirty Cases.\**

By G. MORTON ILLMAN, M. D.,

Philadelphia,

Lecturer on Clinical Medicine, Temple University; and Associate  
Physician to the Garretton Hospital;

AND HARRY A. DUNCAN, A. B., M. D.,

Philadelphia,

Director of the Clinical Laboratory, Samaritan Hospital.

In reporting the following cases treated by vaccine therapy we do so with the full appreciation of the fact that at the present time the prognosis in the cases considered cured can only be problematical, and that time only will decide whether the results obtained will be permanent.

Certain it is, however that at present prompt beneficial results can be produced in many conditions that have in the past been considered almost hopeless as regards a complete cure.

Some of the cases here submitted were treated nearly one year ago, and it is indeed gratifying to note that in the majority of them there is absolutely no tendency to a return at the present time. This article, therefore, is not a review of the massive quantity of literature on this subject, which is at present attracting so much attention, nor is it to be considered in the light of a criticism of the many excellent methods or modifications of Wright's opsonic technique as originally advised by him, but rather as an honest report of our experiences in the treatment of any and all the cases that are from time to time referred to us for treatment. Our technique, with but few modifications, has been essentially the same as that advised by Wright. Many of the cases were exceedingly resistant to all other forms of treatment, and for this reason we have endeavored to reduce the treatment by vaccines to a more definite clinical basis, employing in each case the minimum amount of technique necessary to obtain a good result.

Taking an average of the frequency of doses and strength of vaccine used by other investigators and reported by them from time to time (and adhering to the suggestions given by Wright), we administered our vaccine every seventh to fourteenth day, depending upon the clinical condition, or opsonic index, or both, of the patient at the time of the treatment.

Many times the clinical condition of the patient would be excellent, but the index low, and invariably when the patient returned to the clinic there would be a renewal of a discharge from a sinus which would have been impossible to forecast from the clinical symptoms alone the week previous.

It is the better plan, therefore, in *doubtful* cases to first make a study of the "opsonic" condition of the patient before instituting any form of vaccine injections. Our experience with a case in which no opsonic index was taken and a large initial injection given purely upon the clinical evidence present was somewhat as follows:

The case was that of a colored woman; age thirty-nine years. She had been operated upon for an empyema eighteen years ago, with a negative result. Five subsequent operations had also failed to give relief. The outlet of the con-

stantly discharging sinus was just below and to the left of the right scapula. A culture showed the presence of the *Staphylococcus aureus* (the empyema was probably tuberculous in origin). Clinically the patient was in the best of health, and the sinus seemed to be the only thing that prevented the free use of the right shoulder and arm. She was given an injection of 200 million *Staphylococci aurei*. This was followed by a severe reaction within the following six hours, which made it necessary for the patient to go to bed, where she remained for seven days. She complained at first of a chill, followed by vertigo and severe rheumatic pains in the right shoulder and arm. Ten days later, however, her improvement was so marked that she was led to exclaim that "she had not felt so well in the past ten years." An examination of the sinus at this time showed the discharge from the sinus to have almost stopped (one or two drops on a dressing in twenty-four hours), and no pain whatever in the arm or shoulder.

That a fatal result did not follow the first injection given in this case was due more to good fortune than good management, and our experience with other cases simulating this one has taught us that in treating cases from the clinical standpoint one should begin with very small doses of any and all vaccines and gradually enlarge the dose with each subsequent injection. More especially should this routine be observed in cases where the lesion is of very long standing. To suddenly arouse a sleeping infection of eighteen years' standing with a large initial dose of vaccine as was done in this case is the very thing to be avoided if a favorable result is to be finally obtained.

It is our practice at present to study the "phase" of the patient, especially in cases where the lesion has existed over a very long period. This we think is the better policy to pursue until opsonic treatment has more firmly established itself favorably in the opinion of the profession, or to that place in therapeutics which it so well deserves, for with such definite scientific means at hand for determining beforehand the possible effect of treatment the death rate should practically be negative. It was the inability to determine the opsonic condition of a patient in former years that caused such a revulsion of feeling toward Koch's tuberculin. The very same administered now always under favorable circumstances is productive of nothing but good results when tuberculin is indicated.

The number of diseases in which opsonic treatment is curative or beneficial is already large, but the present indications are that opsonic work will not only be used more and more extensively in the treatment of disease, but also in the diagnosis, as is now seen in the treatment and diagnosis of tuberculous conditions.

Of the entire group of cases herein reported thirteen were tuberculous; the remainder were as follows: Gonorrheal, five; colonic, one; staphylococci, six; streptococci, three; staphylococci and streptococci, one; typhoid fever, one.

The one case of typhoid fever is reported because it is typical of the negative results obtained in all other cases that we have attempted to abort with vaccine injections. The case reported was one in which everything seemed clinically to favor vaccine treatment. We could not see any improvement, however, that could not have taken place in any other typhoid case without vaccine treatment.

Our technique, briefly, is as follows: We first make a thorough physical examination of the pa-

\*Read before the Samaritan Hospital Medical Society, March 28, 1928.

tient and study carefully the personal and family history. The finger or lobe of the ear is then punctured and the blood allowed to flow freely into a Wright's tube. This is then conveyed quickly to the laboratory and centrifuged. The serum thus obtained is kept at 37° C. and used as promptly as possible. The opsonic index for tuberculosis, staphylococci and streptococci infections, etc., is then determined (in the manner now so familiar to all clinicians and laboratory workers), depending upon the diagnosis of the condition when possible by means of cultures and clinical phenomena. As before stated, the index itself is often most helpful in making a correct diagnosis. If the index is low and is stationary, say 0.6 or 0.7, and the clinical symptoms warrant it, without a repeated series of more than two or three index observations being made, we give the patient the first injection.

A point on the left arm about four inches above the elbow is usually selected, and the skin thoroughly cleaned with sterile water, followed by alcohol and again by sterile water. A drop of pure carbolic acid is then applied for a moment or two. This acts both as an anæsthetic and antiseptic. The needle is then thrust well into the subcutaneous tissue, the injection slowly given, and the needle quickly withdrawn, a piece of sterile cotton being held at the point of puncture until the vaccine is completely absorbed.

Our reason for selecting the arm in the region usually employed for vaccination purposes is because of the fact that the patient becomes less suspicious and alarmed should there be any local urticaria or irritation following the injection, the patient being more apt to consider the local trouble as a natural sequel to a process which he usually believes to be nothing more or less than a form of vaccination.

In our treatment of tuberculous cases we have had more uniform results with tuberculin T. R. than with the other forms of tuberculin when using stock vaccines. The average dose employed in adults is 0.001 milligramme, and we have seldom had to change this dose in order to get good results and cause a gradual rise in the index. One one thousandth of a milligramme has never given any disagreeable reaction, and we think that a course of treatment which is never productive of a reaction produces better and more prompt results than when the reverse is the case.

In our treatment a year ago we used very large doses of vaccine (one or two of the cases are included in the appended list), which were productive often of a very severe reaction, but followed promptly in many cases by a fall of temperature and improvement of symptoms. The results, however, were not always permanent, so that we now feel convinced that small initial doses at least should always be employed, but that in some cases doses much larger than those recommended by Wright must be used to bring about a good, permanent result.

We have employed the following minimum and maximum doses:

Bacilli coli, 5,000,000 to 10,000,000 million; pneumococci, 5,000,000 to 20 million; staphylococci, 5,000,000 to 10,000,000 million; streptococci, 5,000,000 to 15,000,000 million; typhoid bacilli, 5,000,000 to 1,000 million.

In all of the cases here reported, except Nos. IV, XXI, XXIV, XXIX, and XXX, we used "stock vaccines," and for the supply of the same we are greatly indebted to Parke, Davis & Co. and the H. K. Mulford Company. By using stock vaccines the work is made much less complicated and greatly facilitated, as it takes considerable time to accurately produce autogenous vaccines.

We feel that in the majority of instances the stock vaccines are in every respect just as effective as autogenous vaccines, and we make it a rule to put all cases at first on stock vaccines. This failing, as it does now and then in complicated cases, we put the patient on vaccines made from his own cultures.

We must not, however, in these complicated cases condemn our stock vaccines too quickly merely because we do not get a prompt response to treatment, for in many cases our failure to get results is not because of the fact that we are using a stock vaccine, but because we have failed to employ that vaccine or mixture of vaccines which corresponds to the variety of infection to be treated. For example, given a profuse discharge from a sinus which cultures show us contains streptococci and staphylococci—if the streptococcus is the predominant organism in the production of the condition, staphylococci vaccine given indefinitely would raise the staphylococci opsonic index, but give little or no result, or only in proportion to the activity displayed by the staphylococcus in the etiology of the sinus. Study carefully the index and its relation to a mixed infection, and then use a stock vaccine corresponding to the infection, and usually a prompt improvement is noted.

Again, in other cases we may get a history in a given case which is decidedly tuberculous in detail, and we give repeatedly tuberculin, or tubercle bacilli, which produces a prompt rise in the tuberculoopsonic index, but no clinical improvement. An osteomyelitis, tuberculous in character, may be continued for years by being contaminated with a second or third infection (usually staphylococcus) which finally becomes the predominating infection, and a change to staphylococci vaccine, or a mixture of the same with tuberculin, causes a prompt, satisfactory result.

### Summary of the Cases Reported.

1. Tuberculosis	1	2. Staphylococci	1
3. Streptococci	1	4. Typhoid	1
5. Mixed	1	6. Pneumococci	1
7. Bacilli coli	1	8. Tuberculin	1
9. Total	1	10. Total	1
11. Total number of cases	1	12. Total number of cases	1

### Conclusions.

That vaccine therapy offers a chance of cure in many cases of disease hitherto regarded as incurable.

That in the large majority of cases good results are just as efficient as autogenous vaccines.

That cases can be treated with fewer actual index observations than was at first supposed.

That cases treated with the clinical phenomena alone as a guide should only be so treated by some one well versed in vaccine therapy, and then only after having been under previous observation for a period long enough to have determined "the phase" the patient is in.

That very small initial doses should be employed when the opsonic index has not been previously determined.

That the best results at the present time are obtained in tuberculous conditions and staphylococci or streptococci infections, as in acne, etc.

That to get the best results vaccine treatment must be instituted as soon as the diagnosis is made.

CASE I.—J. P., male, age sixteen years.

Family and personal history were negative.

Present illness: Osteomyelitis of right femur. Had been treated for seven years locally by incisions, curetting, and drainage. Five injections of tuberculin T. R., 0.001 mg. at each dose, extending over a period of five weeks, caused a complete cessation of the discharge and an apparent cure. The tuberculoopsonic index during this time was raised from 0.7 to 1.4. A sudden drop of the index was promptly followed by a small abscess a short distance from the original sinus. This promptly healed after one more injection of the tuberculin T. R., and the patient to-day is in the best of health and has again resumed active work.

CASE II.—F. M., colored, female, age twenty-six years.

Family and personal history were negative.

Present illness: Pott's disease with a discharging sinus.

May 28, 1907—Tuberculoopsonic index, 0.8; given 0.001 mg. tuberculin T. R.

June 1, 1907—Tuberculoopsonic index, 0.85; given 0.001 mg. tuberculin T. R.

June 18, 1907—Tuberculoopsonic index, 0.95; given 0.001 mg. tuberculin T. R.

July 9, 1907—Patient better, discharge less; given 0.001 mg. tuberculin T. R.

July 24, 1907—Very little discharge noticed; given 0.001 mg. tuberculin T. R.

August 30, 1907—Sinus closed, had gained twenty pounds in weight. The cure in this case was very gradual and progressive. The final result to date is perfect.

CASE III.—B. H., age four years, female.

Family history was negative.

Personal history: Had tonsils removed one year ago.

Present illness: Cervical adenitis.

May 29, 1907—Tuberculoopsonic index, 0.65; given 0.001 mg. tuberculin T. R.

The first injection was followed by marked improvement clinically.

June 1, 1907—Tuberculoopsonic index, 0.75; given 0.001 mg. tuberculin T. R.

June 11, 1907—Reported to be in excellent condition and has had no return to date.

CASE IV.—E. T., female, age twenty-two years, colored. Admitted to Samaritan Hospital April 23, 1907.

Family and personal history were negative.

Present illness: Tuberculous peritonitis.

May 2, 1907—Tuberculoopsonic index, 0.5; given 15,000 million tubercle bacilli.

May 10, 1907—Tuberculoopsonic index, 0.55; given 15,000 million tubercle bacilli.

May 12, 1907—Tuberculoopsonic index, 0.65.

May 16, 1907—Tuberculoopsonic index, 0.85.

May 17, 1907—Given 15,000 million tubercle bacilli. Discharged from the hospital.

May 27, 1907—Slight recurrence of symptoms. Tuberculoopsonic index, 0.75.

May 28, 1907—Given 7,000 million tubercle bacilli.

March 20, 1908—The patient's physician says she has been practically well for the past ten months and has gone south to live.

Average temperature on admission, 103° F. After starting treatment, average temperature, 99° to 100° F.

CASE V.—E. H., female, age nine years.

Family and personal history were negative.

Present illness: Began to notice swelling on left side of neck six months ago, following a toothache. Tooth was extracted. Gland finally broke down and began to discharge three months after extraction of the tooth. Patient was treated with various ointments and dressings for several weeks with a negative result. She was then given a course of x ray treatment with negative results. When we first saw her the broken down area was constantly enlarging and discharging profusely.

November 11, 1907—Tuberculoopsonic index 0.8; given 0.001 mg. tuberculin T. R.

November 23, 1907—Tuberculoopsonic index, 0.8; given 0.001 mg. tuberculin T. R.

November 30, 1907—Tuberculoopsonic index, 1.5; given 0.001 mg. tuberculin T. R.

December 7, 1907—Tuberculoopsonic index, 1.9; given 0.001 mg. tuberculin T. R.

December 14, 1907—Tuberculoopsonic index, 1.6; given 0.001 mg. tuberculin T. R.

January 11, 1908—Tuberculoopsonic index, 2.0; given 0.001 mg. tuberculin T. R.

January 25, 1908—Tuberculoopsonic index, 2.0; given 0.001 mg. tuberculin T. R.

February 1, 1908—Tuberculoopsonic index, 2.1; given 0.001 mg. tuberculin T. R.

February 8, 1908—Tuberculoopsonic index, 0.9; given 0.001 mg. tuberculin T. R.

February 15, 1908—Tuberculoopsonic index, 0.8; given 0.001 mg. tuberculin T. R.

February 29, 1908—Given 0.001 mg. tuberculin T. R.

In this case injections were given more according to the clinical symptoms than according to the index, and although the index fell decidedly toward the last the gland had healed completely and left scarcely a mark to show from where the discharge had taken place.

CASE VI.—M. S., male, age seventeen years.

Family and personal history were negative.

Present illness: Was attacked with tuberculosis of both tibia nine years ago. Both legs operated on: right leg recovered, but left tibia still discharged. It was red, painful, swollen, and discharged freely.

November 11, 1907—Tuberculoopsonic index, 0.7; given 0.001 mg. tuberculin T. R.

November 16, 1907—Tuberculoopsonic index, 1.1.

November 20, 1907—Tuberculoopsonic index, 1.1; given 0.001 mg. tuberculin T. R.

November 30, 1907—Tuberculoopsonic index, 1.5; given 0.001 mg. tuberculin T. R.

December 7, 1907—Tuberculoopsonic index, 0.7.

December 21, 1907—Tuberculoopsonic index, 1.5; given 0.001 mg. tuberculin T. R.

January 4, 1908—Tuberculoopsonic index, 0.9; given 0.001 mg. tuberculin T. R.

February 1, 1908—Tuberculoopsonic index, 1.1; given 0.001 mg. tuberculin T. R.

February 15, 1908—Tuberculoopsonic index, 1.2; given 0.001 mg. tuberculin T. R.

Recovery complete.

CASE VII.—J. R., age fourteen years.

Family history was negative.

Personal history and present illness: Four years ago four ribs on the right side were removed; cause, tuberculosis of ribs and pleura. He had a profuse, offensive discharge from a large persistent sinus.

May 27, 1907—Tuberculoopsonic index, 0.75; given 0.001 mg. tuberculin T. R.

May 28, 1907—Tuberculoopsonic index, 0.7.

June 3, 1907—Tuberculoopsonic index, 0.7; given 0.001 mg. tuberculin T. R.

June 10, 1907—Tuberculoopsonic index, 0.8; given 0.001 mg. tuberculin T. R.

June 21, 1907—Tuberculoopsonic index, 0.85; given 0.001 mg. tuberculin T. R.

June 21, 1907—Gained four pounds in weight; marked general improvement.

August 23, 1907—Condition very much improved.

August 23, 1907—Given 0.001 mg. tuberculin T. R.

December 14, 1907—Tuberculoopsonic index, 1.5; given 0.001 mg. tuberculin T. R.

December 21, 1907—Had attack of influenza. Tuberculoopsonic index, 0.7.

December 21, 1907—Given 400 million mixed staphylococci vaccine.



December 28, 1907—Tuberculo index and staphylococcic index, 1.5.

December 28, 1907—Given 0.001 mg. tuberculin T. R.

December 31, 1907—Given 100 million staphylococci mixed.

January 11, 1908—Tuberculo index, 1.2.

January 8, 1908—Given 100 million staphylococci mixed.

January 11, 1908—Staphylococcic index, 1.9.

January 16, 1908—Given 0.001 mg. tuberculin T. R.

January 25, 1908—Tuberculo index, 0.9. Still considerable discharge noticed.

To be put on autogenous vaccine.

CASE VIII.—G. C., male, age fifty-four years, colored janitor.

Admitted to hospital October 22, 1907.

Diagnosis: Tuberculous laryngitis.

Family history was negative.

Previous personal history: Had rheumatism ten years ago. One year ago "took cold," severe cough and dyspnea.

Present illness, cough, dyspnea, and pain in the back.

Physical examination: Impaired resonance at right apex. Right side posterior, sibilant and bubbling râles. Heart, apex diffuse, accentuated second pulmonic. Throat, tuberculous infiltration between the arytenoid cartilages, bases, and epiglottis.

Average temperature, 99° F.; highest temperature, 101.6° F.

November 3, 1907—Tuberculoopsonic index, 0.6; given 0.001 mg. tuberculin T. R.

November 28, 1907—Tuberculoopsonic index, 0.85; given 0.001 mg. tuberculin T. R.

December 7, 1907—Tuberculoopsonic index, 0.95; given 0.001 mg. tuberculin T. R.

Left the hospital. While in the institution his improvement was consistent with the gradual rise in the index.

The aphonia had disappeared.

CASE IX.—N. B., age sixty-two years, male.

History was negative.

Present illness: Tuberculosis of lower third of ulna for four years. Had had several operations. Two sinuses were present, one discharging to outside of forearm, and the other to the inside.

November 23, 1907—Tuberculoopsonic index, 0.8; given 0.001 mg. tuberculin T. R.

November 30, 1907—Tuberculoopsonic index, 0.9; given 0.001 mg. tuberculin T. R.

December 7, 1907—Tuberculoopsonic index, 1.0; given 0.001 mg. tuberculin T. R.

December 14, 1907—Tuberculoopsonic index, 1.2; given 100 million *Staphylococcus aureus*.

December 28, 1907—Tuberculoopsonic index, 1.0; given 0.001 mg. tuberculin T. R.

January 11, 1908—Tuberculoopsonic index, 1.5; given 0.001 mg. tuberculin T. R.

February 22, 1908—Tuberculoopsonic index, 1.2; given 100 million *Staphylococcus aureus*.

February 29, 1908—Tuberculoopsonic index, 1.2; given 0.001 mg. tuberculin T. R.

March 7, 1908—Given 0.001 mg. tuberculin T. R.

March 14, 1908—Given 0.001 mg. tuberculin T. R.

Responded to treatment but was not cured.

CASE X.—W. J., male, age twenty-one years, machinist.

Admitted to the Samaritan Hospital November 13, 1907.

Family and previous medical history were negative.

Diagnosis: Tuberculous peritonitis.

Present illness began one year ago with a pain in the left side, made worse by motion. Now had night sweats and severe pain just below the epigastrium when coughing.

Temperature on admission, 101° F. Average temperature, 100.5 to 101° F. Tubercle bacilli could not be found in the sputum, white blood corpuscles 7,600.

November 28, 1907—Tuberculoopsonic index, 0.65; given 0.001 mg. tuberculin T. R.

November 29, 1907—Given 0.001 mg. tuberculin T. R.

Some reaction noticed after the injection and still no better after one month. Temperature 101° F. The reaction tem-

perature after the injection, however, was not noticed.

The result was negative. Patient left the hospital with a temperature of 100° F.

CASE XI.—R. L., female, age twenty-four years.

Family and personal history were negative.

Present illness: Had had pain in right hip joint for past

two years; some shortening; general health good. No local symptoms of inflammation.

Diagnosis: Tuberculosis of the hip joint.

Tuberculoopsonic index, 0.6.

Patient was given four injections of tuberculin T. R., 0.001 mg., at intervals of seven days. Opsonic index after the fourth treatment, 1.2. The patient stopped coming for treatment because she said that after each injection she had severe pain for twenty-four hours in the affected joint. Result negative.

CASE XII.—H. S., female, age two and one half years.

History was negative.

Present illness: Tuberculosis of lower maxilla.

November 10, 1907—Tuberculoopsonic index, 0.8; given 0.005 mg. tuberculin T. R.

November 17, 1907—Tuberculoopsonic index, 0.8; given 0.001 mg. tuberculin T. R.

November 23, 1907—Tuberculoopsonic index, 0.9.

The child cried and opposed the injections to such an extent that we stopped treatment.

CASE XIII.—W. S., male, age eleven years.

History was negative. Diagnosis: Tuberculosis of the hip.

Present illness began five years ago after a fall on the hip, with excessive discharge, and he has been wearing a cast for five years.

November 15, 1907—Tuberculoopsonic index, 0.9; given 0.001 mg. tuberculin T. R.

November 30, 1907—Tuberculoopsonic index, 0.95; given 0.001 mg. tuberculin T. R.

December 7, 1907—Tuberculoopsonic index, 0.7.

December 21, 1907—Tuberculoopsonic index, 1.1; given 400 million *Staphylococcus aurei*.

December 28, 1908—Tuberculoopsonic index, 1.2; given 0.001 mg. tuberculin T. R.

January 4, 1908—Given 300 million *Staphylococcus aurei*.

January 11, 1908—Tuberculoopsonic index, 1.7; given 0.001 mg. tuberculin T. R.

February 8, 1908—Tuberculoopsonic index, 1.1; given 0.001 mg. tuberculin T. R.

February 22, 1908—Tuberculoopsonic index, 1.4; given 300 million *Staphylococcus aurei*.

February 29, 1908—Given 0.001 mg. tuberculin T. R.

March 14, 1908—Given 0.001 mg. tuberculin T. R.

Marked improvement, but still had a slight discharge. Will be put on treatment with autogenous vaccine.

CASE XIV.—A., age thirty years.

Family and personal history were negative.

Present illness: Patient had gonorrheal arthritis of both ankle joints and both knee joints.

Two injections at intervals of seven days caused a complete amelioration of the symptoms and a marked general improvement, so much so that the patient said he did not want any more treatment, and if he should have a relapse, he said he would return.

CASE XV.—Mr. G., male, age forty-two years. Diagnosis: Chronic gonorrhea.

Family and personal history were negative.

He was treated locally from time to time and persistently for the past six months with a negative result. All the various astringents and combinations of the same gave no result.

January 7, 1908—Given 50 million gonococci.

January 21, 1908—Marked improvement as regards the quantity of the discharge.

January 21, 1908—Given 50 million gonococci.

January 28, 1908—Discharge diminished from seven 50 million gonococci. When last seen the discharge was two to three drops at intervals of three to four days.

Discharge did not stop until a further treatment.

CASE XVI.—E. M., male, age twenty years.

Family history and previous medical history were negative.

Present illness: For the past year and a half patient suffered with a severe suppuration of the testis, accompanied with a purulent, bloody discharge, which was at times very profuse.

Several of these discharges were two or three inches in length, were frequently passed.

Diagnosis: Gonorrheal proctitis, (chronic), and gonorrheal proctitis.

February 4, 1908—Given 100 million gonococci injected into the arm.

The index improved gradually until it reached 1.1. The discharge became less in quantity, but did not stop.

March 7, 1908.—We have stopped giving stock vaccine and he will now be given autogenous vaccine.

CASE XVII.—Mr. M., age forty years.

Family history was negative.

Previous medical history was one of exposure and infection.

Present illness: Suffering for twenty years with a posterior urethritis, prostatic abscess, and gonorrheal arthritis. Had to use crutches for a long time and local treatment gave only temporary relief. Ohlmacher gave him two injections of gonococci, which was followed by immediate and decided improvement. Business changes compelled him to come to Philadelphia.

With treatments that were very irregular as to time (patient was a traveling salesman), the improvement was very steady, the joint symptoms especially were clearing up, so much so that he now travels to a considerable extent for a mercantile house. The urethral discharge was less than when we first saw him.

CASE XVIII.—H. S., age forty years, male.

Family and personal history were negative.

Contracted gonorrhea in July, 1907; was given the usual course of treatment for this condition for six months. When we finally saw the patient he had a marked posterior urethritis.

January 4, 1908.—Gonorrheal opsonic index was 1.1. He was given 50 million gonococci every seventh day, followed by a steady improvement, but no cure effected. Index, March 1, 1908, 1.5. A careful culture study of the case will now be instituted and the stock vaccine replaced by autogenous vaccine.

CASE XIX.—Mrs. S., age thirty-eight years.

Family and personal history and previous medical history were negative.

Present illness: Had suffered with pustular acne of the face and neck for twenty-three years, and had been treated almost constantly during that time. High frequency current, ultra violet rays, and x rays had all been given a thorough trial with a negative result.

February 1, 1908.—When the patient presented herself for treatment the pustules were very numerous and many of them one half inch in diameter, containing much pus. Upon this clinical evidence she was given an injection of 300 million *Staphylococci citrei*. This was repeated in seven days, after which every papule and pustule on the face and many on the neck disappeared, leaving a smooth, nonindurated surface. She has now had six treatments. The face is perfectly normal and not a single new lesion has appeared.

CASE XX.—Mr. G., age twenty-one years.

Family and personal history were negative.

Present illness: Had been afflicted with a pustular acne of the face for the past three years.

December 11, 1907.—Given 300 million *Staphylococci citrei*.

December 18, 1907.—Given 300 million *Staphylococci citrei*.

December 25, 1907.—Given 300 million *Staphylococci citrei*.

January 2, 1908.—Given 300 million *Staphylococci citrei*.

January 6, 1908.—Given 300 million *Staphylococci citrei*.

January 9, 1908.—Cure complete.

CASE XXI.—Mr. A., age twenty-four years.

Family and personal history were negative.

Present illness: Pustular acne of the face of six years' duration.

June 4, 1907.—*Staphylococci* index, 0.7; culture showed *staphylococci*. Given 10,000 million *staphylococci* (autogenous).

June 10, 1907.—Given 10,000 million *staphylococci*. Some improvement noted.

June 17, 1907.—Given 10,000 million *staphylococci* (autogenous).

June 24, 1907.—Given 10,000 million *staphylococci*. Result negative.

CASE XXII.—Mr. D., age twenty-two years.

Family and previous medical history were negative.

Present illness: For five years had had acne pustulosa of the face. Many dark, infiltrated areas were noted. Was given three injections at intervals of seven days of 300 million *Staphylococci citrei*. The condition rapidly cleared up and the induration greatly improved when the

patient was attacked with pleurisy. For a period of three weeks he was confined to the house. At the end of this time a few papules again appeared on the neck. The injection was repeated and no new lesions appeared up to the present time.

CASE XXIII.—G. K., male, age twenty years.

History was negative.

Present illness: Infection of right side of the face and neck following the opening of a pimple. Culture showed *Staphylococcus albus* and *aureus*.

November 21, 1907.—*Staphylococci* opsonic index, 0.8; given 400 million mixed *staphylococci*.

November 23, 1907.—*Staphylococci* opsonic index, 0.9.

December 7, 1907.—*Staphylococci* opsonic index, 1.3.

Complete recovery.

CASE XXIV.—A. M., female, age twelve years.

Family history was negative.

Present illness: Osteomyelitis with metastatic abscesses. Temperature on admission to hospital was 105° F. Average temperature was 105° F. to subnormal.

Two days after admission tibia was scraped and drained. Temperature became normal for a period of two days, then began to rise and remit again.

Eighteenth day.—Hæmoglobin, 70; white blood corpuscles, 26,000; red blood corpuscles, 3,250,000.

Thirty-fourth day.—Patient became delirious.

Thirty-sixth day.—We were asked to see the patient. We made a culture which showed a mixed infection of *Staphylococcus aureus* and *streptococcus*.

Thirty-seventh day.—Patient was given 6,000 million mixed *staphylococci* and *streptococci* (autogenous).

Thirty-eighth day.—Rise of temperature from 99° to 103° F.

Thirty-ninth day.—Patient much better, slept well and took nourishment better.

Forty-second day.—Mental condition very good; temperature again falling to normal.

Forty-fourth day.—Autogenous vaccine again given, 12,000 million mixed *staphylococci* and *streptococci*, followed by a rise of temperature from 98.8° to 106.6° F.

Fiftieth day.—Temperature normal and remaining so for ten days; improvement of all symptoms.

Sixty-first day.—Temperature subnormal, 96° F. Physical examination showed enlarged liver, probably amyloid. Temperature for seven days 96° to 97° F.

Sixty-ninth day.—Patient died.

CASE XXV.—H., male, age eighteen years.

Family and personal history were negative. Diagnosis: Erysipelas.

Present illness: Patient had been treated for five days for typhoid fever when the case was referred to us. The face was greatly swollen, red, and oedematous on both sides and extended into the scalp. Temperature, 101° F.

November 15, 1907.—Patient was given 50 million *streptococci*.

The temperature remained at 101° F. for twenty-four hours, then fell to normal. The patient insisted on leaving the hospital and going home. The improvement was very decided, but we have been unable to locate the patient, which necessitates the record of the case as "improved" instead of "cured."

CASE XXVI.—Mrs. B., age twenty-eight years.

Family history was negative.

Personal history: Had an attack of erysipelas when three years of age.

Present illness: On fifth day of her puerperium the patient had a chill and some fever, with abdominal tenderness over the uterine region. A pelvic examination revealed an enlarged, tender uterus, and she was sent to the hospital and a curettoment done. The day following the operation the patient was attacked with facial erysipelas.

January 15, 1908.—Patient was given 50 million *streptococci*.

The temperature, which was 102° F., fell to normal within twenty-four hours, and it was found to be unnecessary to repeat the injection. A quick recovery followed and no further rise in temperature was noted after the first injection.

CASE XXVII.—Mr. T., age sixty-two years.

Family and personal history were negative.

Present illness consisted in a sinus following an operation for ischioanal abscess.

A culture showed the predominance of the *Staphylococ-*

*cus aureus*, and mixed staphylococci vaccine injections every seven days for four weeks raised the index from 0.7 to 1.4.

Not much improvement followed; autogenous vaccine is now being administered with improvement.

CASE XXVIII.—D. G., age five years, male.

History was negative.

Present illness: General infection of the arm following a puncture wound.

November 21, 1907—Streptococcic index, 1.1.

November 23, 1907—Given 25 million streptococci; followed by complete recovery.

CASE XXIX.—C. R., female, age thirty-six years.

Family history was negative.

Previous medical history: Had had a difficult labor eleven years ago; the pelvis was justomino.

Present illness: Eighteen months ago began to show symptoms of cystitis. Had an operation done for repair of a tear resulting from the difficult labor referred to; at the same time the bladder was irrigated, which was continued for some weeks. This was followed by improvement for a short time.

We now saw her for the first time. A retroverted uterus was replaced and the bladder carefully explored with the cystoscope and washed out with solution of silver nitrate. No relief was noted from this or subsequent irrigations.

A culture from the urine showed the presence of colon bacilli.

May 1, 1907—Colonopsonic index, 0.7.

May 2, 1907—Given 40,000 million colon bacilli. (Autogenous).

May 3, 1907—Index, 0.5; severe reaction followed this injection; the arm around the point of injection was swollen and inflammatory in character; cleared up with wet dressings; no pus.

May 9, 1907—Index, 1.1. Given 5,000 million colon bacilli.

May 21, 1907—Given 10,000 million colon bacilli.

June 10, 1907—Given 10,000 million colon bacilli.

Symptoms completely cleared up. Patient has remained absolutely healthy to the present time, March 15, 1908.

CASE XXX.—D., age twenty-seven years. Typhoid fever. Admitted to the Samaritan Hospital April 17, 1907, the ninth day of the disease. Temperature, 103° F.

April 20, 1907—Given 1,000 million typhoid bacilli; followed by a severe reaction, prolonged chill, and a rise of temperature, from 101° to 103.6° F. Had no apparent effect on the course of the disease. Temperature reached normal on the 21st day of the disease.

3235 NORTH FIFTEENTH STREET.

2721 WEST LEHIGH AVENUE.

## THE TUBERCULIN INUNCTION:

*A Diagnostic Measure without Rupture of Continuity or the Skin.*

By ERNST MORO, M. D.,

Munich,

Privatdocent in the University of Munich.

I rub into the skin of the chest or abdomen, over an area of 4 cubic inches, a piece of the following ointment of the size of a pea for about half a minute, and permit the ointment to remain on the surface of the skin to spontaneously absorb. The effect of this inunction is observed on the following day or later.

The ointment is prescribed thus:

R Koch's old tuberculin.

Anhydrous wool fat.

The result is positive when small papules appear over the area of the inunction or in its immediate vicinity; negative when the skin shows no changes of any kind. With the positive reaction one often observes only a few very pale papules. Occasionally the papules are very numerous and red, and only exceptionally the skin in the region of the inunction is very much reddened and itches. The papules

usually disappear at the end of a week. Other local or general symptoms have not been observed.

A positive result obtained by this method is as conclusive for a present or previous tuberculous infection as is that obtained by the conjunctival reaction or cutaneous method of von Pirquet.

By comparing the effects of my method and that of von Pirquet upon a large number of patients, the following differences were seen: (1) In advanced cases of tuberculosis the skin loses earlier its reactionary power to the inunction. (2) In cases showing no clinical signs of tuberculosis the percentage of positive results is much smaller in the inunction method.

As opposed to the conjunctival and subcutaneous applications the inunction is entirely harmless. The patients never object to its use.

My investigations have been only upon children. In the Munich medical clinics of Professor Friedrich von Müller and Professor Josef von Bauer, however, the efficiency of my method has been proved on adults.

23 MOZARTSTRASSE.

## THE OPHTHALMIC TUBERCULIN TEST.

By A. L. BENEDICT, M. D.,

Buffalo.

So many thorough discussions of this method have recently appeared that I merely wish to record a few clinical data:

CASE I.—Tuberculous tibia, moderate conjunctivitis in each eye, reaction doubtful.

CASE II.—Acne, very marked, in chronic alcoholic, delayed and probably adventitious conjunctivitis in eye opposite to that into which the tuberculin was instilled.

CASE III.—Typhoid, sixteenth day, nearly nonfebrile, no reaction.

CASES IV to XII.—Miscellaneous cases, mainly surgical, no suspicion of tuberculosis, no reaction.

CASE XIII.—Young woman, tuberculous since 1905, bacilli and cavity in summer of 1906, treated with Smith lymph, diet, etc., lungs let alone, no fever for some time, good general health, some moisture in region of cavity which I can no longer detect, practically no sputum; very marked but not serious reaction.

CASE XIV.—Young woman said to have had weak lungs, been "threatened with phthisis," and advised to give up dusty work on that account. I had not been able to find any lesion. Reaction negative.

CASE XV.—Young woman with acute exudative pleurisy, without assignable cause, in November. Apparently complete recovery after tapping. Reaction doubtful.

Cases II and XV illustrate a possible fallacy which I have not happened to see mentioned, namely, the occurrence of an adventitious conjunctivitis from dust, coryza, etc. Such causes may act so as to simulate not only a positive reaction, but, by affecting the uninstilled eye, to vitiate the contrast and thus perhaps lead to the recording of a negative or doubtful result. I do not overlook the fact that the very circumstantial descriptions have been given of the appearances to be looked for, but it seems probable whether these are sufficiently characteristic to be distinguished from a conjunctivitis of ordinary cause, especially when the latter occurs coincidentally.

The patient in Case XV took cold on the day of the instillation. Thus, while there was slightly more redness in the instilled eye, it was impossible to say whether this was due to the tuberculin or to a greater degree of extreme catarrhus, such as



is very frequently noted. The nostril corresponding also discharged slightly more. This suggests the query as to whether tuberculin, in the case of positive reactions, produces a corresponding unilateral rhinitis and even as to whether we may not apply the test nasally. If, as some state, "idiopathic" pleurisy is always tuberculous, we should certainly expect a marked reaction in this case.

156 WEST CHIPPEWA STREET.

## THE OPHTHALMIC REACTION IN THE DIAGNOSIS OF TUBERCULOUS CONDITIONS.

*With Special Reference to the Lungs and Skin.*

By HENRY HUBBARD PELTON, A. M., M. D.,

New York,

Adjunct Assistant Attending Physician to Bellevue Hospital; Chief of the Medical Clinic, Presbyterian Hospital, Out Patient Department.

Since Calmette's original papers<sup>1</sup> the ophthalmic reaction to tuberculin has become too familiar to the profession to need full description here. It is sufficient to state that, in general, when a small amount of sterilized one-half to one per cent. solution of dry tuberculin in normal saline solution is instilled into the conjunctiva of a patient who is the subject of tuberculous disease a local reaction takes place. In most instances where this positive reaction is obtained within three to forty-eight hours after the instillation, the semilunar fold and caruncle become reddened and the conjunctiva becomes congested, the general appearance being that of an acute infectious conjunctivitis. The reaction reaches its height in from six to ten hours, and, as a rule, disappears in from eighteen to thirty-six hours. There may be slight lachrymation and the eyelids may be gummed together when the patient awakes in the morning, but the discomfort is very slight. The positive reaction varies in degree from a moderate congestion of the caruncle and conjunctiva to marked edema of these structures with fibrinopurulent secretion and photophobia. The local reaction is apparently accompanied by no constitutional disturbance nor is the local tuberculous process influenced in any degree. Diseases of the eye contraindicate the employment of the test. For a more detailed description of the types in which the reaction may manifest itself the reader is referred to the paper of Smithies and Walker.<sup>2</sup>

A number of instances in which untoward results have followed the use of the test have been reported. These have varied from persistent conjunctivitis<sup>3</sup> to interstitial keratitis<sup>4</sup>; one instance of destruction of the eye has also been reported.<sup>5</sup> In the writer's cases there were but two instances of marked conjunctivitis (cases xx and xxiii); these persisted for from ten days to two weeks; one case of persistent phlyctenular conjunctivitis has been observed in a patient who underwent the test in the wards of the Presbyterian Hospital.

In most of the patients reported in this paper a one per cent. solution of tuberculin was used, but

in a few a solution of one-half per cent. strength was employed. The amount instilled in each instance was 0.025 c.c. which was measured in a graduated throttle pipette, this instrument being sterilized by boiling before use. The technique employed in the instillations was that described by Baldwin.<sup>6</sup>

It has been stated that the tuberculin solutions are not stable but the one per cent. solution used by the writer remained potent for at least two months. When not in use it was kept tightly corked at an ordinary temperature. The tuberculin employed was furnished to the Presbyterian Hospital by the Rockefeller Institute of New York city.

When this study was undertaken it was intended to embrace only patients suffering from or suspected of being subjects of pulmonary tuberculosis, but owing to the kindness and interest of Dr. Jerome Kingsbury, class head in dermatology at the Presbyterian Hospital, Out Patient Department, a number of dermatological cases became available, and the results obtained in these are incorporated in this report. Most of the patients tested were selected from those applying for treatment at the Presbyterian Hospital, Out Patient Department, but two are from the writer's private practice, and several of the dermatological cases are from the service of Dr. Kingsbury at the New York Skin and Cancer Hospital. In recording the results obtained the following scheme<sup>7</sup>, which is practically that of Baldwin, has been adopted: 0, No difference in either conjunctiva. +, Slight difference, especially in caruncle. ++, Distinct redness of caruncle and palpebral conjunctiva. ++, Distinct redness of palpebral and bulbar conjunctiva with lachrymation and formation of fibrin. +++, Edema of lids and photophobia (chemosis).

CASE I.—L. B., female, fourteen years of age. Clinical diagnosis: Pulmonary tuberculosis (second stage). Bacilli found in sputum. On January 31, 1908, one half per cent. tuberculin in right eye. Result, ++.

CASE II.—A. H., female, thirty-six years of age. Clinical diagnosis: Probable pulmonary tuberculosis, incipient. No bacilli found in sputum. In this patient the physical signs were hardly sufficient to assure the diagnosis, and it is in such cases, in the writer's opinion, that the ophthalmic test will find its greatest field of use in the diagnosis of pulmonary tuberculosis. April 1, 1908, one per cent. tuberculin in right eye. Result, 0. April 13, 1908, one per cent. tuberculin in left eye. Result, +.

CASE III.—E. R., female, twenty-two years of age. Clinical diagnosis: Pulmonary tuberculosis, first stage. No bacilli found in sputum. January 31, 1908, one half per cent. tuberculin in right eye. Result, 0. March 27, 1908, one per cent. tuberculin in right eye. Result, +.

CASE IV.—B. F., female, thirty years of age. Clinical diagnosis: Pulmonary tuberculosis, second stage. Bacilli found in sputum. February 7, 1908, one half per cent. tuberculin in right eye. Result, +.

CASE V.—F. McP., male, sixty years of age. Clinical diagnosis: Pulmonary tuberculosis, third stage; Bacilli found in sputum. April 10, 1908, one per cent. tuberculin in right eye. Result, +.

CASE VI.—L. U., male, forty years of age. Clinical diagnosis: Pulmonary tuberculosis, third stage; Potts' Disease. No bacilli found in sputum. March 11, 1908, one per cent. tuberculin in right eye. Result, 0. March 25, 1908, one per cent. tuberculin in right eye. Result, +.

CASE VII.—J. F., male, forty-one years of age. Clinical diagnosis: Pulmonary tuberculosis, second stage. Bacilli found in sputum. March 29, 1908, one per cent. tuberculin in right eye. Result, +.

<sup>1</sup>*Journal of the American Medical Association*, December 14, 1907. Campbell, McKee and White; *Montreal Medical Journal*, April, 1908.

<sup>2</sup>*La Presse médicale*, June 19 and July 14, 1907.

<sup>3</sup>*Journal of the American Medical Association*, January 25, 1908.

<sup>4</sup>*Bulletin of the Association of the French Medical Society*, December 12, 1907.

<sup>5</sup>*Medical Journal*, December 12, 1907; *Review*, October 12, 1907.

<sup>6</sup>*British Medical Journal*, April 26, 1908.

<sup>7</sup>*Review of Ophthalmology*, March, 1908.

<sup>8</sup>Fuller and Witham; *Scottish Medical and Surgical Journal*, April, 1908.

CASE VIII.—G. H., male, thirty-four years of age. Clinical diagnosis: Pulmonary tuberculosis, quiescent. This patient applied at the dispensary some two years ago in the second stage of the disease; bacilli were present in his sputum. He has done well under treatment and has gained twenty pounds. The signs of his old lesion are still demonstrable. February 10, 1908, one half per cent. tuberculin in right eye. Result, +.

CASE IX.—J. R., male, forty-four years of age. Clinical diagnosis: Pulmonary tuberculosis. The history of this patient is very similar to that of Case VIII. Bacilli were formerly present in his sputum, but have now disappeared. March 20, 1908, one per cent. tuberculin in right eye. Result, O. April 10, 1908, one per cent. tuberculin in right eye. Result, +.

CASE X.—C. J., female, twenty. Clinical diagnosis: Pulmonary tuberculosis, incipient. This patient has been under the writer's care at intervals for about four years. During the summer of 1907 she underwent an attack of pleurisy with serous effusion; this was treated by means of thoracocentesis. Recovery took place, but the clinical symptoms since her pleurisy led to the belief that there was a tuberculous lesion in the lungs, although no very definite signs could be demonstrated, nor were tubercle bacilli found in the sputum. It is in such patients that the ophthalmic test will prove extremely useful if further experience shows that it is reliable. March 7, 1908, one per cent. tuberculin in right eye. Result, +.

CASE XI.—M. O'B., male. Clinical diagnosis: Bronchiectasis; pulmonary tuberculosis, third stage. Bacilli found in sputum. February 7, 1908, one half per cent. tuberculin in right eye. Result, O. February 18, 1908, one per cent. tuberculin in right eye. Result, O. March 14, 1908, one per cent. tuberculin in left eye. Result, O. April 4, 1908, one per cent. tuberculin in right eye. Result, +.

CASE XII.—M. L. M., female, forty-one years of age. Clinical diagnosis: Pulmonary tuberculosis, first stage; surgical kidney. March 5, 1908, one per cent. tuberculin in right eye. Reaction, +. This patient was referred to the writer by Dr. George B. Campbell. Her family history was tuberculous, and she had been suffering from a bladder disorder for twelve years. The urine contained pus, and three times during the past three years a tumor appeared just above the left groin. Each time the tumor disappeared suddenly, without, however, any associated sudden increase in the flow of urine. Physical examination revealed the presence of a small tuberculous infiltration in the right lung and of two palpable kidneys, the left larger than the right and tender. A diagnosis of pulmonary tuberculosis and left pyonephrosis, possibly tuberculous, was made. No tubercle bacilli were found in the urine. The patient was sent to the Presbyterian Hospital, where the diagnosis of surgical kidney was confirmed by cystoscopy and ureteral catheterization, the pus from the affected kidney containing *Bacilli coli* in pure culture. Subsequently nephrectomy was performed by Dr. Ellsworth Eliot, Jr. The patient made an uneventful recovery.

CASE XIII.—J. C., male, twenty-five years of age. Clinical diagnosis: Cerebral syphilis (?); tuberculous brain lesion (?). February 24, 1908, one per cent. tuberculin in right eye. Reaction, O. This patient was seen at the Manhattan Eye and Ear Hospital by the courtesy of Dr. Frank J. Parker. The facts that the symptoms rapidly disappeared under the administration of potassium iodide in large doses and that the ophthalmic reaction was negative would seem to rule out tuberculosis as a factor in the aetiology.

CASE XIV.—Female, twenty years of age. Clinical diagnosis: Probable incipient pulmonary tuberculosis. February 17, 1908, one per cent. tuberculin in right eye. Reaction, O. April 21, 1908, one per cent. tuberculin in left eye. Result, O.

CASE XV.—J. J., female, sixteen years of age. Clinical diagnosis: (chiefly on history): Possible incipient pulmonary tuberculosis. No bacilli found in sputum. February 14, 1908, one per cent. tuberculin in right eye. Reaction, O. March 14, 1908, one per cent. tuberculin in left eye. Result, O.

CASE XVI.—K. K., female, thirty-six years of age. (Control test: Clinical diagnosis: Lupus erythematosus.) March 17, 1908, one per cent. tuberculin in right eye. Reaction, O. April 21, 1908, one per cent. tuberculin in left eye. Result, O.

CASE XVII.—W. N., male, thirty-seven years of age. (Control test: Clinical diagnosis: Acute postleptospiral

cinoma of stomach. March 9, 1908, one per cent. tuberculin in right eye. Reaction, O.

CASE XVIII.—L. M., female, thirty-five years of age. Clinical diagnosis: Necrotic granuloma (folliclicis). No evidence of other tuberculous lesion. April 13, 1908, one per cent. tuberculin in right eye. Reaction, +.

CASE XIX.—R. G., female, twenty-three years of age. Clinical diagnosis: Necrotic granuloma (folliclicis). This patient, several years ago, suffered from an attack of erythema induratum (Bazin) and now has enlarged cervical glands, which probably are tuberculous. April 17, 1908, one per cent. tuberculin in right eye. Reaction, +.

CASE XX.—H. H., female, twenty years of age. Clinical diagnosis: Necrotic granuloma (folliclicis). No evidence of other tuberculous lesion. April 13, 1908, one per cent. tuberculin in right eye. Reaction, +.

CASE XXI.—N. M., female, fifteen years of age. Clinical diagnosis: Lupus vulgaris. No evidence of other tuberculous lesion except slight dulness and diminution of the breath sounds at the apex of the right lung. April 13, 1908, one per cent. tuberculin in right eye. Reaction, +.

CASE XXII.—B. M., female, thirty-three years of age. Clinical diagnosis: Lupus vulgaris. No evidence of other tuberculous lesion. March 26, 1908, one per cent. tuberculin in right eye. Reaction, +.

CASE XXIII.—G. M., male, thirty-one years of age. Clinical diagnosis: Lupus vulgaris. No evidence of other tuberculous lesion. February 18, 1908, one per cent. tuberculin in right eye. Reaction, +.

CASE XXIV.—K. K., female, thirty-six years of age. Clinical diagnosis: Lupus erythematosus. No evidence of tuberculous lesion. February 28, 1908, one per cent. tuberculin in right eye. Reaction, O. April 20, 1908, one per cent. tuberculin in left eye. Reaction, O.

CASE XXV.—E. G., male, twenty-six years of age. Clinical diagnosis: Lepra. No evidence of any tuberculous lesion. April 17, 1908, one per cent. tuberculin in right eye. Reaction, O. April 23, 1908, one per cent. tuberculin in left eye. Reaction, O. This patient was tested as a matter of interest, since it is known that in leprosy injections of tuberculin under the skin may be followed by a constitutional reaction.

Since the ophthalmic test may be positive in typhoid fever it may be well to state that none of the patients who exhibited a positive reaction had suffered from a recent attack of this disease.

**Summary.** In summarizing the results it seems best to deal with the dermatological cases separately. Of the other patients, all those in whom the diagnosis was assured, either by the presence of distinct physical signs or by the demonstration of the presence of the tubercle bacillus in the sputum, a positive reaction was obtained, although in some instances two or more trials were necessary. The two patients (Cases XIV and XV) in whom a tentative diagnosis of pulmonary tuberculosis was made reacted negatively; the control cases (XVI and XVII) also gave negative results.

Of the dermatological cases, in all these, six in number, in whom the affection was one of tuberculous nature—for while necrotic granuloma is not of itself a tuberculous lesion according to the dermatologists, it seems to bear a constant relation to tuberculosis—an undoubted positive reaction was obtained, while, in the case of erythematous lupus (XXIV) the reaction was negative.

**Conclusions:** If one can deduce conclusions of value from the results obtained in an few cases it would seem that the following might be said:

The ophthalmic test is an aid of some value in the diagnosis of tuberculous conditions of the lungs, but in many instances is unnecessary since the diagnosis may be secured by the examination of the sputum and by physical examination of the chest. However, in incipient cases with equivocal signs the test may be of distinct assistance (provided

its results can be relied upon. Whether reliance is to be placed upon it or not further study of the reaction will show.

2. In lupus vulgaris and tuberculides of the type of necrotic granuloma (follicles) the ophthalmic reaction seems to afford a very material help in the diagnosis of the condition.

The writer wishes to express his sincere thanks to Dr. F. P. Kinnicut, attending physician to the Presbyterian Hospital; to Dr. E. F. DuBois, of the interne staff of the hospital; to Dr. F. J. Parker, ophthalmologist; and to Dr. Jerome Kingsbury, dermatologist to the dispensary, as well as to his other associates of the dispensary staff, whose aid and interest have made possible the writing of this paper.

871 PARK AVENUE.

## MERCURY AND TUBERCULOSIS.

BY WILLIAM F. BERNART, M. D.,  
Chicago, Ill.

The editorial in the May 22d issue of the *New York Medical Journal* on Mercury in the Treatment of Consumption, based upon the experiments of B. L. Wright, Surgeon, U. S. N., and published in the *U. S. Naval Medical Bulletin*, has assisted in advancing a topic of considerable interest, and magnitude. I say advancing, as the subject has been generally dealt with in articles upon the action of mercury, in which it is usually stated that this metal is contraindicated in certain wasting diseases, of which tuberculosis is one. It is barely possible that such deductions, in at least some varieties of tuberculous infections, were prompted by a faulty administration of the drug.

There is but little doubt that mercury administered so as to gain an intensive action without the production of toxic symptoms exerts a beneficial influence over some varieties of tuberculous infections; just what conditions are the most favorably influenced remain to be decided. It has been my practice for some years to use mercury intravenously for the routine treatment of syphilis, so possibly I can add a mite to an interesting subject. A survey of my statistics some months ago (preparatory to the publishing of an article on syphilis, not tuberculosis) showed that I had treated 422 syphilitics by the intravenous method, and had given 9,838 injections, of which 9,446 were of mercuric chloride, 327 of mercuric cyanide, thirty-two of sublimine (ethylenediamine mercury sulphate), and thirty-three of mercuric iodide. The average dose of mercuric chloride was 0.02 gramme ( $\frac{1}{2}$  grain).

Among the 327 patients treated with mercuric chloride were several with tuberculosis and from whom general observations were made. These observations at the time were not made for specific publication, as they apparently were foreign to my subject in view, but the rehabilitation of the topic of mercury in tuberculosis prompts this informal report.

Before citing the influence of mercury injections upon the tuberculous cases it might be of advantage to show that mercury, when given by injections, possesses certain actions exclusive of its antisypilitic ones; this especially applies to the mercuric chloride.

This drug when injected in full doses has a decided antithermic action in nearly all cases where the fever is the result of some germ invasion. Besides this, it also exerts what might be termed a sedative influence, that is, it decreases the nervous tension, or, as the patient expresses it, it makes him lazy and indolent. This latter action might be the result of a mild metallic poisoning. In view of this, it is not at all surprising that certain tuberculous patients at first seem to be favorably influenced by this method of treatment.

The general observations made on the syphilitic tuberculous patients of this series were as follows:

1. That the control of the active syphilis in many of the tuberculous patients seemed for the time to benefit the tuberculosis also.

2. That in patients with pulmonary tuberculosis, after the first control of the syphilis and if the treatment was continuously pushed, a few months would show a gradual aggravation of the tuberculosis.

3. That the genitourinary tuberculous patients, outside of the benefit to their syphilis, showed no improvement in their tuberculosis.

4. That two patients with tuberculous eye trouble were benefited, one markedly so and the other but moderately so. This is not surprising, as the intravenous injections of mercuric chloride exert a decided and beneficial influence over infections and ulcerations of the eye.

5. That the patients with pulmonary tuberculosis, evidently suffering from the absorption of septic materials, probably due to a secondary germ infection, were decidedly benefited up to a certain point, after which, if the mercurial treatment was continued, their retrogression was rapid.

Regarding the sending of tuberculous patients, as suggested editorially, to the various spas, such as Hot Springs, Ark., for the reason that they can probably tolerate larger doses of mercury there than elsewhere, I can only say that after five years of practice at that same resort I became imbued with the general impression in vogue, and this impression undoubtedly emanated from experience that, so far as the tuberculosis is concerned, syphilitic tuberculous patients do not do well under the treatment at that place. This impression may not be due to the use of mercury, but to the overdosing with the iodides, a habit nearly universally prevalent at the Springs.

42 MADISON STREET.

## PUERTO RICO AS A FIELD FOR RESEARCH IN TROPICAL MEDICINE.\*

BY BAILEY K. ASHFORD, M. D., U. S. Army,  
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(Under the Imprimatur of the Society of Tropical Medicine.)

There are a few remarks which may be made concerning certain diseases classed as "tropical" to be found in the island of Puerto Rico which may, perhaps, interest the members of this society in a nearby and very inviting field of study.

I was for some years in a position to see a large number of current dispensary cases as well as to follow up some special cases in the hospital. Prob-

\*Read at the fifth annual meeting of the American Society of Tropical Medicine, held in Baltimore, March 28, 1908.



ably about 15,000 were thus personally seen, and fully 20,000 more were observed by colleagues working similarly in other parts of the island. These patients represent fairly the average clinic among the Puerto Rican laboring class, numerically large, as it constitutes the vast majority of the inhabitants of the country.

The society will, perhaps, be able to reach some conclusion concerning the value of Puerto Rico as a point of observation of some, at least, of the affections more or less foreign to our temperate zone.

*Uncinariasis.*—This is without doubt the most serious of all diseases in Puerto Rico, not only in point of numbers infected, but also in morbidity and mortality. It is not probable that in any other country it is really the leading affection. Its characteristics are well known, and no extended comment is necessary, save to remind you that it is estimated that not far from 800,000 of its 1,000,000 of population harbored this parasite at the beginning of the American domination, and that from 5,000 to 7,000 died annually from its effects. Despite the approximate 150,000 to 175,000 persons treated by the Puerto Rico Anemia Commission it still remains the distinguishing feature of Puerto Rican pathology, although now clearly understood and properly treated by practically all insular physicians. Although what has been elucidated by divers authors is common knowledge, there is no point at which profound anemias and their effects can be better observed. Despite faithful attempts, no adequate explanation has yet been given of just how this anemia is brought about. Many believe that it is a hæmolytic due to some product of the worm. This remains to be established by actual proof, and constitutes a scientific problem of great interest which can possibly be best worked out in this island.

*Microfilaria nocturna.*—This parasite is commonly encountered. Twelve per cent. of the second battalion of the Puerto Rican provisional regiment of infantry, stationed at Cayey, were found to be hosts of this parasite, and while nearly all the infected were apparently healthy men, their military medical histories displayed from time to time the capacity of this worm of evil. Whether this is a fair proportion of infected among the civil population is problematical. Suffice it to say that filariasis was frequently seen among our patients in Ponce, and chyluria, varicose groin glands, lymph scrotum, and other manifestations were constantly in evidence. Many were also found who suffered no symptoms. Cases of elephantiasis were by no means in proportion to the number of persons in whose blood microfilariæ were circulating.

One of the most interesting phases of the disease is the so called "erisipela" or erysipelas. This is a most common condition and seems to bear relation to filarial disease, in most instances, when affecting a lower extremity without other apparent cause. It was our custom to suspect such cases of filarial infection, and a search through the blood at night was often rewarded by finding the elusive worm. This "erisipela" is, of course, a complication with the usual sharp reaction of a lymphangitis and is not at all fatal, as a rule, although I have

seen it result in death; it is apt to end in elephantoid swellings of the limbs, if not in elephantiasis.

As will be seen from the remarks on this, as well as on the succeeding diseases, we were unable to give our time to a thorough study of these cases as uncinariasis was claiming most of our attention. There seems to be, however, a decided tendency for lymphangitis of the lower extremity to recur again and again in filarial infections. Can there be a reduced resistance to the invasion of the streptococcus and other pyogenic organisms? Our experience with the affection would seem to indicate it. It is needless to say that filariasis could be made a most absorbing, perhaps very profitable study in the interest of the large number of persons of all stations of life who are victims of the disease, for it is not alone confined to the poor. It is certainly much more common in the mosquito plagued coast regions than in the highlands of the interior, as may be imagined, and is not rarely confounded with malaria if the indispensable microscope is not called into service. This is especially true in those cases where the chill, high fever, and sweat are all the symptoms to be elicited, a not uncommon picture in filariasis.

Other varieties of microfilariæ were not observed, although from reports from neighboring islands it is not unreasonable to suppose that they are to be found.

*Bilharziosis.*—This is not at all infrequent, the first announcement of the disease in Puerto Rico having been made by Gonzalez Martinez to the Puerto Rican Medical Association early in 1904. Thirty cases were disclosed in the routine examination of the feces of uncinaria patients by the commission, but these were not all that were seen by me. Others have made reports on bilharzia disease in the island, notably Gonzalez Martinez, of Mayaguez, who tells me that in 5 per cent. at least of the rural population of his district the eggs can be demonstrated in the feces. Great interest attaches to this affection because of its exclusive limitation to the rectal mucous membrane. It is due, almost certainly, to the *Schistosoma mansoni* of recent description and is not *Schistosoma hamatobium* as first believed.

Members of the commission repeatedly asserted their belief, based on the appearance of the ovum, that it was not identical with previously described schistosomata. Ova have never been found, to my knowledge, in the urine; the parasites were large, oval, and always provided with lateral spine. Apparently no symptoms are usually elicited, but that it can give rise to a serious affection is seen in the death of one of our patients, a child of twelve, in whom it was at least a contributory cause. During the long stay of this child in our field hospital, the infection was evidenced clinically by successive proctitis and prolapsus recti, and the autopsy revealed many adult worms in the splenic and portal veins. The worms and tissues were unfortunately damaged in preserving by an assistant. Examination showed that the parasite was *Schistosoma mansoni*.

The presence of the worm in Puerto Rico is believed by Stiles to consist in a continuous source to the island, a view borne out by the fact that cases of bilharziosis are apparently increasing in numbers.

At one point, Mayaguez, the infection seems to be deeply rooted in endemic form. Opportunities for infection are never lacking among a large proportion of the population, as the people go barefoot, and there are no features of successful invasion to alarm a patient, until extensive changes are wrought and widespread dissemination of the ova has been accomplished.

As a rule, the effects are simply those of the local manifestation which, in aggravated form, with bloody and mucous stools, tenesmus, and pain, sorely tax the patience and strength of the host. No high eosinophilia has been observed by us. Indeed we question the eosinophilia of bilharziosis, but a fair test of many cases has not as yet been presented, as it is so very difficult to find a patient suffering from the disease, who is not at the same time the host of *Necator americanus*, a potent cause, as is well known, of a eosinophilia, even, for a considerable period after expulsion of all worms.

*Ascaris lumbricoides*.—This is a very common parasite of man in the island and is mentioned merely because it is so extremely frequent.

*Oxyuris vermicularis* is common. In connection with this worm, we stumbled upon what may be a valuable point in its treatment: As is known, the use every day or two of rectal enemas of salt and water, infusion of quassia, etc., for four to six weeks is recommended to effect a cure, as the female resides in the cæcum and only goes to the rectum after her eggs have matured, where, of course, she would be reached by the remedies above mentioned. In one of our cases 418 oxyurides were expelled, all the patient harbored, by two doses of betanaphthol of two grammes each; the second dose was administered one week after the first. This is a simpler and prompter method of treatment than the old one.

*Strongyloides stercoralis* is not infrequent.

*Tricocephalus trichiuris* is very common, but, while rebellious to anthelmintics, large numbers have been expelled by thymol and beta naphthol, in spite of statements in medical literature, to the effect that they are insusceptible to its action. This worm may not usually cause anæmia, but we have seen cases in which it seemed to have done so. It occasions a moderate eosinophilia.

*Trichinelliasis* was never seen.

*Filaria medinensis* was not observed, and no evidence of its ever having been seen on the island can be obtained.

*Cestodes* are not at all frequent, and although *H. nana* was especially looked for it was not found.

*Trematodes* offer a fertile field for original work. Stiles reports in Osler's *Modern Medicine* upon a fasciola, sent him from one of the cases of the Anæmia Commission, and states that it is a new species. I have still another from another case found in Aibonito which is under consideration. *Paragonimus Westermanni* cannot be frequent if it exists in Puerto Rico. For several years I have searched for it, as have others, and as yet without result.

#### PROTOZOAN DISEASES.

*Amæbic dysentery* is not common, relatively speaking. Indirect testimony as to this statement

may be offered in the well known fact that abscess of the liver is exceedingly rare. I saw but one case while in Puerto Rico. A few cases of pathogenic amebæ were demonstrated in dysenteric stools.

*Trypanosomiasis* does not exist in the island.

*Trepanema pertenue* must exist, although I have not seen it personally. There is clear and undisputed evidence of epidemic yaws, occurring in at least two districts some twenty years ago. It was typical from the description given by many who witnessed the cases, and it is not unreasonable to suppose that it will come to the fore again.

All care and diligence has failed to reveal kala azar and, while the suspicious of some workers must be respected, I have to record that all evidence is as yet utterly insufficient to warrant serious attention. Of the hæmosporidia only the *plasmodia* claim attention. Statements concerning malaria in Puerto Rico must be accepted with great reserve.

Positive evidence can be offered for certain valleys and for some coast districts. A remarkable feature of such foci, as were uncovered by the Puerto Rico Anæmia Commission, is the limitation of separate species to separate districts topographically distinct. For instance, while working in Aibonito with a district of about 8,500 population, about 4,000 came under our care for uncinariasis. It soon developed that in the large tobacco plantations of the valley of the river Plata, there was a focus where practically all cases were quartans, on the other side of us in another punch bowl valley, tertian prevailed, while from the sugar plantations of Aguirre nearly all cases which reached us were estivoautumnal. Thus within a few miles, in any one of three directions, we could enter three distinct foci, each populated by mosquitoes, bearing in one *Plasmodium vivax*, in another *Plasmodium malariae*, and in a third *Plasmodium immutatum*. This curious condition may, and probably does, obtain in other parts of the island, but the well known fact that there is, as in the early days of Greece, comparatively little migration of peasantry from one to another natural division of land will in part explain this curious distribution.

#### BACILLARY DISEASES.

*Typhoid fever*, while not a tropical disease, is apparently influenced by its tropical habitat. It is very fatal, and Manson's statement that it is twice as fatal in India among Europeans, as in the home country, can be applied not only to continentals but to Puerto Ricans in the island under consideration. This disease is gradually becoming a cause of alarm, and while it existed sporadically before, its rapid strides since our occupation are causing universal comment. Recently I am informed that the large town of Caguas has been visited by a severe epidemic. One such epidemic was observed in Cayey, a mountain town of the interior, and one in Coamo; later a similar one invaded the town of Aibonito, where the commission was working, but it did not reach serious proportions as in the other towns mentioned. Our observation led us to the conclusion that these outbreaks were often by contact infection.

A rich opportunity for the application of antityphoid vaccines is here presented, at a critical period,

when such aid might be truly appreciated. It would be the only feasible way to put an end to what is already seemingly a serious condition, should the prophylactic value of the vaccine be established.

*Bacillary dysentery*.—At present the disease is not epidemic, nor was it during the existence of the Puerto Rico Anæmia Commission. We were informed that most severe epidemics are wont to fall upon the island at times. It seems to be the prevailing form of dysentery in Puerto Rico, and its character has been studied and reported upon by American investigators.

*Plague* has never been reported.

*Cholera* visited the island, during our own epidemic in this country.

*Leprosy* is not a common disease, but there is a colony at San Juan of perhaps fifty patients. I saw one case, suspected of this disease in Ponce by its health officer, in consultation with Dr. Joseph Goldberger, U. S. Public Health and Marine Hospital Service. This patient, whose nature was promptly revealed by scrapings from an incision into the anæsthetic lobe of the ear, was in hiding, and it is not improbable that there may be others of a similar nature, but such were not seen by any members of the commission. It may be of interest to know that all or nearly all cases are in native Puerto Ricans.

*Yellow Fever*.—Since the advent of the Americans, yellow fever, which, in the seven years preceding our arrival, gave an annual mortality of 161, has not been seen. *Stegomyia fasciata* are very abundant, however, and yet, in spite of this fact, there is much to confirm the general boast among the Puerto Ricans that the disease never really became endemic as in Cuba. Cases developed in certain towns open to commerce from that country and other infected posts, and usually in them only, but soon died out to be revived by fresh importations.

*Glanders*.—Several cases of glanders have been seen, and it has been not infrequent in horses, whose care is very poor.

*Tetanus* has been another serious question as a cause of infant mortality, but the responsibility for this state of affairs cannot be laid at the door of insular physicians. Dr. Francisco del Valle Atilas states, in an interesting thesis on the Puerto Rican peasant, in 1899: "... but of all diseases that an infant contracts shortly after birth, tetanus causes a higher mortality than any other. It can be said that the affection is endemic in Puerto Rico." I saw several true cases, and have heard of a large number of others, but the rate of 3.41 per cent. of the total mortality, given for the first seven months of our occupation of the island, and said to be about that for the ten years preceding, is certainly not due to the bacillus of tetanus. Many convulsions of infancy are wrongly attributed to it and so swell the reported mortality. It is, however, not at all uncommon even among adults.

*Tuberculosis* cannot be discussed here, but its ravages in towns are as great as its rarity among the people of the mountains.

#### OTHER DISEASES

*Beriberi* is not a disease of Puerto Rico. It has been described in the island, but the reasonable

doubt that uncinariasis was the true affection cannot be overcome, in the absence of examination of the faeces. The genuine danger of confounding certain cases of uncinariasis with beriberi is not to be lightly passed over. Of course, they are separated clinically in the vast majority of cases, but I have in mind now a case which would puzzle anyone without close study and, especially, in absence of a report on the examination of the faeces.

*Sprue* is not very rare; it occurs in foreigners to the soil and in some Puerto Ricans.

*Malta Fevers*.—Very careful search for Malta fever was made during several years but none was found.

*Pellagra*.—The writer has seen one case which appeared to be genuine pellagra.

*Heat stroke* is indeed rare, as Puerto Rico can hardly be considered a very hot country. This leads to the suggestion that the climatic effects of the tropics on our race be studied in this island. Even at high altitudes where it is cool and pleasant practically all of the time, "tropical neurasthenia" is in evidence. The nervous system certainly suffers in a manner not yet clearly worked out, where heat cannot be considered a potent factor.

I believe, that this climatic effect is not alone seen in strangers unaccustomed to this latitude. *Mal de pelea, ataques, mal de corazon* are popular names for a very common nervous manifestation which is really hysteria. This is the nearest approach to a true brain storm I have ever witnessed. It is frequently among some women of the poorer classes, and its name, "the fighting disease," is not belied, as anyone who has seen it can testify.

The subject is not exhausted, but nothing has been said about certain fevers which after some study do not fit into any classification, simply because they have probably not been sufficiently studied. There is room for some valuable original work, to clear up such as are still an enigma to many painstaking men in the island.

This rapid review of the tropical diseases of Puerto Rico will indicate the importance of this country as a centre for research. A few words may not be amiss concerning the facilities for such investigations.

In the past few years a great change has been noticed in the attitude of the people with regard to problems of hygiene. The eradication of smallpox and yellow fever, and the attack on the prevalent and dreaded anæmia, have had their effect in deepening respect for the advance of modern preventive medicine. There is truly a remarkable faith in all that tends to combat disease with scientific weapons, and this among the most lowly class. On the other hand physicians have been brought to a full realization of their power, when efficient means are taken to diagnose by methods which include judicious use of microscope and approved instruments of recent adoption, to treat cases, not at all inclined to be relegated to proper obscurity, and use reasonable drugs, which do little harm, and also the conscience with appropriate care of all symptoms. These physicians are generally graduates of foreign schools, and their general knowledge has been often acquired at some of the most



famous European centres. Many of the recent graduates come equipped from excellent schools, both here and abroad, and have well supplemented the conservatism of practitioners, whose experience is of greatest value, by advanced ideas of medical thought and technique. The Puerto Rican Medical Association is a body of whom the island has reason to feel satisfied, and their tolerance and their desire for investigation of the problems affecting the health of their country are marked and worthy of the highest respect.

In such an island, isolated from extraneous influence, no better opportunity can present itself to demonstrate how modern conceptions of communicable disease can influence the health of a tropical country; and it is all the more of importance, when America can point to such satisfactory results in one of her new territorial acquisitions, in a group of islands, famous for years as points from which our knowledge of tropical pathology has been greatly enriched. We are, as it were, in competition with other powerful nations in the Antilles and we must "make good."

Scientific working parties may gradually develop a valuable centre for research. Puerto Rico offers special advantages for the undertaking of such a labor. It is a small island, densely populated with about 260 inhabitants to the square mile; 90 per cent. of its population can be classed as rural; it has good roads; and is within four or five days of New York by good steamers; it has a most beautiful and varied picture of mountain, valley, and level coast, and comfortable accommodations, and the ever attractive environment of new customs and people.

Laboratory facilities are to be had, but there is no large laboratory. The board of health has been very generous in the past, and aids scientific work in every possible manner. Besides this several physicians have at heavy personal cost developed small laboratories.

It is hoped that interest in this island may be aroused among the scientific men of our country, and, through this society, may make an effort to draw up some organized plan for coming into closer touch with the workers in this promising field for research.

#### ACUTE SYPHILITIC NEPHRITIS.

*With Report of a Case.*

BY JOHN BALLAGI, M. D.,  
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No part, organ, or tissue of the human body is exempt from the ravages of syphilis. So there is no reason to doubt the existence of syphilitic nephritis, acute or chronic, just as we grant the existence of scarlatinal, malarial, alcoholic, etc., nephritides. The difference is that the former seems to occur rather seldom. According to Bamberger's statistics, quoted by Fischer (1), out of fifty cases of nephritis in luetic persons, syphilis as an ætiological factor could be accepted by four only. Prager (2) complains that his cases are not convincing, because the patients were exposed to other causes too, first of all, to the effect of mercury. That is why so many

are inclined to place the responsibility on mercury and not on syphilis.

Newer textbooks on syphilology do not give much enlightenment about the question, either. I just cite, for example, that of the late Robert W. Taylor. He says, in his excellent textbook (3), under the heading Albuminuria and Ephemeral Nephritis: "There can no longer be a doubt that early and sometimes rather late in the secondary stage, a mild or more severe form of nephritis may occur. . . . It is a glomerulonephritis, comparable to that of scarlatina. Some authors claim that mercurial treatment causes the kidney changes, but we have no definite knowledge on the subject" (italics mine). Osler (4), talking of the ætiology of acute nephritides, enumerates scarlet fever, typhoid, etc., as direct possible causes. But regarding syphilis he says only: "Acute nephritis may be associated with syphilis." Leube does not mention syphilis at all.

An editorial of this journal (5) bearing the title The Dangerous Action of Mercury on the Kidneys is practically discussing the same question, namely, whether nephritides occurring together with lues are caused by the syphilitic virus or by mercury? Admitting that "there certainly exists a syphilitic nephritis in both the secondary and tertiary period," on the whole, the uncertain nature of this "syphilitic nephritis" is plainly expressed through the caution with which it is recommended to give mercury to syphilitic patients with albuminuria. The main points are also given how to distinguish and enable oneself to know when mercury is indicated and when it is dangerous. Among these diagnostic points I missed just one, but one which in many cases could do much more to enlighten the situation than anything else. That is a trustworthy history of the case. A patient with chronic nephritis, having acquired syphilis later, is hardly a fit subject to a protracted mercurial treatment. But when it is possible to decide with certainty that syphilitic infection occurred *before* the appearing of any symptoms of nephritis, and that the patient did not take any mercury at all, then we are justified to suspect the nephritis to be of luetic origin, and we would not make a mistake in introducing a mercurial treatment. When no history is obtainable, chemical analysis of the urine, saliva, blood, etc., may decide the question. Mercury can be detected in the organism months after it was incorporated, and with so much more certainty when recent mercurial poisoning—that is, mercurial nephritis—is present.

According to the same editorial, kidney changes due to syphilis or mercury may be slight. Other authors, too, speak simply of "syphilitic albuminuria." Plain albuminuria, I suppose, is not equal to nephritis. Plain albuminurias, due either to lues or mercury, may be more common and easily avoid our attention. Real syphilitic nephritis is rather seldom met with. Regarding these slight albuminurias, our knowledge is not sufficient at present to classify them either as luetic or mercurial. The kidneys are very sensitive to any toxic matter passing through them, and when they are exposed to several of them simultaneously, so much harder will it be to tell which is the guilty one.

Concerning mercury, I do not think its action on the kidneys is sufficiently cleared up. Mercurial poisoning (stomatitis) is a very common occurrence, so we ought to see more of its effects on the kidneys. But cases of mercurial nephritis are so rare as to be worth publishing. So does Wilson (6), reporting a case ending fatally after administering eighty-four grains of calomel in fourteen days. But his case is not instructive, the dose of mercury being far over the limit. Almost any kidney would be deranged when the patient was taking such enormous doses of any active drug. And what more, Wilson's patient was suffering with pericarditis and insufficiency of the mitral, aortic, and tricuspid valves, consequently with a very much impeded circulation and metabolism. Wilson's other cited cases would weigh more, too, if they were not examples of exceptional idiosyncrasy against mercury. What we need to know is whether regular doses of mercury are capable of exciting albuminuria or nephritis. As to my experience with syphilitic patients, I never had occasion to restrict or stop mercury on account of urinary troubles. Maybe some of my patients did have a slight albuminuria in the course of the disease, but the every day general practice is not the field where such cases can be easily detected if not accompanied by some special complaint or symptom.

The closing remarks made by Wilson I partly concur with. The first one is a good suggestion, that in every case when mercury is to be administered for a longer period, a careful uranalysis should be made. But when nephritis complicates an existing syphilis I am of a different opinion. I would "except those cases in which it is possible to trace the renal disability to a syphilitic infection." Then I think no one needs to be afraid to employ an energetic antisymphilitic cure with mercury, supposing that is otherwise indicated, too. What a good dose of mercury can do, the case I shall report clearly shows.

Much depends on the mode of administering and the preparations used. Internal administration and inunctions are more dangerous. Wilson and Heller prefer the injection of soluble salts, particularly the bichloride. So do I. The insoluble preparations—metallic mercury, mercury salicylate, calomel, etc.—are either too slowly working or their effect is apt to be cumulative. Gotthel (7) sets off as a great advantage of the insoluble salts the following: "By the injection of a dose of the insoluble compounds a medicinal depot, as it were, is established into the tissues." This sounds well, but is rather a disadvantage. We do not give drugs to remain in the body an incalculable and unlimited period. On the contrary, medicines, after having developed their specific action on the tissues, are expected to leave the organisms, the sooner the better. Winkler (8), of Stockholm, calls special attention to the danger of producing "depots" by injecting insoluble mercury in the tissues, and relates several cases from his practice, with very bad complications. He admits the relative harmlessness of the salicylate on account of its earlier elimination.

I would warn everybody against the injection of calomel or gray oil. In a paper read before the

Homestead Branch of the Allegheny County Medical Society in January, 1906, I reported a case from my own practice of a young woman who had eight such "medicinal depots" of calomel in her body. They did not trouble her until after the eighth injection, but then, all of a sudden, such toxic symptoms developed that all these depots had to be surgically removed to save her life. Fortunately, the injections were made in the muscles of the back. Since that time (it happened in 1894) I never used calomel for injections. With the corrosive (five per cent. solution) I never had any unpleasant experience.

The following case is very instructive in many respects. Its history is precise, the symptoms clear and distinct, the effect of the mercury so prompt and decisive that the whole might easily pass for an experiment in pharmacology:

CASE.—Michael G, thirty-five years old, a native of Hungary, mill worker, married, but living separated from his wife, she being in the old country. I used to know him for the last three years, attending to some minor accidents. He was of a healthy family, strongly built, broad shouldered, a man of temperate habits. The only sickness he had was smallpox when about three years old.

On March 5, 1906, he came to my office very sick, but with the sole complaint of an incessant cough and dyspnea about five or six days' standing. He was hardly able to walk. Upon examination, I found a general dropsy; the face puffed, lips cyanotic, moderate ascites, heavy anasarca of the under extremities and of the scrotum. The scrotal sac was as large as a child's head, the præputium hard and phimotic. Edema of both lungs with considerable dyspnea, and continuous cough, with thin, abundant sputum, mostly mucus. Percussion showed slight dullness on the bases, auscultation weak breath sounds, large and small moist râles. Heart sounds were feeble on account of the noisy râles, but clear. There was no detectable pleural effusion. Temperature was normal, pulse 100 and over, strong and full. Digestive organs were normal, upper limit of liver dullness was normal, spleen not palpable. He was passing very little urine lately and he could not pass any in my presence, but in a few hours he sent to my office about 40 cc. dirty brown looking fluid containing albumin, blood, epithelial, and blood casts. The daily amount did not reach more than about 300 cc.

On visiting him at his house the same evening I tried to get the previous history of his sickness. But he was not very communicative about it this time. Except that he noticed the swelling of his feet about eight days ago, he did not (or would not) remember anything. Anyhow, the uranalysis, together with the clinical symptoms, was more than enough to make the diagnosis of acute nephritis certain. I gave my orders accordingly: Rest in bed, milk diet, sweating procedures, and prescribed Hamman's James water in moderate quantities. To allay the distressing cough, I had to give a little opiate, in the form of Dover's powder, with quinine in small doses.

Before leaving, he asked me to look at and give medicine to some excoriations between the scrotal and perineal surfaces. He supposed they were caused by sweating and the continuous rubbing of the edematous skin. In fact, I myself expected to see a common erythema intertrigo. But instead of the reddened and chafed epidermis of erythema there were quite a number of moist, slightly elevated papules, some of them ulcerated, with a reddened areolar surface. Around the anus were quite a number of the same papules, some of them ulcerated, with a reddened areolar surface. I would have diagnosed this as a syphilitic eruption, but the finding of slightly enlarged glands in both groins gave some support to this and diagnosis.

On March 12, 1906, I visited Michael G. again. He was still in bed, but was able to get up and walk a few steps. The cough and dyspnea were still present, but not so severe. The face was still puffed, but the lips were no longer cyanotic. The ascites was still present, but not so marked. The edema of the under extremities and of the scrotum was still present, but not so marked. The scrotal sac was still as large as a child's head, but the præputium was no longer hard and phimotic. The edema of both lungs was still present, but not so marked. The auscultation was still weak, but the breath sounds were no longer so weak. The heart sounds were still feeble, but not so feeble. The temperature was still normal, but the pulse was no longer so strong and full. The digestive organs were still normal, but the upper limit of liver dullness was no longer normal. The spleen was still not palpable. He was still passing very little urine, but he was able to pass some in my presence. The daily amount was still about 300 cc.

Upon closer questioning he admitted to having indulged in extramarital coitus some seven to eight weeks before in a cheap dive. He never saw anything like a primary sore, but noticed a few weeks after the coitus a small hardening in the sulcus corone on the right side next to the frenulum. It did not hurt him, so he did not care much about it, so much the less because his prepuce was a little tight always and he was not able to push it back easily. I could not retract it either, but after compressing it and squeezing the serum out of the swollen prepuce the sclerosis still could be felt.

It was evident and plain enough that the patient was suffering, besides the acute parenchymatous nephritis, with active syphilis in the secondary stage. The question was, Did the syphilitic infection cause the nephritis, or was the presence of both merely accidental? Since the patient so forcibly and repeatedly asserted that the dropsy, urinary troubles, etc., came on rather suddenly and not more than eight days ago, since no other aetiological factor could be considered, I accepted the first alternative. Still, I hesitated a little to give mercury, in face of the very much lessened eliminative ability of the acutely diseased kidneys. I waited two days more, but seeing the patient's condition turning from bad to worse, I made up my mind and gave an injection of a five per cent. corrosive sublimate solution on March 8th. For local application to the ulcerations I used alcoholic solution of corrosive sublimate and dusting with boric acid. Frequent rinsing of the mouth, hot packs to stimulate sweating, restricted, mostly liquid diet, etc., were ordered also.

The result of the injections was indeed very satisfactory. The fourth day after the first injection, March 12th, the amount of urine was doubled, the oedematous skin became softer, the dyspnoea and cough much easier. The sixth day he passed nearly 1,500 c.c. urine; there was much less albumin in it, no blood, and very few casts. Oedema and dyspnoea almost disappeared. The eighth day, March 16th, I gave another injection, and in a few days the mucous patches began to dry up. Urine was normal, quantity and quality, on March 21st, and he felt so much improved that he went to work. This happened without my consent, though; knowing my customer, I told him again and again the necessity of a prolonged treatment, and particularly that the attained improvement would be lasting in case only when he was to receive at least six to eight injections. Notwithstanding this advice, he failed to appear for a third injection, and went away to Beaver Falls, where he was promised a more lucrative job. He did not stay very long. After three weeks, in April, he came back again, very much scared, noticing the swelling of his feet and new patches in his mouth. This time he had more common sense, and patiently went through one series of injections and stayed under my care till January, 1908, when he returned to the old country, to his wife. No luetic symptoms were visible then. During this time, from May, 1906, to January, 1907, he was kept on progressing doses of potassium iodide with intervals of two weeks every other month. January, 1907, I administered four injections again, and after them prescribed potassium iodide again, now in constant doses of a gramme daily. He never showed symptoms of renal trouble any more since May, 1906. Before he left, I instructed him to consult a reliable physician in the old country upon arriving there.

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115 FIFTH AVENUE

## RESULTS OBTAINED FROM USE OF DIPHTHERIA ANTITOXINE REFINED AND CONCENTRATED BY GIBSON'S METHOD.

By ROBERT E. WODEHOUSE, M. D.,  
New York.

Member of the Toronto Academy of Medicine, Former Medical Superintendent, Isolation Hospital, Toronto; Former House Surgeon to Hospital for Sick Children, Toronto, etc.

The experience which I have had in the use of diphtheria antitoxine, both prophylactic and therapeutic, prompts this brief note:

The prophylactic experience was gained chiefly while house surgeon in the Hospital for Sick Children, Toronto, and in the Lake Side Home for Little Children, Toronto Island. The board of trustees, at the suggestion of Dr. William Goldie, visiting physician in charge of infectious diseases, issued a standing order that each patient, when admitted to either institution, must receive 1,000 units of diphtheria antitoxine, and 500 units every two weeks thereafter so long as the child remained. This routine, practised in a service embracing nearly 175 children under fourteen years of age, brought out all the good and bad features associated with the injection of antitoxine. The marked idiosyncrasies of some of the patients and absolute non-tolerance of others was evident. The injections were discontinued in three cases, one a rheumatoid arthritic case and two tuberculous hip cases. The numerous forms of skin rashes and the frequency of their occurrence were constantly before us; also the terror some of the smaller patients had for the second and succeeding injections. The antitoxine used was of the ordinary, nonconcentrated, entire serum form, running 500 units to the c.c.

In the baby ward, to overcome the pain associated with the distending of the tissues due to the injection, I used an antitoxine of a potency of 1,000 units to c.c. Only 0.25 of a c.c. was required to give each baby the necessary injection of 250 units. This small dose could be administered with an ordinary hypodermatic needle, almost without pain. This was actually proven in two cases where the injections were given in the buttocks without the knowledge of the child, partially overcoming one of the objectionable features in connection with the administration of the antitoxine. The troublesome urticaria and also erythema, resembling scarlatina, and sometimes measles, were not materially changed.

Upon the completion of my services in these institutions I accepted the appointment of medical superintendent of the Isolation Hospital, Toronto, tendered to me by Dr. Charles Sheard, medical health officer. At this time a refined and concentrated antitoxine, prepared after Gibson's method, was offered in Toronto. The antitoxine was concentrated to a potency of 1,500 units to the c.c., and this at once appealed to me as highly advantageous where large therapeutic doses of 15,000 units and upward were necessary, as in the Isolation Hospital. It was suggested that the intensity and frequency of skin rashes and urticarias were very much re-

<sup>1</sup>Dr. Robert B. Gibson, assistant to William H. Park, M. D., director of the Research Laboratories of New York City Department of Health, developed the work of Atkinson and found a method of concentrating and refining diphtheria antitoxine serum by the elimination of the nonantitoxic substances. See *Journal of Biological Chemistry*, 1, No. 1, and 3, January, 1906.



duced by the use of this form of antitoxine. A sample consignment was forwarded and tried. The therapeutic effect was naturally equal to the old form of antitoxine, as a unit of antitoxine is an international standard. With Dr. Sheard's permission we procured a supply of this refined and concentrated antitoxine, altogether 1,560,000 units, exclusive of the primary sample.

The following table shows how this antitoxine was used in 345 cases:

109 mild cases received a total of 591,500 units, average 5,500 units;  
96 moderate cases received a total of 721,000 units, average 7,500 units;  
37 severe cases received a total of 409,000 units, average 11,000 units;  
25 mixed (scarlet fever and diphtheria) cases received a total of 120,000 units, average 4,800 units;  
18 negative swab cases received a total of 71,000 units, average 3,933 units.

In addition to this list, some poor patients not admitted to the hospital received antitoxine on application of the attending physician. (A commendable practice was instituted by Dr. Sheard of providing antitoxine to the poor from the Isolation Hospital, whenever requested by a physician. In all, over 2,000,000 units were used in five months, 440,000 units of this being made up of whole serum of different makes, testing about 500 units to 1 c.c. When a patient received antitoxine the time, amount, kind, and the name of the administrator were recorded, also any systemic effects or skin rashes following its injection.

Of the 345 patients observed in the hospital, only four receiving refined and concentrated antitoxine developed an urticaria covering a larger area than ten centimetres in diameter, surrounding the point of injection. In two the affected area remained confined to the thigh and buttock. In one case the abdomen and extremities were involved. In the fourth case, one of the three most marked cases I have seen, diphtheria developed in the third week of scarlet fever. The patient—nine years old, very fat, having an appearance of slight degeneracy and also a status lymphaticus condition—was attacked with general oedema, very marked about the eyes, lips, and face. Urticaria was extreme and very itchy. Urine was suppressed, temperature above 103° F., and myalgia and stiffness in the joints of the extremities marked. Catharsis and calcium lactate treatment were instituted on the suggestion of Dr. Wilson, a private physician in charge of the case. The condition persisted four days. In several cases painful myalgia developed. This was also present with some degree of severity in two patients who received no antitoxine and in other cases receiving ordinarily prepared antitoxine.

With these exceptions no symptoms traceable to the use of refined serum were found, erythema being entirely absent. In the same wards, ordinary serum (products of three different manufacturers, using other than Gibson method of concentration) being used at the request of visiting physicians on private patients, produced the usual ten to thirty per cent. of cases showing erythematous and urticarial rashes.

Upon further investigation, to satisfy myself as to the possibility of our results being due to an

extra good lot of serum produced from one horse, we obtained from Dr. Lederle, in whose laboratories the antitoxine was prepared, the following facts:

96 vials (5,000 units each), received September 21, 1907, were laboratory No. 40.  
60 vials (5,000 units each), received November 16, 1907, were laboratory Nos. 42, 40, 41, and 61.  
60 vials (5,000 units each), received November 16, 1907, were laboratory No. 61.  
96 vials (5,000 units each), received January 2, 1908, were laboratory No. 61.  
Laboratory No. 40 represented antitoxine obtained from Horse N.  
Laboratory No. 47 represented antitoxine obtained from Horses N and A (mixture).  
Laboratory No. 13 represented antitoxine obtained from Horse A.  
Laboratory No. 61 represented antitoxine obtained from Horse N (later bleeding).

This shows serum from two different horses; serum from two horses mixed; and serum from a second bleeding of the first horse, at an interval of some weeks.

This would lead one to believe, as Dr. William H. Park, of the Research Laboratories of the New York City Department of Health has found to be the case,<sup>3</sup> that the Gibson method of refinement and concentration is the constant factor in the production of the better results.

My reasons for asking Dr. Sheard's permission to continue the use of this serum refined and concentrated by the Gibson method are:

1. In therapeutic use, often 10,000 to 15,000 units of antitoxine are indicated for one injection. If concentrated to a potency of 1,500 units to 1 c.c., 10 c.c. only are necessary for latter dose, whereas in using the old form of antitoxine, with a potency of 500 units to 1 c.c., the tissues are necessarily distended three times as much by the injection of 30 c.c.

2. The much smaller sized syringe and needle necessary were very potent factors in dealing with neurasthenic, frightened patients, who always see every detail.

3. The systemic affections were markedly reduced.

4. In a hospital where both diphtheria and scarlet fever are treated, the early recognition and isolation of scarlet fever or measles, developing in the diphtheria ward, is most important. When refined and concentrated antitoxine has been used, there is no necessity of retaining patients with erythematous rashes under observation for several days, as we know these rashes rarely follow its use, whereas under the old methods, using the unrefined horse serum, with its accompanying rashes, the early diagnosis was always doubtful.

*After the Abdominal Operations.* The distressing thirst after abdominal operations, where fluid in mouth causes vomiting, is less relieved by subcutaneous infusions of normal salt solutions; or by the insertion of a tube into the rectum connected with a bag of water, standing about two above the level of the patient's hips, allowing the injection of water, until the fluid will no longer be absorbed, at the rectum to be 40. The patient may in this manner receive small quantities of water for hours. *Lancet*, *Journal of Surgery*.

<sup>3</sup> Figures collected by T. C. Park, M. D., of the Medical Research, November, 1907.

## Our Readers' Discussions.

### A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

LXXV. How do you treat cholera infantum? (Closed June 15, 1908.)

LXXVI. How do you treat acute articular rheumatism? (Answers due not later than July 15, 1908.)

LXXVII. How do you treat varicose ulcer? (Answers due not later than August 15, 1908.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize, whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question LXXIV has been awarded to Dr. Henry C. Becker, of New York, whose article appears below.

### PRIZE QUESTION NO. LXXIV.

#### THE TREATMENT OF SUNSTROKE.

BY HENRY C. BECKER, M. D.,  
New York.

In a consideration of the treatment of insolation we take cognizance of two forms, the *hyperpyrexial*, where the temperature is the important point at issue, and the other where an exhaustion or prostration is the important feature; the latter variety, known as *heat exhaustion*, may be mild, moderate, or severe.

In the *hyperpyrexial form* the vital point in the treatment is the rapid reduction of the temperature; the prognosis is fair in direct proportion to the rapidity with which the temperature is reduced, and in inverse proportion to the length of time it has endured. In an emergency place the patient in the coolest and shadiest place available, loosen the clothing, and dash cold water over head and body; with better facilities to hand place the patient in a bathtub of cold water, adding to it pieces of ice; the extremities and body should be constantly and vigorously rubbed while thus immersed. In those favorable cases where the temperature falls it is accompanied by an improvement in the pulse and respiration, and a clearing of the mind; it is well then to take the temperature per rectum every fifteen minutes, and remove the patient from the cold bath when the thermometer registers 102° F. The temperature often falls 2° every fifteen minutes, and may keep on falling even when the patient is removed from the bath; to obviate a subnormal temperature and a collapse, it is well to observe this rule. When the patient has been removed from the cold bath there may be a rebound of the temperature four or five hours after, particularly in those cases whose temperature has been above 106° F. This can be controlled by cold packs or cold sponging. Cold water enemas are in-

effectual unless ice cold, when they become too dangerous for use, the patient being liable to go into collapse. Antipyretics should not be used as a routine method, although in the tropics the hypodermatic use of quinine is highly spoken of. If there is much struggling or delirium a hypodermatic injection of one fourth grain of morphine may be given. The sudden shock from the cold water may produce a tonic muscular spasm including the diaphragm; in these cases five minims of amyl nitrite as an inhalation with an increase in the temperature of the water employed in bathing along with artificial respiration, if necessary, will tend to overcome the spasm; keep up the artificial respiration half an hour if need be.

There is a strong tendency to congestion and œdema of the lungs; this condition should be met by dry cupping and hypodermatic injections of atropine and strychnine. Strong, robust, plethoric individuals with full bounding pulses require one fiftieth of a grain of nitroglycerin; leeches to the temples and behind the ears are also helpful. After the reduction of the temperature the bowels should be emptied with a stimulating enema.

The after treatment consists in keeping the patient in bed for several days on a light and easily digestible diet; there is often a subsequent intermittent fever lasting several days; this is best treated by means of cold sponging and tablespoonful doses of spirits of milderorus given every four hours. For the headache small doses of acetphenetidin with citrated caffeine may be given. Special attention should be given to the bowel and kidney functions; any resulting sequelæ should receive appropriate treatment and care.

In the treatment of *heat exhaustion* stimulants are primarily indicated, and in severe cases, to insure their certain and prompt effect, they should be given hypodermatically.

The slightest manifestation as headache, vertigo, and faintness should be heeded, and the patient immediately removed to some cool and shady room or place. A teaspoonful of aromatic spirits of ammonia in a glass of cold water will suffice in the milder form of cases; if somewhat feverish cold sponging with alcohol and water is indicated. It is in the more pronounced and severer forms of heat exhaustion that heroic means are often necessary to save life; when there is respiratory failure strychnine, 1-30 to 1-15 gr. is to be injected, oxygen gas and artificial respiration may be required and resorted to; in acute heart failure camphor, 1 gr. dissolved in sweet almond oil, 6 m.; or a solution of citrated caffeine, 1 to 2 grs., injected; if pulse is soft and feeble digitalin, 1/200 gr., repeated in an hour if necessary; if pulse is full and bounding, 1/100 to 1/50 gr. nitroglycerin. For reflexly stimulating the nerve centres mustard paste or the douche may be employed.

The after treatment is rest in bed, with tonic and stimulating medicines and treatment of any resulting sequelæ.

*Prophylaxis.* This consists in the prevention of exposure to the direct rays of the sun, moderation in the amount of physical and mental work, the wearing of light and cool clothing during a protracted spell of hot and humid weather. The diet

should consist of little meat with plenty of vegetables and fruit; strong alcoholic liquors should be eschewed. Water externally and internally so that bowels, kidneys, and skin may be kept active, for as a general rule a patient who sweats does not suffer sunstroke.

112 WEST ONE HUNDRED AND FOURTH STREET.

*Dr. B. B. Scarlett, of Philadelphia, says:*

The treatment of sunstroke by the writer consists in the removal of the patient to a shady spot, the loosening of the clothes, the application of cold to the head, and the administration of a stimulant hypodermatically, if necessary. When conditions permit more radical treatment, the patient should be stripped, covered with a sheet, placed in a tub of ice water with an ice cap to the head, and the body gently rubbed with a large piece of ice. The bath should be discontinued, and the patient put to bed when the temperature reaches  $104^{\circ}$  F.; for beyond this point the temperature usually continues downward on its own accord; whereas, if the patient is kept in the tub until  $99^{\circ}$  or  $100^{\circ}$  F. is reached the temperature will invariably become subnormal. The ice cap should be kept to the head until the patient has completely recovered from the attack.

If doubt exists as to the physical ability of the patient to stand the tubbing, the body should be covered with a sheet, upon which are placed small pieces of ice, while quantities are laid loosely about the head. Enemata of ice water of about a quart should be given every ten or fifteen minutes until the axillary temperature reaches  $102^{\circ}$  F. These injections not only assist in reducing the temperature, but they supply to the body fluid that has been lost by excessive sweating. The dashing of ice water upon the patient from a distance of five or ten feet often hurries the return of consciousness.

In cases where the temperature is not extreme, I simply wrap the patient in a large muslin sheet wrung out of cold water, and cover all with a blanket. As soon as the sheet becomes warm, it is to be replaced by another that has meanwhile been cooling in the water. This is continued until the temperature reaches normal. The depression in temperature by this method is not a rapid one, but there is seldom, if ever, a secondary rise.

In extreme cases where everything else has failed to restore the patient to consciousness, the most efficacious stimulant is the pouring, from an elevation, of a fine stream of ice water upon the forehead. As this treatment is very radical, it is continued for only one or two minutes at a time. In conjunction, a full dose of the tincture of digitalis should be given hypodermatically, except in plethoric patients, with great arterial tension. In such cases venesection should be practiced and should be followed by smaller doses of digitalis. The patient should be put to bed and warmly covered when the temperature reaches  $104^{\circ}$  F.

The sudden removal of coverings in infancy should be treated by covering the body with hydrocortisone and administering more water liberally. In the severe form, a bath, the temperature of which is not below  $95^{\circ}$  F., should be used. At the same time friction should be vigorously applied to keep the peripheral arteries dilated.

In all cases stimulants should be administered when indicated. Whiskey should be given by the bowel except in those cases where the patient was under its influence at the onset of the attack. Hypodermatic injections of ether, followed by caffeine, should be given in cases of collapse. Camphor and nitroglycerin are also useful drugs in emergency. Convulsions should be relieved by inhalations of chloroform. Venesection should be resorted to in cases of convulsions and much cyanosis, and should be free and copious. The bleeding should be followed by injections of salt solution. This provides for the loss of fluid during the days of sweating, dilutes the waste products in the blood, and is especially beneficial where the blood is thick and tarry.

After the reduction of the temperature the treatment should consist of light diet, fresh air, perhaps an ice cap to the head, and the administration of stimulants, if necessary.

To prevent subsequent attacks the patient should be advised to avoid, on hot days, violent exercise, beverages containing alcohol, and excesses in the use of animal foods.

*Dr. Alexander Rovins, of New York, remarks:*

Prophylaxis being of utmost importance I make it a rule with the advent of hot weather to instruct those of my patients whose occupations expose them to great heat, whether artificial or that of the rays of the sun, such as bakers, laundrymen, workers in sugar refineries, foundries, and the like, as well as drivers, peddlers, etc., especially if they are addicted to alcohol, or inclined to be plethoric or obese,—to avoid excess of any kind, particularly as regards spirits, to dress lightly, not to overload the stomach, especially with solid food, not to overwork,—in a word to “take things easy”; in addition to this drink plenty of cool water so as to perspire freely, bathe frequently, or at least sponge yourself with cool water twice or three times a day. I impress it upon them that heat stroke is especially liable to attack them during the hot, damp days, or while they work in an atmosphere surcharged with moisture, and that as long as they keep on sweating more or less profusely the danger of being “struck” is practically reduced to a minimum. The moment perspiration ceases, and they begin to feel uneasy, slight or throbbing headache, dizziness, etc., to give up the work at once, and seek rest and shelter in a cool and airy place. In an hour or so they may cautiously resume and continue their work. These instructions are simple and easily remembered, and as I find from experience, usually willingly carried out.

When called to a case of sunstroke under some of your diagnoses, and in lack of space for a very discussion of the distinctive diagnosis between this and other conditions that may simulate it, I will only mention some of the latter as seen in a case of venereal disease. I think some of the symptoms and signs of the latter may be the same as noted above, the most common being headache, vomiting, epistaxis, and some also the difference in amount between heat stroke and heat exhaustion, as the treatment of the latter condition is quite different from that of the former. Upon a careful study of the diagnosis you enter upon the treatment of sun



case, and that promptly and vigorously in one of more or less decided severity, with two aims in view: 1. The reduction of the temperature, and that as quickly as possible before tissue changes consequent on prolonged high temperature have resulted; 2. the stimulation of the nervous centres that have been overwhelmed by the high temperature.

For a mild case it may be sufficient to remove the patient from the noxious surroundings to a cool, well ventilated, airy place, loosen his clothing, and allow him to rest in a recumbent posture for a few hours, when he may be allowed to go home to take a prolonged rest of two to three days, and then cautiously return to his occupation. An attack of this kind may be followed by no deleterious results; but in some cases there is established in the individual an intolerance of heat, and a predisposition to heat stroke; and it often becomes advisable to warn such patients against even slight exposures to heat.

In the severe cases with flushed, hot, and dry skin, with pulse rapid and full (or quick and jerkin), complete or semiconsciousness, stertorous, sighing breathing, congested face and neck with throbbing carotids, etc., energetic treatment is called for. Remove patient to a cool, airy place, strip him of his clothing, and place him into a bath or bathtub of cold water which may still further be cooled by adding some ice to it. While in bath rub him vigorously, as this tends to reduce the congestion of the internal organs, and drives the blood therefrom to the surface of the body. If a bath is not at hand, place the patient on a mattress covered with a mackintosh or a piece of oilcloth, and rub him all over his body with lumps of ice. Dash cold water over him; enemata of ice water tend to reduce the temperature very decidedly, and so does an ice pack (sheets wrung out in ice cold water). An ice bag or cloths wrung out in ice cold water should be placed on the patient's head all the time. While thus treated the patient's temperature should be taken at short intervals (preferably by the rectum), and the hydratic treatment should be desisted from as soon as the thermometer registers 101° F., otherwise there is the danger of the temperature running down to the subnormal, thus placing the patient in the imminent danger of collapse. The patient is now made as comfortable as possible, cathartics are administered, and, if necessary, he is catheterized. Subsequent rises of temperature are controlled either by cool spongings, or, if the condition of the heart permits it, by the cautious administration of antipyretics (acetphenetidin, antipyrine, quinine). Convulsions accompanying an attack are controlled by hypodermatic injections of morphine (gr.  $\frac{1}{4}$ ), and inhalations of chloroform; 30 grains of sodium bromide and 20 grains of chloral hydrate injected into the rectum are also good for convulsions. If the circulation shows any signs of failing, a hypodermatic injection of strychnine, digitalin, or Hoffmann's anodyne will brace it up. This is especially to be looked for after the reduction of temperature, when symptoms of collapse and exhaustion that demand energetic stimulation may make their appearance.

Recovery is conditioned on absolute rest, removal

of all disturbing influences, a light and nourishing diet, regulation of the bowels, etc. Convalescence demands close attention, as intracranial mischief is apt to manifest itself at this period. This may vary from secondary meningitis down to increased irritability of temper. In addition to medication removal to a cooler climate and the strict regulation of the mode of living may conduce to making the patient as comfortable as possible under the circumstances.

*Dr. Albert Kaufman, of Wilkes-Barre, Pa., writes:*

In treating a case of heat stroke or sunstroke, we must bear in mind that this malady manifests itself in two forms: (1) the asphyxial or apoplectical form in which there is heat exhaustion, this form is rather of a rare occurrence; and (2) the hyperpyrexial form, or thermic fever, which is the most common form. The treatment, therefore, will differ in the two forms accordingly.

When the patient has thermic fever, the reduction of the high temperature is a vital indication,—the temperature usually being from 108° F. to 112° F., at which temperature life may be destroyed. The patient should be immediately removed to a cool, well ventilated room; his clothing should be loosened or removed entirely if possible. Place him upon a cot or bed, which is covered with a rubber sheet, so that the water may drain into a pail or trough. Ice should be used freely; an ice cap should be placed immediately upon his head, and an ice cold bath (ice floating in a tub of water) administered. Rub the surface of the body with ice in order to bring the hot blood to the cooled skin. Douching with ice water is very good, or an ice pack may be used advantageously.

The temperature should be taken very frequently by the rectum in order to watch carefully that the temperature does not fall beyond 100° F. If you should find such a fall in temperature, you should recognize this as a signal for the cessation of the ice applications, and the application of heat instead of ice may be called for. Great care should be taken in such cases, as collapse may threaten. Should the latter show any sign of existing, it may call for cardiac and respiratory stimulants, such as strychnine, digitalin, alcohol, camphor, ether, atropine, and nitroglycerin, hypodermatically, and in some cases artificial respiration must be resorted to; also the use of oxygen gas by inhalation is valuable.

If the pulse is bounding, the face cyanotic, and the heart laboring, it shows that the right heart is much dilated and venesection is to be resorted to, but this is to be used for this condition only, for if used indiscriminately, it does great harm.

In many cases asphyxia is a very troublesome and yet a dangerous complication, and it may be so urgent upon the life as to necessitate bleeding the patient. If venesection is used, you may at the same time also use subcutaneous or intravenous injection of normal salt solution.

If the temperature should still remain high, the application of ice and of the cold bath may be resorted to. Mustard may be applied over the præcordium, and if the temperature should go down below 100° F., it may call for heat in the form of hot water bottles, which should be applied to the lower extremities.

If the temperature regains its normal condition, let the patient remain quietly in bed. Give him cracked ice by mouth to settle the irritability of his stomach. Open his bowels with small doses of calomel. Food should be given of the most nutritious form and which is easily digestible, such as milk, buttermilk, and some very light broths. Keep him in bed for a few days until you are sure that it is safe for him to resume his duties, as in many cases there are dangerous complications and sequelæ, which may prove fatal.

A case of ordinary heat exhaustion does not require much skilled treatment beyond the removal of the patient to a cool and shady place. Loosen all his clothing, and take his temperature by rectum, as the thermometer is a sure guide in such cases, and you will find that it may be below normal, in which case you will have to use heat instead of ice applications as in the case of thermic fever. In order to restore the bodily temperature in this case you place the patient in a bath at 105° F. to 110° F., or use hot water bottles or hot bricks or hot packs. Such a case may call for cardiac and respiratory stimulants, such as the inhalation of ammonia, amyl nitrite, aromatic spirit of ammonia, or spirit of nitroglycerin by the mouth or hypodermatically.

If the heart is laboring hard and cyanosis shows and collapse threatens, lower his head, apply heat to his lower extremities, and give him a hot bath if convenient, and cardiac and respiratory stimulants by the mouth, by hypodermatic injection, and by inhalation as in any other case of collapse. Strychnine and digitalin may be used for a short time to combat the neuromuscular weakness.

The patient should be kept quiet and remain in bed and given highly nutritious food, including milk and broths. Open his bowels with small doses of calomel, and keep him in bed for a couple of days until he feels able to resume his duties.

*Dr. Joseph W. Walsh, of Brooklyn, N. Y., remarks:*

The successful treatment of sunstroke depends upon our ability to lower the temperature. The basis of the treatment should be the use of the cold bath. Place the patient in a dry sheet and lift him into a tub of water at a temperature of 80° F. and adding ice freely to lower the temperature of the water to its lowest possible point, using at the same time friction on the arms, legs, body, and head upon which you should simultaneously pour water at a temperature of 60° F. Before subjecting the patient to this treatment it will be helpful to give him spiritus frumenti, one ounce, and tincture of digitalis, m xx, fifteen minutes before the bath. As a rule following the bath we get a lowering of the temperature, a reduction of the pulse and respiration, and a refreshing sleep. The bath should last thirty to forty five minutes, depending upon its effect, when the patient may be lifted from the bath to a blanket and gently dried. The bath should be given in a warm room in which there are no currents of air blowing upon the patient. Ice water enemas in addition are effective in many cases, and the ice cap is indicated in all cases of sunstroke. The temperature should be frequently taken by mouth or rectum, and the treatment regulated by

the temperature index. We must remember that this treatment is powerful and capable if used too long of doing harm. Croton oil, three minims, may be given early with good effect in these cases, and a free state of the bowels maintained by the use of salines for some days after the absence of the fever. Should convulsions occur give morphine sulphate, gr. 1/4 to gr. 1/2, with or without atropine sulphate, gr. 1/100, by hypodermatic injection. If convulsions persist anesthetize patient, using chloroform, and if necessary keep the patient under the anæsthetic while giving the bath and watch the rectal temperature while so doing. The use of drugs to reduce the temperature is unwise, especially the more depressing coal tar antipyretics. The bath may be repeated every four hours if necessary, but with the temperature only moderately high, 101° F. to 103° F., the ice or alcohol bath should be repeated every two and one half hours. This will result in favorable symptoms which are:—A reduction in surface heat, a stronger pulse, a lessened axillary and rectal temperature, an increased depth of respirations, and a return of the conscious state. For heart failure strychnine sulphate, gr. 1/32 to gr. 1/20, every half hour; tincture of digitalis, m xx to m xxx, every half hour or hour; sparteine sulphate, gr. 1/2, every hour, all to be most judiciously used, until cardiac reaction is produced.

With the appearance of sthenic, apoplectic symptoms following the reduction of temperature or a condition of asphyxia presenting,—venesection should be seriously considered.

The sequelæ of sunstroke are headache, vertigo, insomnia, epilepsy, mental enfeeblement, monoplegia, paraplegia, and hemiplegia; and they should all be treated symptomatically.

*(To be continued.)*

## Correspondence.

### LETTER FROM OTTAWA.

*The Annual Meeting of the Canadian Medical Association.—The Question of an Official Journal.—The Canadian Medical Protective Association.—The Entertainments.*

OTTAWA, JUNE 25, 1908.

The forty-first annual meeting of the Canadian Medical Association, the first under the new constitution, was held at the Capitol, in Ottawa, on the 9th, 10th, and 11th of June, under the presidency of Dr. F. Montizambert, of Ottawa, director general of public health, Dr. George Elliott, of Toronto, acting as general secretary. The meeting was a pronounced success. It was amply demonstrated that sectional meetings were satisfactory and that, barring a few alterations, the new constitution provided for facilitating the work of the meeting. The scientific programme was of the first order, while the entertainments proved that the Ottawa men were not going to be ostentatious, and so had presented a "capital" programme. Dr. Risen Russell, of London, England, delivered the address in medicine. It was illustrated with lantern demonstrations, and dwelt upon the reflexes. The Surgical Rights of the Public was the title of the address in surgery, delivered by Dr. John C. Munro, of Bos-

ton. Dr. John B. Deaver, of Philadelphia, read a very favorably received paper on gallstones and gallbladder surgery. There was held a very interesting "symposium" on peritonitis. This was opened by Dr. C. W. Duval, of Montreal, with a paper entitled *The Bacteriology of the Peritoneal Cavity, with Special Regard to Peritonitis*. Dr. J. T. Fotheringham, of Toronto, followed, with a paper on the diagnosis and general medical treatment of the disease, stating that the malady really had no medical treatment, and that as soon as a physician found a case developing he should hand the patient over to the surgeon. The surgical treatment was dealt with in papers by Dr. J. F. W. Ross, of Toronto, who advocated closure of the wound without drainage, and by Dr. Murray MacLaren, of St. John, N. B., Dr. L. C. Prevost, of Ottawa, and Dr. George E. Armstrong, of Montreal. The special committee on the establishment of an official journal reported favorably on the project and asked that the Finance Committee be instructed to go on with the project. The Finance Committee, appointed by the Executive Council, were Dr. J. F. Fotheringham, of Toronto, convener; Dr. F. N. G. Starr, of Toronto; Dr. R. W. Powell, of Ottawa; Dr. George E. Armstrong, of Montreal, and Dr. James Bell, of Montreal. A special committee to be known as the Milk Commission of the Canadian Medical Association was appointed, with Dr. C. J. Hastings, of Toronto, as chairman, with members in every province of the Dominion. Dr. A. T. Shillington, of Ottawa, was appointed chairman of the Committee on Medical Legislation; Dr. R. A. Reeve, of Toronto, chairman of the Committee on Medical Education; Dr. C. J. Hastings, of Toronto, chairman of the Committee on Public Health; Dr. H. B. Small, of Ottawa, chairman of the Committee on Amendments to the Constitution and By-laws; Dr. F. A. L. Lockhart, of Montreal, chairman of the Committee on Reports of Officers; and Dr. J. H. Elliott, of Toronto, chairman of the Committee on Necrology. On motion of Dr. H. A. Bruce, of Toronto, Dr. Risien Russell, of London, England, Dr. John C. Munro, of Boston, and Dr. John B. Deaver, of Philadelphia, were elected honorary members. Winnipeg was decided upon as the place of meeting in 1909, with Dr. R. J. Blanchard as president, the presidents of the provincial medical societies as the vice-presidents, and the secretaries of the provincial medical societies as the local secretaries, with the exception of the province of Quebec, which has no provincial medical society. For that province Dr. F. A. L. Lockhart, of Montreal, was elected vice-president and Dr. C. A. Peters local secretary. Dr. George Elliott, of Toronto, was reelected general secretary and Dr. H. B. Small, treasurer.

Dr. R. W. Powell, of Ottawa, the president, occupied the chair at the seventh annual meeting of the Canadian Medical Protective Association, which was held in Ottawa on the 9th of June. He reported that since the association was organized, in Winnipeg, in 1901, not a single case which they had undertaken to defend had been lost; that the fact, becoming known among the public at large, that the medical men of Canada had at their back

an organization of this character was acting as a deterring influence against causeless litigation, and that year by year there were fewer cases than in the previous year which they had to defend. During the seven years the association has accumulated nearly three thousand dollars. The fee for membership is three dollars. Dr. Powell was reelected president and Dr. J. Fenton Argue, of Ottawa, secretary. The new dean of the Medical Department of McGill University, Montreal, Dr. Francis J. Shepherd, was present, and on every hand was receiving congratulations. Dr. Roddick, the retiring dean, was also present.

The entertainments took the form of a reception at the Ottawa Golf Club on the evening of the first day, an excursion to Caledonia Springs on the afternoon of the second day, and a smoking concert on the evening of the third day, besides numerous private functions. Sir Wilfrid Laurier, Canada's Prime Minister, and the mayor of Ottawa delivered addresses of welcome.

### Therapeutic Notes.

**Solvent for Uric Acid.**—Fiessanger (*Journal de médecine de Paris*, May 9th) prescribes the following powder to be taken as directed:

R	Dried sodium phosphate,	
	Sodium sulphate, .....	āā 3ss;
	Sodium bicarbonate, .....	gr. xlv.

M.

Dissolve the mixed powder in a quart of boiling water, and take one wineglassful in the morning on an empty stomach; half a wineglassful at 11 o'clock a. m., at 4 o'clock p. m., and on retiring for the night.

**Carminative Mixture in Flatulent Dyspepsia.**—A. F. Plicque (*Le Bulletin médical*, May 16, 1908) advises the use of the following mixture for the relief of the spasms of pain accompanying flatulent dyspepsia:

R	Oil of anise, .....	gtt. xl;
	Tincture of valerian, .....	3i;
	Tincture of opium, .....	xlvj;
	Magnesium carbonate, .....	3i to 3iiss;
	Peppermint water, .....	3iiss.

M. et Sig.: One teaspoonful every hour, or every half hour, until relieved.

**Diabetic Coma.**—After the withdrawal of a certain amount of blood in diabetic coma of acidemia it is advisable to inject into the veins solutions that approximate normal blood plasma rather than either physiological saline solution or saline solution with a large amount of sodium bicarbonate. The following is Ringer's solution, which may be used for this purpose:

R	Sodium chloride, .....	gr. cxxxvj;
	Calcium chloride, .....	gr. iv;
	Potassium chloride, .....	gr. viiss;
	Sodium bicarbonate, .....	gr. iii.

M. Fiat chartula i.

Sig. To be added to a quart of distilled water.

This solution may be made into sterilized tablets and kept ready for use.—*Journal of the American Medical Association*.



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NEW YORK, SATURDAY, JUNE 27, 1908

## THE MEDICAL SERVICE OF THE ARMY.

We would call the attention of our readers to the announcements which we publish in our department of Miscellany this week, under the heading of Army Medical Department Examinations, 1908. Copies of the circulars of information reached us when it was too late for their insertion in full in this issue. In view of the fact that formal applications for permission to undergo the preliminary examination for admission into the Medical Corps should be in the possession of the adjutant general of the army before July 1st, we hasten to publish the condensed statements in question, and shall give our readers further information in our next number.

An appointment as a medical officer of the army or navy has always been coveted by the young graduate, for there is no higher stamp of his merit. If until recently certain conditions of the service have operated to cause many promising and ambitious young physicians to refrain from seeking for this mark of distinction, to the great embarrassment of the service, it is evident that recent legislation has so remedied those deterrent features as to insure a more general determination among eligible men to take the examinations and enter upon a career in the army or navy. And yet, so large is the number of vacancies created by the new law in the Medical Corps of the Army, for several years to come all candidates who pass the examinations acceptably will be practically sure of succeeding in entering the corps, so the heightened attractiveness of the career need cause no competent man to fear

that increased competition will lessen his chances of success.

A notable feature of the recent action of Congress is the creation of the Medical Reserve Corps, such a body as the army has always stood in need of. Heretofore, whenever the emergency of war has made a rapid increase of the number of medical officers absolutely necessary, the personal preferences of civil officials and politicians have led to the appointment of many persons whose unfitness soon became manifest to everybody but themselves. The flower of our profession have now the opportunity of guarding against any further repetition of such an unfortunate state of things, and at the same time of letting their patriotism be known. Some sacrifices on their part will be needed when they are called upon for active service, but they are such sacrifices as every good citizen is ready to make, and, as a class, physicians have never been backward in endeavors to promote the public welfare at any cost to their personal interests. It will soon come to be recognized, we believe, that membership in the Medical Reserve Corps, even in times of peace, will be accounted noble by the people, for whoever stands ready to do a good deed when he is called upon is as meritorious as he who, having the opportunity, actually does it. We are very hopeful, therefore, of the personnel of the new corps, for we look to see it made up of the best men that the profession includes, men who have made their mark in civil life solely by their own fitness and the beauty of their lives—surely a legion of honor.

CHARITY ORGANIZATIONS TO JOIN IN  
RED CROSS WORK.

In the selection of Mr. Ernest P. Bicknell as national director of the American National Red Cross seems to have chosen wisely. His selection as director carries with it the adoption of the policies which Mr. Bicknell has earnestly and ably advocated. The essential idea of the reorganization of the work of the Red Cross Society as outlined by Mr. Bicknell is that all the organized charities in the United States are to be enrolled as auxiliaries to the Red Cross, each organ to be sending to the scene of need at the call of the society. This would give a nucleus of experienced workers whose effort would be much more efficient than those of persons not trained in charity organization work. Under this plan experienced investigators, visitors, nurses, organizers, and administrators, trained to work systematically and effectively, could be assembled at any point in the United States within a few hours, ready to give skilled assistance in the relief

of suffering from any great disaster and to handle and distribute supplies of any kind which might be needed.

The skeleton organization of the society as outlined by Mr. Bicknell provides for the appointment of local representatives in various sections who would at once assume charge of relief measures wherever the services of the society were required, and to this representative the assistants from the various auxiliary organizations will report as soon as they are notified that their services are required. The acts of the local representative will be subject to the approval of the emergency relief board and of the national director, who in cases of grave importance will proceed to the spot himself and assume immediate charge of the work. The plan as set forth by Mr. Bicknell is an excellent one and, as it is based on his experience in San Francisco, we have no doubt that it will prove eminently satisfactory in operation.

#### THE LIMITATIONS OF DISINFECTION.

We often hear grave doubts expressed concerning the value of disinfection of sick rooms after contagious diseases, and are told that results would be equally good if this were entirely omitted. Furthermore, bacteriologists teach us that practically all the tests of the efficacy of disinfection now in use are subject to wide error, and that no standard has yet been discovered by which to make comparative measurements. The difference between tests on naked germs and on germs in the presence of even three per cent. of some form of organic matter may exceed fifty per cent. Hewlett and Kenwood, therefore, prefer to obtain the carbolic acid coefficients of the particular disinfectants to be compared by adding varying dilutions of the disinfectants to a definite quantity of faeces, and, after half an hour's exposure, testing for the survival of *Bacillus coli communis*. At the Lister Institute carbolic acid and *Bacillus typhosus* are the standard chemical and germ employed for ordinary purposes. The organic matter is supplied in the form of a sterilized three per cent. emulsion of human faeces. This is made by drying faeces at 102° C. (215.6° F.), grinding in an agate mortar, suspending the powder in water, and then sterilizing in the autoclave. Blyth advocates the use of milk of a given composition in place of the faeces suspension.

So far as the advisability of disinfecting sick rooms is concerned, a discussion reproduced in a recent number of *Public Health* reflects the prevailing opinions in England. Kenwood is a thorough believer in such disinfection, and urges the frequent disinfection also of school rooms. If possible, these should be cleaned and disinfected at the end of each

week. Colonel Firth, who has had considerable experience with disinfection in the army, boldly advocates omitting disinfection of sick rooms entirely. Even after scarlet fever he makes it a practice not to disinfect the rooms, but disinfects by steam all personal clothing, and trusts to fresh air and soap and water to cleanse the room. Rideal believes this is going too far, and urges the value of disinfection, especially in killing tubercle germs. Defries believes that until we know the precise vehicle of infection in any given case it will be best to disinfect the rooms in order to be on the safe side. It certainly is not well to create a false sense of security by going through an elaborate disinfection and then omitting careful cleansing with soap and water. As a rule, however, the moral effect is just the reverse; the family is impressed with the importance of cleansing, ventilating, and renovating. In this moral effect a great many health officers see the most important rôle of the disinfection of sick rooms.

Several observers spoke of the use of disinfectants to kill vermin. Kenwood had made comparative tests with formaldehyde, chlorine, nitrous acid, and sulphurous acid, and found that fleas were killed only by exposure to the last named. The results with bedbugs were practically the same, so that, for the killing of such vermin, the old sulphur disinfection is to be preferred. In killing lice on the clothing of soldiers, Firth found that a three hours' exposure to formaldehyde produced the best results. The disinfection was carried out in a steam disinfectant with just sufficient steam inside to keep the air moist.

#### MASTURBATION AND ITS CONSEQUENCES.

But very few physicians, we fear, have formed a correct estimate of the influence of masturbation on the physical and mental health of those who practise it. The quacks, of course, depict its alleged direful effects in frightful terms, and, unfortunately, there are some of our textbooks that are not far behind them. The consequence is that many impressionable persons, conscious of having been more or less addicted to the practice in their youth, fall victims to tormenting remorse, accusing themselves of viciousness and of having brought upon themselves an endless succession of physical and mental abnormalities. They feel convinced that they are rapidly drifting into impotence or that they are doomed to end their days in a madhouse.

However clearly we may discern the fallaciousness of the teaching that has given rise to all this unnecessary misery, most of us, in our intercourse with the laity, hesitate to combat it, lest we should be misunderstood as in some way countenancing a

habit which is certainly degrading and is popularly reputed to be vicious and disastrous—so reputed in spite of the fact that it is generally known to be almost universal among young persons. Is it not wise, we are apt to argue, to let the popular impression alone for the sake of some modicum of wholesome effect which it may exert upon masturbators who are in danger of carrying the practice to excess? It must be conceded that the question is a delicate one; however, we believe that more good is likely to come from telling the truth than from refraining.

A remarkable contribution to the true statement of the case was made in our issue for October 9, 1897, in an article entitled *An Investigation Into the Effects of Masturbation*, by Dr. A. C. McClanahan, of Red Lodge, Montana. Dr. McClanahan gave brief accounts of the subsequent careers of a number of men known by him to have been masturbators in their youth, and the narration speaks pointedly in favor of the innocuousness of the habit. It is well worth our readers' while to turn back to the article. Quite recently, in the *Progrès médical* for June 6th, Dr. Maurice Royer has gone over the ground again, and he comes substantially to Dr. McClanahan's conclusions, though he admits that, when carried to excess, masturbation is injurious, but no more so, he implies, than excessive coitus. Incidentally, it is interesting to note that M. Royer, not believing in the syphilitic origin of *tabes dorsalis*, agrees with those who ascribe that affection to excessive indulgence in sexual intercourse. Its frequent occurrence in syphilitic subjects, he thinks, is but a coincidence, depending on the fact that libertines are particularly prone to contract syphilis. He thinks, also, that precocious masturbation, the form sometimes noticed in very young children, may create a *locus minoris resistentie* in the spinal cord and thus pave the way for *tabes*. Such children, as he remarks, are incapable of producing a "terminal spasm" and an ejaculation, but find satisfaction in a partial erection of the penis which they keep up by manipulations continued for hours at a time. It is this protracted sexual excitement, he thinks, which does the harm. Nobody can accuse these infants of viciousness; they generally learn the habit from their nurses' handling, carried out ignorantly or by design, for some unscrupulous nurses do not hesitate to paddy a pugnacious child by titillating its genitals.

As to the part supposed to be played by masturbation in the production of insanity, if all young masturbators are destined to end in an asylum, asks Dr. Royer, will it be possible to find enough *leopard* in them? Masturbation has figured prominently in the etiological table—published in asylum reports and occasionally, an alienist seems to think, that he has probed the etiology of a case to the bottom when he has elicited from an insane patient the admission

(sometimes unfounded) that he or she has been a masturbator. In many an asylum, it is true, we may see a poor inmate almost constantly executing movements which can only be masturbatory, but surely the revolting propensity may quite as well be the result as the cause of mental disease. We have no more right to afflict the friends of an insane person by saying that he or she masturbated himself or herself into insanity than we have to declare that a man drank himself crazy, whereas his insanity, though incipient and latent, may have urged him to drink.

## THE FRENCH MEDICAL MEETING IN QUEBEC.

As we have already noted in our news columns, the Association des médecins de langue française de l'Amérique du Nord will hold its fourth meeting in Quebec on July 20th, to continue until the 22d. The elaborate celebration of the tercentenary of the historic and picturesque old city is sure to attract a great number of physicians from various parts of Canada and the United States, including many whose native tongue is not French, and they will naturally be interested in the meeting. So great a concourse of visitors is expected, indeed, that the hotels are not making reservations of rooms on order. While this fact is proving decidedly embarrassing to the committee on quarters, they are able to announce that 400 rooms, with or without partial or complete board, have been placed at their disposal, at charges ranging from \$2 to \$5 a day. The secretary of the committee is Dr. Emile Nadeau. It appears to be decided, the committee say, that there will be a city of tents, with all the necessary conveniences, including running water, drainage, electric lights, service, police, and restaurants, which will also be open to physicians attending the meeting. The Canadian transportation companies have arranged for half rates, and a similar action has been taken by the railway companies of the eastern part of New England. It is altogether probable, therefore, that medical men who visit Quebec for the occasion will be able to make the trip comfortably and economically, and it seems to us that the association may count on a very large and satisfactory meeting.

## A CONSOLIDATION OF SCOTTISH JOURNALS

It is announced in the June number of the *Scottish Medical and Surgical Journal* that there will be no further issue of that journal, for it is to be consolidated with the *Edinburgh Medical Journal*. For the eleven years of its existence the journal has published two issues monthly and one



esteem for its excellence, and it cannot be doubted that the consolidation will give Edinburgh a journal of heightened usefulness and influence. It was consequent upon the acquirement of the *Edinburgh Medical Journal* by members of the profession. The new journal will be edited jointly by the senior editors of the constituent journals.

## JUSTICE TO THE CONVICT.

In *Charities and the Commons* for May 9th there appears a letter written by Dr. Beverley Robinson, who has long shown a most philanthropic interest in the inmates of our penal institutions. Dr. Robinson mentions two ways in which complaints by prisoners might be listened to without hindrance and with some chance of avail. The first one is by frequent visits by authorized persons at unexpected hours, and the other is by allowing prisoners to write to the State Prison Commission as often as once a month without the knowledge of the prison officials, or, at all events, without the letters being opened before they are mailed. When we remember that insanitary conditions often form the burden of complaints, it will be realized that the medical profession ought to cooperate with Dr. Robinson.

## News Items.

**Stray Dogs Condemned.**—In view of the occurrence of several cases of rabies recently, the Board of Health of the City of New York has adopted an ordinance providing for the destruction of all stray dogs.

**The Medical Department of the Temple University, Philadelphia,** held its commencement exercises on the evening of Wednesday, June 3d. The degree of doctor of medicine was awarded to eight candidates.

**The Antituberculosis League of New Orleans** has organized a branch league at Winnfield, La., with the following officers: President, Dr. J. J. Peters; vice president, Dr. I. E. Siess; secretary, Miss Georgia Prothro, and treasurer, Mr. S. G. Fittz.

**Jewish Hospital, Philadelphia, Home for Nurses.**—The corner stone for a home for nurses and a surgical ward, to be known as the Pennsylvania Building, was laid with appropriate ceremonies on the grounds of the Jewish Hospital, Philadelphia, on Tuesday, June 2d.

**Donation to the Syracuse, N. Y., Hospital for Women and Children.**—Mrs. Mead Belden has given \$5,000 to this institution, to endow a bed in the Holden pavilion for children. This gift in perpetuity is to be a memorial to Mrs. Belden's son, Edward Mead Belden.

**An Annex to Roosevelt Hospital.**—Plans have been filed for a two story pavilion which is to be erected as an addition to Roosevelt Hospital. The pavilion will be fitted as a pathological annex, with apparatus for microscopical work. It has been presented to the hospital by Mr. James W. McEune.

**Contagious Diseases in Chicago.**—The following cases of communicable diseases were reported to the Department of Health during the week ending June 13, 1908: Measles, 227; diphtheria, 94; scarlet fever, 67; whooping cough, 41; tuberculosis, 40; chickenpox, 17; typhoid fever, 9; diseases of minor importance, 4; total, 497.

**The Hartford Celtic Medical Research Society** is the name of an organization recently formed in Hartford, Conn., with the following officers for the first year: President, Dr. D. F. Sullivan; vice presidents, Dr. Edward J. Thurbert, and Dr. Thomas F. Welch; treasurer, Dr. P. R. McPartland; secretary, Dr. J. F. Rooney.

**The Northwestern Medical Association of Philadelphia** held a stated meeting on Friday evening, June 26th, which was the last meeting of the association until the second Friday in September. The principal feature of the programme was a paper by Dr. Moses Behrend on the Diagnosis and Treatment of the Enlarged Prostate Gland.

**Philadelphia County Medical Society.**—A meeting of the Central Branch of this society was held on the evening of June 24th. Dr. James W. Walk presented a communication on Avoidable Mistakes in Medical Testimony, and Dr. Henry Leffmann delivered an address on Naturalization and Socialization of Medical Education The Only Method of Suppressing Quackery and Illicit Practice.

**Tufts Medical College** held its fifty-second annual commencement exercises on June 17th. Two hundred and forty-seven degrees were conferred, which breaks all previous records. At the annual dinner of the alumni association Dr. Morton Prince delivered an address in which he made a plea for donations for laboratories and endowment to enable Tufts to take the lead in establishing a course in psychotherapeutics.

**Night Camps for the Tuberculous.**—Dr. Livingston Farrand, secretary of the National Association for the Prevention of Tuberculosis, says (*Charities and the Commons*, June 20, 1908) that night camps are needed for tuberculous patients who are still well enough to continue their work. These night camps should provide the patient with dinner, a place to sleep out of doors, and a good breakfast before going to work.

**Appointments at Cornell University, Ithaca, N. Y.**—Dr. Sutherland Simpson, of the University of Edinburgh, has been appointed professor of physiology, and Dr. Andrew Hunter, of Leeds University, has been appointed first professor of biochemistry. Dr. Dennie Hammond Udall, professor of veterinary medicine in Ohio State University, has been appointed acting professor of veterinary medicine, to succeed Dr. James Law.

**Tuberculosis Camps.**—The idea of tuberculosis day camps for patients suffering from tuberculosis, which originated in Germany, was first introduced into this country in Boston by the Boston Association for the Relief and Control of Tuberculosis, which established a camp on Parker Hill, maintaining it from May until November. The movement has spread rapidly throughout Massachusetts, and excellent results have been reported.

**The Associated Physicians of Long Island** held their summer meeting at the Penataquet Corinthian Yacht Club, Babylon, on Saturday, June 10th. About seventy-five members were present. Among those who presented papers were Dr. Louis Nott Lanehart, of Hempstead; Dr. Russell S. Fowler, of Brooklyn; Dr. Arthur H. Bogart, of Brooklyn; Dr. Archibald Murray, of Brooklyn; Dr. Walter Truslow, of Brooklyn, and Dr. Frederick Tilney, of Brooklyn.

**The Upper Cumberland Medical Society, Tennessee,** held its annual meeting recently in Sparta, Tenn. Officers for the ensuing year were elected as follows: President, Dr. B. S. Rhea, of Bon Air; first vice president, Dr. J. T. Moon, of Algood; second vice president, Dr. T. J. Potter, of Smithville; third vice president, Dr. W. M. Breeding, of Livingston; secretary, Dr. V. L. Lewis, of Crossville; treasurer, Dr. R. E. Lee Smith. The next annual meeting will be held in Cooksville.

**An Antituberculosis Society in Newfoundland.**—A society for the prevention of the spread of tuberculosis has been organized in the colony of Newfoundland, whose special province will be to instruct the general public as to the best methods of preventing the spread of this disease, which is the cause of a very large proportion of the deaths of the colony. The various missionary societies are taking an active part in the work, having provided trained nurses for settlements where the inhabitants agree to pay the expenses of the nurses.



**Dr. Meyer Director of the Henry Phipps Psychiatric Clinic.**—The trustees of Johns Hopkins Hospital and University have elected Dr. Adolph Meyer, of New York, professor of psychiatry and director of the Henry Phipps psychiatric clinic, which is to be erected and maintained out of the fund donated for that purpose by Mr. Henry Phipps, of Pittsburgh. Dr. Meyer will spend the summer abroad with the architect who is to erect the buildings making a study of similar institutions at Munich, Berlin, and Breslau, and will take up his residence in Baltimore in the fall of 1909. Dr. Meyer has served as director of the clinic at the Hospital for the Insane in Worcester, Mass., director of the pathological institute of the New York State Hospital on Ward's Island, since 1904 has been professor of psychiatry at the Medical Department of Cornell University, and is now president of the New York Psychiatric Society.

**Oregon State Medical Association.**—The thirty-fourth annual meeting of this association will be held in Portland on Wednesday, Thursday, and Friday, July 1st, 2d, and 3d. A splendid programme consisting of over twenty papers has been prepared, and ample arrangements have been made for the entertainment of the visiting members and their guests. The general sessions will be held in the Assembly Hall of the Commercial Club, and the meeting of the House of Delegates will also be held at this place. A public meeting under the auspices of the Oregon State Board of Health will be held on Friday afternoon. The officers of the association are as follows: President, Dr. R. C. Coffey, of Portland; first vice president, Dr. Nicholas Molitor, of La Grande; second vice president, Dr. J. H. Rosenberg, of Prineville; third vice president, Dr. A. C. Seeley, of Roseburg; treasurer, Dr. Edna Timms, of Portland; secretary, Dr. William House, of Portland.

**New Head for the Red Cross Society.**—Ernest P. Bicknell, who has been appointed national director of the American National Red Cross Society, served for five years as secretary of the Indiana State Board of Charities, during which time he brought about several important reforms, both in the charity work and in the penal system of the State, introducing the indeterminate sentence and the parole. Mr. Bicknell also had charge of the Chicago Bureau of Charities for some years, taking active part in the investigations of the County Hospital and serving as a member of the present commission charged with the building of a new Cook County Infirmary and Tuberculosis Hospital. Mr. Bicknell showed distinguished ability in work of relief at San Francisco, where he went to represent the Chicago Relief Committee, which contributed \$700,000 to the relief fund, and it was while there that he evolved the idea of making charity organizations generally auxiliary members of the American National Red Cross Society, with the view to giving a nucleus of trained relief workers who could be called upon for immediate service in case of emergencies. It is announced that this plan will at once be put into effect.

**The Health of the Canal Zone.**—During the month of April, 1908, the following deaths from transmissible diseases occurred in the Canal Zone: Typhoid fever, 1; zoster-autumnal malaria, 2; clinical malaria, 20; dysentery, 5; amoebic dysentery, 1; beriberi, 2; purulent infection and septicæmia, 4; tuberculosis of the lungs, 26; general tuberculosis, 3; cancer and other malignant tumors, 4; acute articular rheumatism, 1; elephantiasis, 1; tetanus, 3; bronchopneumonia, 3; pneumonia, 16; diarrhoea and enteritis, under two years of age, 15. The total deaths for the month numbered 104 in a population of 116,178, corresponding to an annual death rate of 20.04 in 1,000 of population. The health of the employees of the canal commission was exceptionally good. There were no deaths from typhoid fever among them, and only one death from malaria. In 1907 there were 816 cases of malaria treated in the various hospitals, with 10 deaths; in 1908 there were 407 cases of malaria treated, with no deaths. The decrease in the number of cases of malaria was accompanied by a decrease in the severity of the type of the disease. The sick rate among the employees made quite as good a showing as the death rate. In 1907 the rate was 21.52 in 1,000; in 1908 it was 17.09 in 1,000. Plague is present at Guayaquil and at La Guayra, but no case has been discovered on the isthmus. No case of yellow fever

## Pith of Current Literature.

### THE BOSTON MEDICAL AND SURGICAL JOURNAL

June 18, 1908.

1. An Account of Dr. Louis Daniel Beauperthuy, a Pioneer in Yellow Fever Research.  
By ARISTIDES AGRAMONTE.
2. Suture of the Patellar Tendon: Report of Three Cases.  
By CHARLES F. PAINTER.
3. Notes on X Light. Note 208. The Resistance of an X Light Tube Is not an Accurate Indication of the Degree of the Vacuum,  
By WILLIAM ROLLINS.
4. Modern Medicine and Surgery in the Orient,  
By J. EWING MEARS.

2. **Suture of the Patellar Tendon.**—Painter describes his method as follows: The incision is a straight one directly over the patellar tendon, beginning at the tibial tubercle and extending up over the lower half of the patella. The sheath of the patellar tendon is fully three quarters of an inch in breadth, and at its attachment to the patella is separated from the synovial membrane by quite a thick layer of subserous fat. In elderly patients this fat may be so atrophied that the synovial membrane is practically a part of the posterior surface of the patellar tendon. If the rupture has been of long standing there is likely to be considerable contraction of the divided tendon, and in these cases it is necessary to employ the method of Lange, devised for the purpose of transmitting the power of a muscle at a distance where there is no intervening tendon of sufficient length. In one case the writer used braided pedicle silk, bridging over the entire distance between the tibial tubercle and the patella. Four strands of this silk were placed parallel to each other, being attached above to the marginal cartilage of the patella by threading through holes drilled in the cartilage, and below they were quilted through the patellar tendon. A fascia was then closed over these sutures with interrupted catgut, and the skin united with a buried silkworm gut. In two cases where there had been but little retraction it was possible to approximate the cut ends of the tendon quite closely to the lower border of the patella. It was always necessary to drill holes in the margin of the patella. The leg was then put up in plaster of Paris in complete extension and was not again disturbed, except for the removal of the skin suture, until six weeks had elapsed. The plaster was then split and taken off each day to permit of passive motion. During the next two weeks the patients were allowed to bear weight on the leg, protected by the plaster. At the end of a month, or ten weeks after the operation, motion was possible to nearly a right angle, and walking was then permitted without the protection of any splint. Crutches were used for the first six weeks and then a cane for the next month. Protection by a flannel bandage was urged for two or three months after the omission of the plaster. The functional results have been entirely satisfactory. There has been a loss of not over 5 degrees of extension in any case, and this has not seemed to materially interfere with function. In one of his cases where Lange's method was employed one strand of the silk used to bridge over the hiatus worked its way to the surface, after being in place six months. This required a careful dissection in order to avoid the removal of the entire network. It also gave opportunity to obs-



serve the way in which a new tendon was being formed, fibrous tissue having enveloped these strands throughout their entire extent.

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 20, 1908.

1. The Treatment by Rest, Seclusion, Etc., in Relation to Psychotherapy, By S. WEIR MITCHELL.
2. Cooperative Scientific Investigation. Address of the Chairman of the Section on Ophthalmology, By WILLIAM H. WILDER.
3. Autointoxication, By G. E. DE SCHWEINITZ and CHARLES A. FIFE.
4. Tonsillotomy in Children Under General Anesthesia—a Hospital Operation, By EDWARD PANCHON.
5. Marriage and Intermarriage of Tuberculous Subjects, By I. A. MCSWAIN.
6. Thymic Asthma, with Report of a Case of Thymectomy and Resection of Enlarged Thyroid in Child Twenty-three Days Old, By J. SCHWINN.
7. The Conjunctival Tuberculin Reaction, By CHARLES PATTON CLARK.

**5. Marriage and Intermarriage of Tuberculous Subjects.**—McSwain thinks the public should be informed by distributing circulars written in language that can be understood of the danger of intermarriage and marriage of tuberculous subjects. Public exhibitions have a large influence on the public mind; school and home training is important, and public lectures create interest as perhaps nothing else can. Physicians in their close contact with the home should certainly impress the young people of the danger of the marriage of consumptives and strongly oppose it. Then, some time in the future, when the beneficial effects of education are manifest and sanitary laws properly executed have curtailed the ravages of the disease, for the incorrigible ones who will not be governed by reason, the dignity and majesty of the law should be invoked. Thus can we teach them that it were better for a few to practise selfdenial than that many should suffer for their indulgence. Tuberculous subjects should be taught in the most impressive way that to marry and intermarry will inevitably bring much sorrow to the household, that they will but hasten themselves into untimely graves to leave behind them, perchance, a sickly posterity that will be liable to succumb to the disease. Let us instill high ideals in the minds of the young people. That their purposes in life should be to bless and elevate mankind, that the temporary joys of the marriage of diseased persons are soon to be overshadowed by thick clouds of sorrow and disappointment. Better endure the loneliness, and even the stigma, of single life than to behold the destructive sequel that follows in the wake of marriage in such cases.

**6. Thymic Asthma.**—Schwinn states that in well developed cases of thymic asthma we find the symptoms of a stenosis of the air tract somewhere between the larynx and the bifurcation of the trachea; inspiratory and expiratory stridor, as a more or less audible whistling respiration; retraction of the supraclavicular, infraclavicular, and intercostal spaces during inspiration; inspiratory dilation of the nostrils, and more or less cyanosis and restlessness. Most any time these symptoms may assume a most dangerous character, the respiration becoming extremely labored, the patient becoming blue or almost black. Consciousness is lost, convulsion may

set in, and, with a rapid, weak pulse, death may follow in the course of a few minutes. Potts reports four cases where children died with the symptoms of suffocation within two minutes after the insertion of a tongue depressor. A child may show very slight symptoms of difficult respiration, and suddenly in the midst of a crying spell or during an exciting play become cyanosed and perish with symptoms of suffocation. Inspection and palpation are as a rule negative in thymic enlargement, except where the gland is quite large and forms a visible and palpable swelling in the suprasternal notch. Percussion often brings out an abnormal dullness over the upper part of the sternum, while auscultation may show diminished breathing and abnormal tracheal sounds. The voice is generally unchanged, except that it may be weak. The fact that in a case of obstruction to respiration the usual intubation gives no relief, while the intubation with the use of a long tube removes the stenotic symptoms, would point to the thymus as the cause of the obstruction. Chevalier Jackson was enabled, by the use of a bronchoscopic tube introduced by tracheotomy, to see directly the narrow slit to which the trachea was reduced by the pressure of the enlarged gland; but of all the diagnostic means the radiogram is the most trustworthy. The enlarged gland throws a shadow different from that of the normal gland in that it reaches farther to the side of the vertebræ and merges into the shadow of the heart in a convex line instead of in a rather straight line. The condition being such that a child with a large thymus may suffocate at any moment, it is very plain that surgery, and prompt surgery at that, is the only rational procedure. The medical treatment may bring down a syphilitic enlargement in time, but it surely will not reduce a simple hypertrophy far enough to keep the patient safe until this reduction is accomplished. Some authors advise us to keep a child of this kind quiet, see that it does not throw the head back, keep it from crying and excitement, keep away infectious diseases, etc. All of this is very nice, but who can watch an otherwise healthy child day and night for years in its every movement? Operation with the view of removing the offending organ seems to the author the only treatment to be thought of, and in the few cases where this was carried out the results certainly have been all that could be expected. But there is still that class of cases left in which there are no symptoms whatever, until suddenly and without warning a child is seized with a suffocating attack and expires before help can be had. In a considerably greater number of cases of sudden death in children than we imagine at present the thymus is in all probability in blame. In cases of this kind we are utterly in the dark until after the catastrophe, and the only way to prevent such deaths would be a systematic radiographic examination of children. The operation should be performed as soon as a diagnosis is made, the radiographic method being the most reliable of our diagnostic means. A tracheotomy should be provided for in every case, but avoided if possible on account of the danger of infecting the mediastinum. The upper chest aperture should be temporarily enlarged by the splitting of the sternum, if during the operation the thymus is increasing at all. In the future it will be possible to

avoid tracheotomy in a number of cases. General anaesthesia should be used, as it is very difficult to operate upon a struggling child.

#### MEDICAL RECORD.

June 20, 1908.

1. Milk Free Fluid Diet, and Rectal Irrigations in Typhoid Fever—A Further Report, By A. SEIBERT.
2. A Milk Free Diet in Typhoid Fever, By CYRUS J. STRONG.
3. Remarks on Milk Free Fluid Diet and Rectal Irrigations in Typhoid Fever, By ROBERT C. KEMP.
4. Clinical Charts of a Case of Quartan Malarial Fever Observed in West Africa, with Commentary, By F. CREIGHTON WELLMAN.
5. The Relation of Tuberculous Cows to Tuberculosis in Children, By WILLIAM LELAND STOWELL.
6. The Treatment of Diseases Due to Respiratory Catarrh, By WILLIAM MARTIN RICHARDS.
7. The Injurious Habits and Practices of Childhood; Their Detection and Correction, By KARL H. GOLDSTONE.

**1, 2, 3. Milk Free Fluid Diet, and Rectal Irrigations in Typhoid Fever.**—Seibert has used plain warm water in irrigating the colon in typhoid fever. He observes the following rules: If nausea is present on admission, the stomach is washed out. Then two doses of calomel, each containing two grains, are given within two hours. Rectal irrigations with three pints of warm water are begun at once. In severe cases every three, in milder ones every six, and in mild cases every twelve hours. Bowel hemorrhage, appendicitis, and perforations are the only contraindications. During the first day of treatment nothing but cold water is given. From the second day on, one half pint of strained rice, oatmeal, or barley soup, containing the extract of half a pound of meat and the yoke of a fresh egg, well spiced, are given every three hours, five times daily. During the night cold water alone is offered. During the first three days of treatment the patients are not urged to swallow all of their soup, but are persuaded to drink cold water every hour by day and by night. From the fourth day on, strained pea, lentil, potato, and tomato soup, with rice, are added to the menu. The desire for more food, coming in uncomplicated cases not seldom on the fifth or sixth day, is met by giving the soups thickly made. The lower the fever and the more marked the hunger, the thicker the soup. To very hungry patients two or three zwiebacks are given with their soup at the end of the first week. Orange juice is given in water three times daily. Egg albumen is not given, on account of the possibility of forming toxins. Before each meal fifteen to twenty-five drops of hydrochloric acid are given in one half ounce of water. Alcohol is given only to topers. Cold baths are never employed, even in hyperpyrexia. Opium is used only in bowel hemorrhage. During complicating pneumonia sixty to one hundred and twenty drops of 20 per cent. camphorated oil are injected hypodermatically, twice daily. No other medication is used. The results of this plan of treatment have been the following: Nausea, headache, delirium, insomnia, tympanites, and diarrhea disappeared in most cases after two or three days, and did not recur later on. In uncomplicated cases the temperature began to drop after twenty-four to forty-eight hours daily by  $\frac{1}{2}$  to  $1^{\circ}$  F., and reached  $99^{\circ}$  F. in the rectum on the morning of the ninth, tenth, eleventh, or twelfth day of treatment,

irrespective of the duration of the attack before admission. In a smaller number of cases this occurred within the first week of treatment. In cases admitted with complications (like pneumonia, nephritis, and phlebitis) the intestinal symptoms (tympanites and diarrhoea), as well as those of systemic infection of the nervous system (delirium, headache, and insomnia), usually disappeared as readily as in uncomplicated cases, while the temperature, the pulse rate, and the respirations remained at the height characteristic of the local processes. The complications disappeared more readily than under the former milk diet. Later complications very seldom developed in cases admitted without complications. The author thinks that it abbreviates the attack and ameliorates the symptoms by the constant reduction of infectious material; it prevents complications, and it reduces the mortality.—Strong has treated seventeen cases with the milk free diet, and speaks very favorably of it.—Kemp is also in favor of Seibert's method. His only modification of this method is in cases of complicating nephritis of active type, where beef broths are omitted; but the strained farinaceous gruels are kept up, and occasionally he uses malted milk made up with hot water. Moreover, he has been employing of late in his gastrointestinal cases a sterilized milk albumin product containing glycerophosphoric acid, which is soluble in water and has been demonstrated by Ewald to have considerable nutritive value and to be readily absorbed in typhoid fever. In such cases the author believes it would be of considerable value. Strong remarks that the use of rectal irrigations is one of the most important features in the treatment of typhoid fever. He has generally employed the short recurrent tube and normal saline solution. The only contraindications are hemorrhage and peritonitis. By the irrigations the small intestine is emptied out into the large intestine, and this in turn cleared out; absorption from accumulation in the rectum is prevented, and hence toxæmia is lessened and the temperature is reduced; gas, if present, is removed from the bowel; the large intestine is kept clean, and elimination of the toxins, through the diuretic action of the injections on the kidneys, is promoted.

**5. The Relation of Tuberculous Cows to Tuberculosis in Children.**—Stowell says that fresh, clean milk, when obtainable, is wholesome and more readily digested than when pasteurized. The danger of tuberculous infection from milk must be very slight, for, in tracing the history of the children and the diagnosis on admission to the institution, there is no evidence of tuberculosis developing more often among those having the farm milk than among those in other wards having the pasteurized supply from the city. Less than 10 per cent. of the mortality was due to tuberculosis, and that, according to the United States Census of 1900, is the ratio for the nation. We cannot deny the presence of a tuberculous dairy and the presence of tuberculous children; but a careful analysis fails to show that one depended on the other.

**7. The Injurious Habits and Practices of Childhood.**—Among other injurious habits, Goldstone mentions the pacifier. He believes it to be one of the most pernicious and harmful habits of infancy. It is found among all classes of people.

The good influence that it is supposed to exert—imaginary, as can be seen—is to quiet the child, stop its crying, take the place of feeding, and allay the symptoms of teething (?). The pacifier can be said to quiet the child only in the same sense as body sucking and masturbation quiet or rather satisfy the child, but only to be replaced by the reaction of a mental explosion, the result of high nervous tension. It takes the place of feeding only if one were to consider swallowing of dirt and germs as feeding. The sucking of the pacifier produces in infants (1) the formation of adenoids by causing a congestion of the postpharyngeal wall, and consequent hypertrophy of the lymphoid tissue situated between the two Eustachian tubes and known as the pharyngeal tonsil; if adenoids are already present, they increase in size and extent for the very same reasons. (2) Deformities of the mouth and palate by the presence of adenoids, whose growth it incites, and by the repeated twisting and distorting caused in sucking. Children who are subject to the habit have a high arched palate, diseased and deformed teeth, and thickened lips. (3) Colic and flatulence, by the sucking in of air. (4) Ulcerative stomatitis and sprue, by the sucking of dirty particles that always collect on the pacifier. (5) Hypertrophied tonsils, due to congestion as mentioned in adenoids.

## BRITISH MEDICAL JOURNAL

June 6, 1908.

1. Cerebral Influenza, By R. SAUNDBY.
2. Hemiplegia with Unilateral Optic Atrophy, By R. F. WILLIAMSON.
3. The Present Condition of Our Knowledge Regarding the Functions of the Suprarenal Capsules (Oliver-Sharpey Lectures, II), By E. A. SCHÄFER.
4. An Unusual Case of Appendicitis, By R. PARKER.
5. A Case of Compound Follicular Odontoma, By J. W. COUSINS.
6. Three Years' Experience of Butlin's Operation for Cancer of the Tongue, By F. T. PAUL.
7. Remarks on Cancer of the Mouth in Southern India, with an Analysis of Two Hundred and Nine Operations, By A. FELS.
8. On the Treatment of Fracture of the Femur in the Newly Born, By R. JONES.
9. Plastic Resection of the Breast and its Bearing on the Preliminary Incision of Breast Tumors, By C. H. WHITEFORD.

1. **Cerebral Influenza.**—Saundby discusses the chief clinical features of cerebral influenza and the nature of the morbid processes to which it is related. After citing a number of illustrative cases, he takes up the pathology of the disease, and summarizes the post mortem findings as follows:—In some cases there is only congestion, in others meningitis of the vertex or base, in others again acute hemorrhagic encephalitis, associated in certain instances with hæmorrhage or red softening. Bacteriological examination either reveals no organism, or streptococci, Pfeiffer's bacilli, or pneumococci. It is not improbable that the meningococcus may cause some of the cases, for there is evidence to show that the effect of the influenza poison is to cause into activity any latent organisms and to diminish constitutional resistance to their attacks. So that there may be recognized a series of cases of purely influenzal origin, and, secondly, one in which influenza forms merely the soil where other disease germs find the conditions favorable to their development. True cerebral influenza may cause first, a state of cere-

bral intoxication which passes off without doing serious damage. Next there are cases in which the poison causes intense and fatal congestion with minute meningeal hæmorrhages. Beyond these the disease passes on to inflammation of the meninges, and lastly we have acute hæmorrhagic encephalitis with hæmorrhage or red softening. The symptoms of cerebral influenza are these: Usually after a short period, ranging from one to four days, during which the patient shows signs only of catarrh (and this may be wanting in some cases), he is seized with intense headache, with or without vomiting, or neuralgia or an epileptic or apoplectic fit or aphasia, or there may be facial paralysis, monoplegia, or hemiplegia, for the cerebral symptoms may be ushered in by any one of these symptoms. There may be a preliminary period of restlessness, with or without delirium; in others stupor or unconsciousness develops gradually or suddenly. There is usually fever, varying in amount. The muscles are often rigid; stiffness of the neck, opisthotonos, as especially contraction of the masseters and trismus, have been frequently noted. There may be twitchings of the limbs, or clonic spasms of the head or extremities, disturbances of vision, inequality or irregularity of the pupils, paralysis of the sphincters, and *tâche cérébrale*. The reflexes are generally preserved, and Kerig's sign is never mentioned as having been present. Optic neuritis is occasionally seen. Albuminuria is of infrequent occurrence. Cheyne-Stokes breathing sometimes is present. The prognosis should always be guarded, but not hopeless. The gravest condition appears to be complete coma, general relaxation of the limbs, rising temperature, and Cheyne-Stokes breathing. The presence of ear trouble, of organic disease of other organs, of arteriosclerosis, or advanced age are bad features, while youth, previous good health, and a sound constitution afford a basis for hope. The duration of the fatal cases varies from two to fourteen days; usually it is about a week. As regards treatment, we are to a large extent powerless. If the patient can take medicine by the mouth, small doses of quinine should be given. The diet should consist of milk, beaten up eggs, and weak coffee with milk; if there is inability to swallow, rectal feeding should be tried, and, if the sphincters are relaxed, subcutaneous injections of salt solution should be given.

2. **Hemiplegia and Unilateral Optic Atrophy.**

Williamson reports a series of cases of a peculiar combination of symptoms—optic atrophy on one side, with hemiplegia (or hemiparesis) on the opposite side. Such symptoms could be produced by an obstruction (thrombosis) of the internal carotid and middle cerebral, with occlusion of the central artery of the retina by thrombosis or embolism.

9. **Preliminary Incision of Breast Tumors.**

Whiteford's conclusions are as follows: 1. Every breast tumor should be incised prior to its removal. The surgeon who, in performing a radical operation for supposed malignant disease of the breast, neglects the elementary procedure of incising the tumor as a means of either confirming or disproving the diagnosis, runs the risk of finding himself in the unfavorable position of having performed a needless or some equally expensive operation for a simple tumor such as an adenoma or fibroadenoma. 2. The explor-



tory incision should not be made through the skin which overlies the tumor. An incision made into the tumor through the overlying skin, in the event of the tumor proving nonmalignant and needing only local removal, results to a certainty in a scar and probably in a depression. This scar, or scar plus depression, if situated in the upper half of the breast, interferes with the wearing of a low necked dress. 3. For exploration of, and, if innocent, for removal of, tumors situated in the upper hemisphere of the breast the incision and method of Collins-Warren should be employed, because, in the event of the tumor proving innocent and needing simply local removal, this method prevents a disfigurement which, to a sensitive patient, is distressing, and, surgically, is unnecessary.

## LANCET

June 6, 1908.

1. The Dangers and Treatment of Myoma of the Uterus (Ingleby Lectures, I), By C. MARTIN.
2. The Present Condition of Our Knowledge Regarding the Functions of the Suprarenal Capsules (Oliver-Sharpey Lectures, II), By E. A. SCHÄFER.
3. On the Preparation and Use of Antirabic Serum, and on the Rabidic Properties of the Serum of Patients after Undergoing Antirabic Treatment; also a Note on the Blood of a Patient Suffering from Hydrophobia, By D. SEMPLE.
4. Some Recent Cases of Cæsarean Section, By J. B. HELLIER.
5. The Protracted Use of Digitalis, By R. E. ACHERT.
6. Suprarenal Hæmorrhage in an Infant: Its Relation to Hæmophilia, By B. G. MORISON.
7. A Case of Indicanuria, By G. N. MONTGOMERY.
8. A Case of Appendix Rupturing during an Operation and an Analysis of the Meaning of the Symptoms, By F. R. B. BISSHOPP and J. D. MALCOLM.
9. America's Triumph in Panama: Three Years' Medical and Sanitary Record in the Canal Zone, By J. G. LEIGH.

1. **Myoma of the Uterus.**—Martin, in the first of the Ingleby lectures, discusses certain of the dangers connected with myoma of the uterus. Hæmorrhage from the uterus is the commonest symptom of myoma and is present in the great majority of instances. It varies much in different cases. The nearer the tumor to the cavity of the uterus, the more severe the flooding. Thus in the subserous growths it is slight, in the interstitial it is profuse, and in the submucous and polypi it is excessive. In some cases there is constant dribbling of watery blood stained fluid. It is rare for a patient to actually bleed to death from myoma. There usually develops a condition of marked chronic anæmia, which is the chief cause of the brown atrophy and fatty degeneration of the heart muscle, which occurs in many cases of neglected fibroid. It is also the main factor in producing thrombosis and phlebitis of the veins of the pelvis and lower limbs, and secondary embolism of the pulmonary artery. Uncomplicated myomata do not, as a rule, give rise to much pain—never anything approaching the agonies of cancer. Most patients complain only of discomfort and uneasiness. But other complicating lesions, such as adherent and inflamed ovaries and tubes, may cause severe pain. The pressure symptoms are numerous and may call for surgical treatment. Among them may be mentioned constipation, hæmorrhoids, varicose veins of the legs and vulva, neuralgia, sciatica, and even retroflexion or complete

prolapse of the uterus. But the more serious and distressing group of symptoms are those due to pressure on the urinary organs. Retention of urine, either sudden or of gradual onset, is quite common. It is generally due to a fibroid on the posterior wall of the uterus, retroverting the uterus, and pushing the cervix forwards against the pubes. Cystitis seldom occurs as a result of myoma, except by infection through a dirty catheter. Pressure on the uterus is most apt to develop where the tumor is developing in the broad ligament. Disease of the uterine appendages frequently complicates myoma. Myomata are peculiarly liable to various kinds of degeneration, secondary changes being found in about twenty per cent. of the cases. They may be divided into three groups: (1) Nonmalignant degenerations without necrosis, occurring in about fourteen per cent. of myomata; (2) nonmalignant degenerations with necrosis, occurring in about four per cent.; and (3) malignant degenerations and complications, also occurring in about four per cent. There are three modes by which a "natural" cure of a myoma may take place: 1. A submucous fibroid may necrose or slough away, or it may be extended through the cervix as a polypus and drop off. The risks are of course much greater than the most formidable of the modern operations for fibroids. 2. A myoma may participate in the involution of the puerperium and disappear. This is very uncertain and is more apparent than real. 3. A natural cure may occur by the absorption and disappearance of a fibroid at the menopause. At one time this was looked on as a certainty, but as a matter of fact the presence of a fibroid delays the natural change of life, and instead of the hæmorrhages ceasing at forty-five they may go on until the patient is well over fifty. Further, it is just at this period of life that the most serious forms of degeneration are apt to occur. Considering the safety and the certainty of cure offered by modern surgical operation, we are not now justified in advising a patient with a troublesome fibroid to wait for the menopause.

2. **The Suprarenal Capsules.**—Schäfer, in the second of the Oliver-Sharpey lectures, sums up the results of his observations as follows: There is little doubt but that the suprarenal capsules are related in some way to metabolic changes in the tissues and organs. This is indicated by the symptoms of Addison's disease. Some of these symptoms can be referred to absence of medullary secretion. But others, such as the wasting and the malnutrition expressed by the abnormal pigmentation of the skin and mucous membrane, cannot be referred to the medulla, and are probably the result of disease of the cortex. In assuming that the cortex of the organ subserves through its internal secretion certain functions connected with metabolism, there is an analogy to the pituitary body. In this we have an instance of a small ductless gland, partly epithelionervous and partly purely epithelial in structure and origin, the two parts having different functions, though bound up together into a single organ. Of the two parts, the nervous part, as in the suprarenals, produces a substance or substances known as "hormones," which influence the circulatory organs and certain externally secreting glands—in the case of the suprarenals it is the salivary glands, in that of

the pituitary it is the kidneys which are specially stimulated. The purely epithelial part of the pituitary, however, is closely connected with the growth and nutrition of certain of the connective tissues, and especially of the bones, hyperplasia of the organ being accompanied by symptoms of gigantism and acromegaly. So that there is some justification for inferring that the cortex of the suprarenals may yield a hormone which influences the growth and nutrition of certain tissues and organs—it may be that the integumentary tissues and the generative organs—with the relative development of which it is manifestly correlated—are directly under its influence.

#### THE MILITARY SURGEON.

June, 1908.

1. Antityphoid Inoculation in the British Army.  
By WILLIAM B. LEISHMAN.
2. Operation for the Radical Cure of Hydrocele by the Inversion of the Tunica Vaginalis.  
By POWELL C. FAUNTLEROY.
3. Gallstones. Report of a Case.  
By HENRY A. MATHEWSON.
4. Classification of the Effects of the Sun's Rays and of Artificial Heat.  
By HAROLD D. CORBUSIER.
5. Diseases and Sanitary Conditions among Alaskan Indians.  
By PAUL C. HUTTON.
6. Ethyl Chloride as a General Anesthetic in Minor Surgery.  
By E. M. BLACKWELL.

1. **Antityphoid Inoculation in the British Army.**—Leishman observes that question of the inoculation of large bodies of soldiers, at a few days notice, on the outbreak of war appears to be one for the grave consideration of all who are responsible for the health of the troops. The objections and difficulties of such a proceeding are obvious and should be anticipated and, if possible, avoided. In modern warfare little time is given for preparation, and the moment of mobilization is not the moment for the carrying out of an operation which may result in the incapacitating of the soldier for twenty-four or forty-eight hours, to say nothing of the possible dangers of a negative phase. Compulsory inoculation, in time of peace, renewed perhaps from time to time, appears to be the ideal to be aimed at; but before this could be carried out, it would be necessary to have the protective value of the inoculations proved beyond doubt and universally conceded. However hopeful some of us may be as to the future, it cannot be said that that moment has yet arrived.

4. **Classification of the Effects of the Sun's Rays and of Artificial Heat.**—Corbusier classifies attacks from the sun's rays and from artificial heat thus: 1. *Syndrome insolationis*—that pathological condition in which the actinic rays are the predominant factor, characterized by violent headache, vomiting; dryness of mucous membranes; very high temperature; rapid pulse; intense thirst; regular and intermittent; cyanosis; intensely hot skin; first moist then dry, deep or stertorous breathing; absence of normal and other reflexes; sallow sallow tendinum and convulsions; unconsciousness; contracted or irregular pupils; scanty urine; coma or sudden death. Dr. Warthin, Professor of Pathology at the University of Michigan, studies the pathological findings in cases affected by the ultra-violet rays to be chiefly exudative, accompanied with marked hyperemia and scattered hemorrhages through the cortex. These findings account for

many of the symptoms just mentioned and particularly distinguish this disease from the effects of heat alone. These symptoms may occur while the patient is in the sun or may not manifest themselves until many hours after exposure. 2. *Sunstroke* (suntraumatism)—cases due chiefly to sun heat but in which the actinic effect may play some part; characterized by sudden fainting and quick recovery; or else mental and physical fatigue; thirst; headache; vertigo; confusion; photophobia; pain in the limbs; injected cornea; skin moist and cool; perhaps nausea and vomiting; rapid, shallow respiration, never stertorous; small, compressible pulse; normal or subnormal temperature; pupils normal or dilated; no complete loss of consciousness; reflexes present; perhaps irritable bladder; more rapid recovery than in *siriasis*. These cases occur when the subject has been exposed to the sun, particularly while undergoing physical exertion. This condition is often a precursor to a more severe attack developing into true *siriasis*. 3. *Heat exhaustion* (heat stroke)—effects of artificial heat alone; characterized by symptoms quite similar to those just mentioned; headache; vertigo; moist, cool skin; shallow respirations; small pulse; subnormal temperature, being characteristic.

#### AMERICAN JOURNAL OF SURGERY.

June, 1908.

1. Operative Indications in Dislocation of the Humerus with Fracture.  
By CARLETON P. FLINT.
2. Nephroptosis, with Special Reference to an Improved Technique.  
By F. G. DU BOSE.
3. Cases of Isochymia Simulating Gallstone Disease.  
By MAX EINHORN.
4. Nonpenetrating Abdominal Wounds. A Further Contribution and Report of Cases.  
By HUGH WILKINSON.
5. Lymphatic and Portal Infections following Appendicitis, with Report of a Unique Case.  
By ROLAND HILL.
6. The Diagnostic Value of Tenderness in the Ciliary Region.  
By EDGAR S. THOMPSON.
7. Report of a Case of Cyst of the Brain and a Case of Brain Tumor, with Operation in Both Cases.  
By MAX G. SCHAFFNER and RAYMOND HOGAN.
8. Some Remarks on the Surgical Treatment of Trachoma.  
By W. M. CARLETON.
9. Embolisms of the Aorta.  
By HUGH WILKINSON.
10. Remarks on an Artificial Synovial Fluid.  
By ROBERT J. MOORE.

3. **Cases of Isochymia Simulating Gallstone Disease.**—Einhorn reports three such cases; from these it can be seen how the benign isochymia simulates gallstone disease. The author gives the distinctive diagnosis in the following way: in benign isochymia the attack does not come abruptly, it usually lasts a week or more. Pain in upper abdomen is diffuse, intense, but not colicky; manageable without the use of morphine. There is vomiting of large quantities of food, containing usually food from the previous day. The brim of the gallbladder is enlarged, tense, and tender. The stomach is usually much dilated; peristaltic restlessness is at times visible. A sensation of fullness is felt in the lower right abdomen above the umbilicus, but no definite focal point is felt. The liver is not enlarged; there is no jaundice; no vomiting of bile. The attack usually terminates in a few days. The attack is usually recurrent and may be followed by a permanent

abdomen is usually more to right side over liver and radiating to right shoulder, very intense, frequently necessitating relief by morphine. Vomiting is not usually present; if present the vomit contains the last meal but no food from the day before; the vomiting usually is without much influence on the attack. The stomach is usually not especially dilated. Gastric peristalsis not visible. Examination of stomach in fasting condition shows that the organ is empty or contains only a small amount of gastric juice with or without bile. The liver is usually enlarged, both upward and downward. Icterus is present at times, fever is usually present. The attack is more frequent in women.

8. **Trachoma.**—Carhart observes that the surgical treatment of trachoma is the most effective way of combating the disease. Expression is safe and effective, it shortens the duration of treatment in a marked degree. The operation can be performed under cocaine, but in severe cases and in intractable children ether and gas are preferable. Adhesions in the lids should be separated with the probe daily until the tissues of the lids have healed. The reaction caused by the operation yields readily to ice cloths applied to the lids, and the resulting traumatic conjunctivitis can be controlled in a few days with a silver salt. The after treatment is most important to attain complete cure and to prevent recurrence, and should continue some weeks.

#### THE JOURNAL OF NERVOUS AND MENTAL DISEASE

June, 1908.

1. Presidential Address: The Mental State in Chorea and Choreiform Affections, By CHARLES W. BURR.
2. The Symptom Complex of Occlusion of the Posterior Inferior Cerebellar Artery: Two Cases with Necropsy, By WILLIAM G. SPILLER.

1. **The Mental State in Chorea and Choreiform Affections.**—Burr says that it is often stated and has been put in many textbooks that everyone suffering from Sydenham's chorea presents mental symptoms. This is true in so far that patients suffering from even mild attacks show peevishness, fretfulness, some loss of the power of fixed attention, and increased selfishness, but it is not true that every case presents mental symptoms of such moment as to raise doubt of the patient's sanity. The majority of the patients are entirely sane throughout the course of the disease. The severity of the mental symptoms varies greatly in different cases, and a series can be made showing each case a little more severe than the preceding and a little less severe than the succeeding one. Patients in whom the motor disturbance is very slight rarely if ever present serious mental symptoms, but the converse is not true, for even though the motor symptoms are very severe, the mental upset may be relatively slight. He has never seen a patient with so called paralytic chorea, in whom severe or permanent mental symptoms occurred. Though there are no sharp lines dividing the cases they may be separated, so far as the mental symptoms are concerned, into the following groups: First (and this includes a large majority), patients in whom there is peevishness, fretfulness, some loss of the power of fixing the attention, and a slight loss of the moral sense shown by disobedience and selfishness. Second, those

showing in addition to the above symptoms night terrors and transitory visual, auditory, or other hallucinations. Third, those with distinct delirium, wild or mild, accompanied with fever. Fourth, and this group is very small when we remember how common chorea is, those showing stupor or rather stupidity and an acute dementia which may follow the condition described under three or appear without any preceding mental symptoms at all severe, and which is usually accompanied with trouble in articulation not caused by choreic movements of the lips and tongue but the result of mental hebeteude. Fever is usually present for a time at least. Patients of the first and second groups almost always recover mentally and physically; those of the third group frequently die, and those of the fourth usually either die or, recovering from the chorea, remain demented. Though the chorea of childhood is an acute disease lasting only a few months, sometimes we see patients whose symptoms are at the beginning indistinguishable from chorea but who continue ill for several years or indeed for life without intermission. In these chronic cases severe mental degradation does not always follow, but frequently there are marked and permanent mental and emotional disturbances. Sometimes the movements cease entirely without mental improvement. They may be classed as instances of the chorea of degenerates. Though Sydenham's chorea is ordinarily a disease of childhood and adolescence, cases occasionally occur even in the aged. More frequently, however, than true chorea in old people is the appearance of localized choreic movements caused by focal brain disease. Thus before or after an attack of apoplexy there may be in the paralyzed part or the part later paralyzed choreic jerking. These when typical differ from athetoid movements, but sometimes it is hard to decide which to call them. The lesion is usually immediately behind or in front of the motor tract in the internal capsule or else involves the optic thalamus. Sometimes the movements become general.

#### ZENTRALBLATT FÜR CHIRURGIE.

May 2, 1908.

1. The History of Ether Anesthesia, By M. HIRSCH.
2. A New Method for the Diagnosis and Treatment of Fistulae, By E. G. BECK.

2. **Treatment of Fistulae.**—Beck has found that by the injection into a sinus or fistula of a liquid paste of bismuth and petrolatum every part of the sinus will become distinctly visible under the Röntgen ray. The best results are achieved if stereoscopic pictures are taken. Operative intervention becomes certain and positive in its results. By the use of a second paste, the sinus or fistula often heals without further treatment. The formula of the "diagnostic paste" is:

Bismuth subnitrate, ..... 1 ounce;  
White petrolatum, ..... 2 ounces.

The formula of the paste for treatment is:

Bismuth subnitrate, ..... 1 ounce;  
White petrolatum, ..... 2 ounces;  
Soft paraffin, .....  $\frac{1}{16}$  of an ounce;  
Iodine, .....  $\frac{1}{16}$  of an ounce.

May 9, 1908.

1. The Temporary Opening of Both Upper Jaws (Kocher), By J. C. REINHARDT.



2. The Treatment of Bony Ankylosis of the Elbow Joint by the Transplantation of an Entire Joint,

By P. BUCHMANN.

**2. Transplantation of Joints.**—Buchmann, in two cases of bony ankylosis of the elbow joint, resected the joint and transplanted the first metatarsophalangeal joint, which he selected on account of its powers of extension and flexion with practically no lateral movement. He concludes that joints can be transplanted as easily as the long bones. The resection of the elbow joint must be quite broad between the head of the radius and the condyles of the humerus. Suture of the bone is unnecessary. The motions of the new joint are painless to as great an extent as the contracted muscles permit. No bad results to the foot follow the extirpation of the first metatarsophalangeal joint. In the two cases operated on, the results were good.

#### ZENTRALBLATT FÜR INNERE MEDIZIN

May 9, 1908.

- I. The Treatment of Infectious Meningitis,

By V. ARNOLD.

**1. Treatment of Meningitis.**—Arnold concludes a lengthy paper as follows: In the treatment of continuous vomiting in protracted cases of meningitis, he found that the administration of hydrochloric acid was exceedingly beneficial, while the giving of morphine usually caused the vomiting to increase, as it brings about a stagnation of the gastric contents and delays the emptying of the stomach. In several cases of the infectious type of meningitis, the epidermatic employment of guaiac brought about a diminution of the meningeal symptoms in a few days and in a short time apparently cured the disease.

#### ZENTRALBLATT FÜR GYNAEKOLOGIE.

May 2, 1908.

1. New Modification in the Operative Treatment of Some Rectovaginal Fistulae, By D. VON OTT.

2. Spirochæta Pallida in Congenital Syphilis,

By C. GROUVEN.

3. Diagnosis of Embryonal Ovarian Teratoma from Anal Discharges, By F. UNTERBERGER.

4. Antithyreoidin (Möbius) in Osteomalacia,

By R. HOFFMANN.

5. Fatal Gangrenous Appendicitis in Pregnancy,

By F. FROMM.

**2. Spirochæta Pallida.**—Grouven has had positive results in the examination of the organs, mucous and skin lesions, and ascitic fluid in nineteen infants suffering from congenital syphilis. He found the organisms in the peniculus lesions of the hand, in papules on the cheeks and scrotum, in rhagades at the angle of the mouth, in the liver and lungs, and in sections of most of the internal organs.

**4. Antithyreoidin in Osteomalacia.**—Hoffmann draws attention to the many similar features existing in Graves's disease and osteomalacia. Starting from this premise, he gave a patient suffering from the latter disease injections of Möbius's antithyreoidin serum with almost magical results. Up to the present time the patient has remained well. The author says that if intravenous injections are not considered judicious, intramuscular injections of Möbius's serum or of an artificial preparation may be given, Meltzer having shown that the intramuscular method is equally efficacious with the intravenous.

## Proceedings of Societies.

### AMERICAN GYNÆCOLOGICAL SOCIETY.

*Thirty-third Annual Meeting, Held in Philadelphia on May 26 and 28, 1908.*

The President, Dr. J. MONTGOMERY BALDY, of Philadelphia, in the Chair.

### IMMEDIATE *versus* DEFERRED OPERATION FOR INTRA-ABDOMINAL HÆMORRHAGE DUE TO TUBAL GESTATION.

Dr. FLORIAN KRUG, of New York, remarked that the truth was usually to be found in the moot points of surgical practice, as in other matters, in the middle course, when opinions were diametrically opposed to each other. This was also true with reference to all that might relate to the welfare of the patient in such cases. From this proposition it followed that in a given case of ectopic gestation we could not say that an operation might be almost indefinitely deferred, nor, on the other hand, should we assert magisterially that a patient should be subjected to an immediate operation in every case, even though the diagnosis had been established beyond any reasonable doubt. The severity of the shock was not always proportionate to the quantity of blood lost. In fact, there was only a small percentage of cases in which death actually occurred from hæmorrhage. Not infrequently the injury which might be due to hæmorrhage was intensified by curetting, by forcible palpation of the abdominal wall and by other unjustifiable violence. In general it might be remarked that, if a case had resulted fatally, it might be due to the fact, either that suitable surgical aid had been wanting, that it had been ineffective, however skilful, or that it was ineffective because proper preparations had not been made.

Dr. F. F. SIMPSON, of Pittsburgh, remarked that the usual experience in these cases was that the first hæmorrhage was seldom alarming. It was at this time that a diagnosis should be made, followed by an operation as expeditiously as circumstances would permit, under favorable elective conditions. The teaching that rupture occurred infrequently with the primary hæmorrhage was harmful from the fact that those who were inexperienced were apt, on account of such teaching, to minimize the danger of the situation until a second or third hæmorrhage had brought the patient almost to death's door. With a patient in such a condition, there was of course little vitality remaining to sustain a severe or prolonged operation.

Hæmorrhage from rupture should rarely be fatal if the treatment was prompt and fairly intelligent. Such treatment was followed by low mortality, and such a result should be expected with a reasonable degree of confidence if precautions suitable to the situation were not overlooked.

Dr. H. N. AINSWORTH, of New York, believed that there was great variation in the quantity of blood which was effused within the peritoneal cavity. In the large majority of cases it was not sufficient to be a direct menace to the patient's life. The question of operation should be governed by the circumstances in each individual case, and the operation should be immediate or deferred, as the condition of

the patient demanded. In the cataclysmic cases in which the outpouring of blood was sudden and colossal, the abdominal cavity would quickly become filled with blood, and death from anæmia would be threatened. In addition, there was the unfavorable influence of pressure upon the diaphragm, with resulting compression of the heart and lungs. Notwithstanding the condition of shock in such cases, an immediate operation was absolutely imperative, and if the operation was reinforced by the intravenous infusion of saline solution, suitably administered, an impending fatal result might occasionally be averted. In cases of this character the hæmorrhage and shock could not be considered as contraindicating the operation any more than the secondary hæmorrhage which might have followed any serious surgical procedure. The indication was for action of the most prompt and intelligent nature.

Dr. E. E. MONTGOMERY, of Philadelphia, observed that hæmorrhage might result from rupture of the tube, from perforation of its wall by the development of the chorionic villi, or by partial detachment of the fetal sac, with hæmorrhage into the peritoneal cavity through the abdominal end of the tube, with hæmorrhage into the uterus, or retention of the blood within the tube. Or the fetus and its sac might escape intact into the abdomen in the well known condition of tubal abortion. In all these conditions hæmorrhage was an essential factor, but it did not follow that a fatal result would ensue even if an operation was not performed. In the cases which were treated with electricity a generation ago, and in which the diagnosis was not made until after rupture had taken place, it was supposed that the clot which had formed underwent absorption as the result of the electrical current. It was not improbable that the same result would have taken place if the electricity had been omitted. The formation of the clot was Nature's method of relieving the situation, the diminished arterial tension being a further assistant to this conclusion. In cases which did not receive surgical attention, and in which a clot did not form, death necessarily resulted from excessive loss of blood, and coroners' physicians in large cities had reported many cases of this character. It was just as important in the cases of severe hæmorrhage to ligate the bleeding vessel securely as it was in cases in which the hæmorrhage was upon the surface or in any other portion of the body. Stimulants must not be used in such cases unless the bleeding vessel had been secured, as increase of cardiac and arterial tension would be followed by recurrence of the bleeding.

Dr. C. C. FREDERICK, of Buffalo, considered that the necessity for an immediate operation was rarely present. The diagnosis in the majority of cases of tubal hæmorrhage was made days or weeks after the primary rupture, and in only a minority of the cases was the loss of blood really dangerous to life. In most of the cases the bleeding stopped after a short time, but recurred, with manifestations of shock, at more or less frequent intervals. Examination of the hæmoglobin index at frequent intervals and red blood counts were the most effective measures for determining whether the bleeding was progressive. If the manifestations of shock continued and the examination of the blood showed progressive anæmia,

an immediate operation should be performed, the circulation being stimulated with normal salt solution, adrenalin, etc. If the hæmorrhage had ceased, it would be safe to wait, the patient being stimulated in the meantime and effectively prepared for a suitable operation.

Dr. GEORGE T. HARRISON, of New York, believed that the general surgical principle to ligate any vessel which was sufficiently large to cause free hæmorrhage when divided should obtain in this condition. Even though the patient was in profound collapse, it would be necessary to operate, for if this was not done the chance might be forever lost. The dangers which were associated with delay were also of such magnitude that we were never safe in exposing a patient to such chances.

Dr. EGBERT H. GRANDIN, of New York, was of the opinion that this condition was surpassed in malignancy only by carcinoma. The longer one waited the more dangerous it was likely to become. It was illogical as well as unsafe to wait and see whether hæmorrhage would or would not recur. If, however, the patient was in collapse, it was probable that active hæmorrhage had ceased, in which case it was well to wait until she rallied and then operate at once, and always by the abdominal route. It was not advisable to stimulate the patient until after the abdomen had been opened and the bleeding arrested. Intravenous injection of saline solution, while it might stimulate the patient, would also increase the blood pressure and thereby increase the danger of hæmorrhage. The longer the delay after hæmorrhage had ceased the greater the risk of severe complications, and consequently the higher the mortality rate. In the cases in which hæmatocœle had formed, it was permissible to operate by vaginal incision and remove the clots. The abdomen might then be opened if the condition of the patient would warrant it, and the injured broad ligament excised.

Dr. W. P. MANTON, of Detroit, advised that in every case the condition of the patient and the surroundings and facilities for an operation be carefully considered. No fixed rule could be laid down, each case being governed by the conditions present. Judgment fortified by experience was imperative in every case before attempting to interfere surgically.

Dr. A. LAPHORN SMITH, of Monreal, had had an experience of forty-one cases, with two deaths. He believed that no case was too desperate for an attempt to relieve it by surgical measures. He believed that the diagnosis of tubal gestation could in some instances be made before rupture had taken place. Even if the patient was unconscious from loss of blood, it was proper to operate without waiting for rallying, for that might mean a renewal of the hæmorrhage. It was far preferable to open the abdomen, tie the bleeding vessel, and replace the lost blood with normal salt solution.

Dr. B. F. BAER, of Philadelphia, accepted the surgical principle that it was always imperative to secure a bleeding vessel wherever located. This rule was entirely applicable in the hæmorrhage from a ruptured tubal gestation sac. If a patient was in profound collapse, there might be a doubt as to whether bleeding was still in progress, and in such a case it might be wise to devote a few hours to the application of restorative measures.

Dr. HERMAN J. BOLDT, of New York, thought that much would depend upon the judgment of the physician in the management of each individual case. It was very important to distinguish between the primary and the secondary hæmorrhage in the choice of the procedure to be followed. As a rule, the sooner an operation was performed in a case of tubal abortion the better, remembering, however, that it was generally regarded as unsafe to inflict additional injury while a patient was still suffering from shock. If the patient was improving, he thought it better to wait and carefully observe the situation. If there was any evidence of renewed hæmorrhage an operation should be performed at once and concluded as quickly as possible. In these extreme cases intravenous injections of saline solution should be given, and a tourniquet used upon the lower extremities. Saline solution should also be poured into the peritoneal cavity, and no time lost in trying to find the embryo. The patient should be operated upon at her home, if possible, to avoid the danger of transportation. If a patient was rallying, it did not mean that the necessity for an operation was passed. The only cases in which postponement was permissible were those in which an hæmatocele had manifestly formed. In general, if symptoms of hæmorrhage were present, it was wise to operate at once.

Dr. A. MARTIN, of Berlin, Germany, thought that the bleeding in this condition should be treated on surgical principles, dilatory tactics being entirely inadmissible. Whether the operation should be done immediately at the patient's home or after removal to a hospital would be governed by the condition of the patient at the moment she was seen. The abdominal route was to be preferred for the operation.

Dr. SETH C. GORDON, of Portland, Me., had performed his first operation in 1887, twelve hours after rupture had occurred, and the patient recovered. He had operated by the vaginal route, but thought the abdominal route preferable. If the symptoms in a given case were ameliorating, he was disposed to wait, keeping the patient under careful observation. Shock and hæmorrhage in these cases he considered synonymous.

Dr. E. C. CUSHING, of Boston, recognized that there were some cases in which severe symptoms were wanting. The diagnosis in such cases was dependent upon the presence of an hæmatocele. If severe symptoms were absent, temporizing was allowable, and some cases would do well if nothing at all was done. Recent experiments had shown that the hypodermatic injection of rabbit's serum might be very effective in cases in which the hæmorrhage had been profuse.

Dr. HENRY RORR, of Cleveland, advocated more conservatism in the treatment of this disease. Even if one was satisfied that the diagnosis of internal hæmorrhage was correct, an operation could frequently be deferred. This was certainly desirable in cases in which shock was present. In many instances the hæmorrhage was not of a dangerous character.

Dr. WESLEY M. BORR, of Washington, thought that every case of this condition was a surgical one and required surgical treatment. This was emphasized by the difficulties and complications. Even if

the hæmorrhage ceased, the possibility of its recurrence must be remembered.

Dr. ANDREW F. CURRIER, of Mt. Vernon, N. Y., thought any further statement could only be a repetition of what had already been said, pro or con. Men usually grew conservative as they became older, but he felt that for this condition the radical position was the proper one. Being a surgical condition, it demanded surgical treatment. The diagnosis of internal hæmorrhage being made in any case, we were bound to know the cause and remove it if possible. The abdominal route seemed to him the only safe one. His only experience with the vaginal route had been in cases in which an ineffectual attempt had been made by others to relieve the situation by that procedure, greatly increasing the difficulties and complications which already existed.

Dr. H. EHRENFEST, of St. Louis, expressed his preference for an immediate operation in all cases in which the diagnosis was clear.

Dr. F. PFANNENSTIEL, of Kiel, Germany, thought this condition should be treated in accordance with the general surgical law and with as little delay as possible. As soon as the diagnosis was made, preparations for an operation should be begun and the patient placed under conditions which would most conduce to her recovery.

Dr. BROOKS H. WELLS, of New York, believed in an immediate operation if possible, otherwise with the slightest amount of delay.

Dr. J. TABER JOHNSON, of Washington, supposed that this was a settled question and could only regard its reopening as a step backward. If this society gave out an uncertain note, its effect would be disconcerting upon the profession at large. He did not think an argument upon a matter of this kind could be based upon experiments upon dogs. As to unruptured tubal gestation sacs, the diagnosis was difficult, but could be made, and he believed that when it had been made an operation should be performed at once. A waiting policy was too often fatal. One could never predict the complications which might arise. It was unwise to assume that hæmorrhage had ceased. Even if it had ceased, an hæmatocele was by no means a desirable condition.

Dr. GARDINER, of Montreal, admitted that he was of the number who had formerly made use of electricity for this condition, and as he then believed, with good results. We should not forget those who had done the pioneer work leading up to the present situation. He was free to say that he leaned to the conservative side of this question. The rule was a safe one that we should be guided by the circumstances which were present in each particular case.

**The Heart in Shock.**—Dr. E. ROISE, of Grand Rapids, Mich., stated that it was generally conceded that the danger in connection with shock arose from the very low blood pressure, which was supposed to be due to vasomotor paralysis. This was the theory of Cole, but his conclusion was erroneous. Howell thought that the low blood pressure in cardiac shock was due to an adrenergic exhaustion. Henderson thought that it was due to deficiencies of carbon dioxide in the blood, and that when death occurred suddenly in shock the heart was tetanically contracted. The author had demonstrated experi-



mentally that the heart in a state of shock was in tonic contraction, varying in degree with the degree of the shock, the veins being filled and the arteries in spasm. Veratrum, when given in such cases, irritated the peripheral nerves and caused toxic symptoms. Adrenalin, when introduced into a vein, relaxed the heart and so relieved the overfilled veins. The dogs upon which these experiments were performed were partially anesthetized with chlorotone, no ether being given.

**Pernicious Anæmia of Pregnancy.**—Dr. P. FINDLEY, of Omaha, stated that this rare disease was first described in 1842, then at intervals until 1871, when five cases were carefully reported, all of which ended fatally. Most of them were well prior to pregnancy; abortion occurred in some of the cases, but all the women who went to term died shortly afterward. No explanation had been found for its occurrence during that period. It was usually announced by hæmorrhage and shock during the second half of pregnancy. Some of its symptoms were constipation, vertigo, loss of reflexes, and diminution in the red cells. There was no diminution in the hæmoglobin, and the lymphocytes were not increased in number. At the autopsy the organs were all found to be anæmic, with hæmorrhage into their tissues. In some of the cases there was improvement for a time, and labor sometimes came normally, but the child usually died *in utero* and the mother a few hours or days after delivery. The diagnosis was made by the examination of the blood.

Dr. R. C. NORRIS, of Philadelphia, had seen but one case in 3,000 labors. In this case the blood did not clot and persistently oozed through the uterine packing. Death occurred after forty-eight hours. Adrenalin was administered, but without benefit.

**Suggestions in Teaching Gynæcology, with the Demonstration of Special (Mechanical) Charts as an Aid in this Work.**—Dr. J. A. SAMPSON, of Albany, N. Y., observed that three phases in the study of any of the clinical branches of medicine naturally suggested themselves: 1. The study of each disease as a science, including its ætiology, the anatomical changes in its different stages, and the elucidation of its symptomatology. 2. The classification of symptoms and the study of their various causes, with the modes of distinction. 3. The art or technique of the clinical branch of medicine, including the taking of histories, physical examination, diagnosis, and treatment, also practical experience gained in dispensaries, hospital wards, and the private practice of instructors. The student should attempt to solve the problems associated with each disease from his knowledge of the normal anatomy and physiology, rather than by memorizing data obtained from lectures or textbooks. In the solution of such problems questions were asked, and the students' answers were corrected when necessary and supplemented by information which they could not be expected to reason out. Various apparatuses might be employed, including drawings, models, or specimens obtained by operation or at autopsy, according to the requirements of the given lesson. Medical charts had been found of great value in this work by the author, and a large number were ex-

hibited graphically depicting the various pelvic organs and their functions.

Dr. MARTIN was in favor of all methods of teaching which brought out the subject matter with vividness. He had been accustomed to have his students make sketches of that which they found by clinical examination, and this habit was often continued with great value through their professional life. He had always found the touch clinics, which were not so common in this country as in Europe, of the greatest value to students. He called attention to his manikin, made from the human pelvis and provided with various anatomical preparations, as a useful means of teaching the anatomical portion of gynæcology.

Dr. J. RIDDLE GOFFE, of New York, was of the opinion that correct principles of teaching had been brought forward by Dr. Sampson. The important point for the student was to obtain an indelible mental picture of the organs and tissues which he might be examining. As aids in acquiring information the manikin, the chart, and the blackboard were all useful.

Dr. MIER, of Philadelphia, described the method of clinical instruction at Jefferson College and referred in particular to the half hour before each gynæcological operation, which was devoted to examination of the patient to be operated upon by a suitable number of students.

**Hospital Gynæcology.**—Dr. ROBERT L. DICKINSON, of Brooklyn, spoke of the gynæcological service as a separate department in a hospital, and believed that in every hospital of any considerable size this distinction should be made. The obstetric cases and the cases of pelvic disease should in such hospitals be entirely under the care of one who was distinctly a gynæcologist. The list of diseases should include all the urinary bladder diseases and those of the rectum as they occurred in women. Gynæcological patients should be isolated as far as possible, and unnecessary exposure and examinations avoided. The hospital internes should be allowed the greatest amount of practical work consistent with the efficiency of the service. The best results would be obtained when the chief of the hospital internes was paid for his services and his position made more or less permanent. The ordinary hospital histories were too complicated and deficient in system. The written history should be simple, though comprehensive, its object being an aid to treatment, not a scientific dissertation upon the given disease. Hospital regulations should all be in print, clearly displayed, and rigidly adhered to without exception.

**The Surgical Treatment of Prolapse of the Uterus and Bladder.**—Dr. J. S. STONE, of Washington, remarked that the first to develop the principles upon which this treatment was based was Simon. It was also associated with the principles enunciated by Tait in his flap splitting method. Hadra, too, had devised a method by which the vagina was dissected and attached at about the level of the os internum. The influence of Sænger in this field had also been very important, and the same was true of Stoltz and Mackenrodt. The work of Sims, Emmet, and Martin had been significant in

the evolution of the problem. An operation for cystocele was seldom complete without a simultaneous operation on the perineum. It was seldom necessary to amputate the portio vaginalis. The older methods of operating by removing strips of tissue from the anterior wall were entirely inefficient. The entire relations of the vagina to the prolapsed uterus must be changed and brought back as nearly as possible to the normal. In extreme cases it would be necessary to open the peritoneum, bring forward the broad ligaments, and attach them to the anterior wall of the uterus.

Dr. PFANNENSTIEL emphasized the great importance of this method of treatment and described by means of drawings the method which he was accustomed to use. He did not favor the methods in which the round ligaments were instrumental in relieving the prolapsus, believing that the support which they gave was insufficient.

Dr. GOFFE believed that the organs of the pelvis were sustained by ligaments, the same as other viscera, and that any method for relieving prolapsus must take into account this fundamental principle. In the relief of cystocele it would therefore be essential to operate directly upon the ligaments by which the uterus and bladder were sustained. Thus, the round and uterosacral ligaments should be shortened and the bladder then hung by three sutures to the top of the uterus. Of course the pelvic floor was also to be reconstructed.

Dr. MARTIN described the evolution of his work upon this problem during the past thirty years. The recent suggestions, including Pfannenstiel's, relating to the support of the bladder, were very important; also the method by which the uterus was brought forward and secured under the bladder. In order to get a permanent result in this condition, all the organs in the pelvis must be corrected. Treatment in some cases must be continued six or seven years. A point which was often overlooked was the proper treatment of the general nutrition. If the tissues were all in bad condition, permanent results from operations could hardly be expected. In very aged women who suffered with this condition the uterus and annexa should all be removed.

Dr. CHARLES P. NOBLE, of Philadelphia, stated that the condition of cystocele was but a small part of the problem involved in prolapsus as stated by Martin. Only by very free detachment of the bladder and uterus from their surroundings could effectual repair be accomplished. The problem was a complex one in almost every case and demanded a series of procedures.

**Endometritis Exfoliativa.**—Dr. H. EHRENFEST, of St. Louis, stated that this condition had been carefully studied and described by Lingelmann. The membrane which was discharged was quite different from a decidua, and was not at all influenced by section or mummifying abortion. It occurred only with menstruation and must be regarded as an epithelial relief hematoma containing many blood cells. The exfoliation of the membrane was partial and it contained much glandular and interglandular tissue. It was merely an exaggeration of the normal menstrual membrane. The separation of the membrane was accomplished by the effusion of blood beneath it and by the contraction of the uterus. There was no inflammatory process, but

there was a rich development of spongy interglandular material.

**Operations for the Relief of Pelvic Disease in Insane Women.**—Dr. L. BROWN reported the operations which he had performed during the past five years at the Manhattan State Hospital. The existing pathological conditions alone were considered, the mental condition being disregarded. The character of the mental condition in the majority of cases was unfavorable to recovery. It was believed that such patients had a right to relief when they were the subjects of pelvic disease. The class of patients in which there was stimulus to mental recovery had that type of insanity which was known as "manie depressive." The best results were obtained in cases in which the mental disturbance had not become a fixed habit. The character of the operation did not appear to bear any relation to the resulting mental improvement. Thirty-two patients showed great improvement mentally after the performance of an operation and were ultimately cured. The mental improvement following the operation was believed to be due to improvement in the physical condition.

Dr. W. P. MANTON, of Detroit, had worked in the field covered by the paper for twenty years, and was still an investigator. The good results which had been obtained were not due to the operation alone, that being but a single factor. It must be admitted that in many of the cases the improvement had been only temporary.

Dr. DICKINSON reported three cases of nymphomania which had been cured after the performance of hysterectomy and ovariectomy.

(To be continued.)

## Letters to the Editors.

### THE "JUNGLE PLANT."

BAKERTOWN, PA., June 1, 1908.

To the Editors:

Referring to the notes of Dr. Silkworth, page 1032 of the *Journal*, on the "jungle plant" (*Commobretum sundiacum*), it will be of service to know if in any of the six reported cures the subjects relapsed to their former condition in the near future.

This new opium cure is not yet two years old, but it has been used very extensively throughout Malaysia, among Chinese, Malays, and others, in some instances with apparently very gratifying results. Thousands are reported to have been cured, with many relapses.

How much the drug helps toward a cure can hardly be definitely determined at present. It is probable that the process of roasting deprives the plant of much of its medicinal value, and the burnt residue may act only as an astringent, relieving the sufferer of his violent diarrhoea, while the burnt opium, coupled with the determination to quit its use, really effects a cure.

Here is a good field for investigation. The cost of 1500 pounds (14 pounds of the dried leaves only, one or two dollars apiece in India, Ceylon, Malacca, and the Malay States).

W. J. KENNEDY.

## New Inventions.

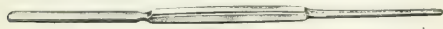
### A NEW PLIABLE SUBMUCOUS ELEVATOR.

By HUGH BURKE BLACKWELL, M. D.,  
New York.

The instrument here illustrated is eight inches long and silver plated throughout. It is composed of a solid steel, octagonal handle, tapering at the sides towards the extremities. Attached to each end of the handle, or middle piece, is a partially hardened copper blade, one blade being used as a sharp elevator, the other as a dull one.

The blades of the instrument are pliable and may be bent at any angle according to the degree of septal deviation, and yet they possess a sufficient amount of rigidity to hold that angle while the operator elevates the mucoperichondrium beyond the point of deviation.

In shape the blades of the instrument resemble those of the Killian elevator, but differ in being pliable and somewhat heavier. The silver plating



Pliable Submucous Elevator.

prevents the formation of cracks in the smooth surface of the blades, and in no way interferes with its proper sterilization. It is made by George Tiemann & Co.

The value of the instrument in diminishing the danger of perforations is at once apparent, especially while elevating the mucoperichondrium and mucoperiosteum immediately behind a sharp angle of deviation.

The blades of the elevator can be readily bent to conform with the surface of any deviated septum, and yet retain rigidity sufficient to hold the curve imparted to them by the hand of the operator, while he elevates the mucoperichondrium or mucoperiosteum. Its continued use slightly increases the rigidity of the blades.

I have used the instrument in operating on the past thirty-one cases of submucous resection of the septum, and have found it to be of practical value in my hands.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Medical Gynecology.* By HOWARD A. KELLY, A. B., M. D., LL. D., F. R. C. S. (Hon. Edinb.), Professor of Gynecological Surgery in the Johns Hopkins University and Gynecologist to the Johns Hopkins Hospital, Baltimore, etc. With One Hundred and Sixty-three Illustrations. New York and London: D. Appleton & Co., 1908. Pp. xiv+662.

Dr. Kelly treats extensively of aetiology in this work, and we think he is to be commended for doing so, for not all the diseases peculiar to women are to be traced to parturition, gonorrhoea, or traumatism. In particular, we would direct attention to the chapter on acute infectious diseases as causes of pelvic disease, beginning on page 247. Deserved prominence

is accorded also to the eliciting and recording of case histories and to the details of diagnosis. The author is for the most part very clear in his statements, but the following sentence (page 303) seems rather defective: "The cervix in such cases is at a much lower point in the vagina than is normal, in fact that conditions seem almost reversed." We fancy that that is not what he meant to write.

In the matter of displacements of the uterus, we think that an unnecessary distinction is made between descensus and prolapse, and we regret to see that Dr. Kelly has such a poor opinion of the use of pessaries. There are many signs that a reaction has set in in their favor, but we must add that in our judgment most of the pessaries in use are exceedingly faulty. A remarkable feature of the book is its inclusion of an extensive essay on syphilis, covering more than fifty pages.

We find some verbal peculiarities that rather grate on us—for example, "deferinitis" (page 334) and "col tapiroides" (page 343). In the latter instance one is at a loss to know whether the author is using a Latin adjective to qualify a French noun, or whether both words are French, one in the singular and the other in the plural. These are small matters, but they appear to us to be blemishes all the same.

From the mechanical point of view, the volume has the excellent feature of lying open without the necessity of manual intervention, but we think the page is too wide (the lines too long) to be read easily. The paper, the print, and many of the illustrations are fine.

*Elements of Water Bacteriology.* With Special Reference to Sanitary Water Analysis. By SAMUEL CATE Prescott, Assistant Professor of Industrial Biology, and CHARLES EDWARD AMORY WINSLOW, Assistant Professor of Sanitary Biology, in the Massachusetts Institute of Technology. Second Edition, Rewritten. First Thousand. New York: John Wiley & Sons, 1908. Pp. xii+258 (Price, \$1.50.)

As the authors truly state, the most direct, accurate, and practical method of water examination at the disposal of the sanitarian is a bacteriological test. In this new edition they have included the advances that have been made in the past four years that bear on the practical investigation of sanitary questions connected with water supply, and notable additions have been made to the chapters on self purification, on the isolation of the typhoid bacillus, on the interpretation of the colon bacillus test, and on the significance of intestinal bacteria other than the *Bacillus coli*. A chapter has been added on the bacteriology of sewage and sewage effluents. The book is terse, practical, and of value to all health officers, sanitarians, and physicians engaged in practice in localities in which they must make their own examinations.

*A Manual of Venereal Diseases.* By the Officers of the Royal Army Medical Corps. Introduction by Sir ALFRED KEOGH, K. C. B., Director General of the Army Medical Service; History, Statistics, Invaliding, etc., by Lieut. Colonel C. H. MELVILLE, R. A. M. C., Secretary to the Advisory Board; Clinical Pathology and Bacteriology, by Colonel LEISHMAN, R. A. M. C.; Clinical Course and Treatment, by Major C. E. POLLOCK, R. A. M. C. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1907. Pp. x+282.

This little volume summarizes the chief features of the report of the subcommittee of the Army Medical



Advisory Board on the treatment of venereal diseases in the British Army. The original report is too bulky and contains too many details to be useful to the average medical officer. The essential points in the diagnosis and treatment of venereal affections have therefore been included in the present work. In the introduction, by Sir Alfred Keogh, emphasis is laid on the need of administrative control and of personal prophylaxis in the prevention of venereal diseases in the army. In speaking of prophylaxis, Lieutenant Colonel Melville does not mention such measures as the use of prophylactic injections, inunctions, etc., but mentions the disciplinary measures which are suggested as the best preventives of venereal infection among soldiers. In this he is, we think, on the wrong tack, for, while discipline may keep some men continent, it will not have much effect on most enlisted men, and will lead only to the concealment of their maladies.

The methods of examining secretions for the *Spirochaeta pallida* are briefly described by Leishman in a very interesting and practical chapter, in which there is also included a short sketch of the Wassermann serum reaction in syphilis. In the section on diagnosis Major Pollock gives a practical table of "values" of the different symptoms and manifestations. The values are arranged in order according to the number of "points" (as in bridge playing). The chapter on treatment includes the methods used in the British Army, with numerous tables and schemes for the treatment of men through the entire course of the disease. Mercurial cream is the favorite preparation for injections. The diagnosis and treatment of gonorrhoea and of soft chancre occupy very brief chapters at the end of the volume. There are a number of tables of statistics of venereal diseases in the British Army, a list of authorities consulted, and a formulary, together with forms, etc., for recording cases and keeping statistical returns for the use of the Advisory Board.

The book will prove useful to army surgeons as a guide to diagnosis and treatment, and might form the basis of a similar work for our own army and navy, modified to suit the methods in vogue in this country.

*Untersuchungen zur Kenntnis der psychomotorischen Bewegungsstörungen bei Geisteskranken.* Von Dr. KARL KESSEL, Assistenzarzt der Klinik für Nerven und Geistes-Erkrankheiten zu Halle a. S. Leipzig: Dr. Werner Klinkhardt, 1908. Pp. viii+171. (Price, M. 6.)

It is a pleasure to review this small book, for one finds in it, as it were, the spirit of the dead master to whom the author has dedicated it, Wernicke. An attempt is here made to analyze the disturbances in the motor functions in mental disorders in terms of the cerebral mechanisms. Psychomotor acinesia as seen in mutism, psychomotor apraxia, and psychomotor aphasia and tonic and hypotonic muscular symptoms are discussed in the light of mixed disturbances based on factors of modified innervation as influenced by psychical factors. External observations of psychomotor disturbances, of muscular coordination, show them to be conditioned by a type of altered innervation which, however, vary from similar modifications which have a basis in lesions of the sensorimotor areas, such as motor paralysis and ataxias, and in the cortical and transcortical apraxias and aphasias. Such modifications are in-

terpreted by the author as probably conditioned by disorder in the connections of the frontal lobes and the cerebellum, either in the terminal stations of such connections, in the coordinating fibre tracts themselves, or in the intermediate ganglia. In organic disorders of these structures, tonic muscular tension, prolonged contractural states, and hypotonia may also occur.

So far as the psychomotor symptoms of mental disease are concerned, the author predicts the probability that the disease process does not involve exclusively, or only in small degree, the cerebellofrontal system itself in its frontal portions, but that involvement takes place between the frontal and other brain areas in their transcortical connections. Two types of such transcortical disturbances are conceivable. Either a dissociation may take place between the cerebellofrontal system and the sensorimotor system of the central lobe, or there results a cutting off of the compound, complex motor apparatus of the sensorimotor and cerebellofrontal systems from its relations to other portions of the brain. In view of the wide diffusion of the mental disturbances, it is impossible to decide as to the more important of these two conceptions. In this modified manner we find Wernicke's sejunction hypothesis again made prominent. The monograph offers interesting hypotheses and is worthy of the attention of psychiatrists.

*La Diathèse urique.* Par HENRI LABBÉ, chef de laboratoire à la Faculté de médecine de Paris. Paris: J. B. Baillière et Fils, 1908. Pp. 95.

The author presents a review of the recent discoveries in physiology and biological chemistry which have added to our knowledge of the production and excretion of uric acid. He shows the latter in the purin group and its close relationship with xanthin, hypoxanthin, and caffeine. The agents that have an action on uric acid are classed as precipitants, that is, those that prevent its solution, and the solvents, that is, those that facilitate the acid's solution and excretion. Among the first are cold, acids, some metals and their salts, and the many substances that increase acidity or form insoluble compounds with uric acid. The solvents include sodium salicylate, piperazine, lyceol, aspirin, urotropin, and thymic acid.

The dietetic factors that augment or lessen uric acid formation are described, and the author believes that a dietary free from meats and those vegetables that contain purin will give the most favorable results in those who have migraine, gravel, or other uric acid disease.

*Die Entzündung, eine monographische Skizze aus dem Gebiet der pathologischen Physiologie.* Von Dr. KARL KROHN, gewöhnlicher Professor und Vorstand des Instituts für experimentelle Pathologie an der Universität zu Göttingen. Leipzig: Verlag v. K. K. Fischer, Universitäts- und Landhandlung, 1908. Pp. 100. (Price, M. 1.00.)

This "Festschrift" was written for the celebration of the anniversary of the University of Göttingen. The preface is signed "September, 1907"; and the essay is finally published in 1908.

The author gives us a short historical review of the development of our knowledge of inflammation, in which he places Cohnheim's name very rightly in the foreground. This is followed by a description

of the principal symptoms of inflammation, a review of the leading theories, such as have been expounded by Cohnheim, Stricker, von Recklinghausen, Weigert and Ziegler, Marchand, Metchnikoff, and others. The succeeding chapters deal with the causes and effects of inflammation, the physiological and pathological action of the blood, the leucocytes, etc., during inflammation, and the physical laws which influence inflammation, resorption, etc. Chapter X reviews our present knowledge of inflammation.

*Sul processo di riparazione delle perdite di sostanza nelle cartilagini e pericondrio.* Per il Prof. Dott. GIULIO ANZILOTTI, aiuto e libero di patologia chirurgica. Pisa: Orsolini-Frosperi, 1907. Pp. 38.

This experimental research upon the process of repair going on in cartilage, beginning in the perichondrium, demonstrates the proliferation of cartilage cells. Active caryocinesis goes on in those cells around the new cartilaginous "centres" which constitute the reparative material. Proliferation was noted especially in the groups of cells immediately underlying the perichondrium, but also in the deeper layers and in cartilaginous fragments adhering to the wounded perichondrium. The matrix also proliferates by hypertrophy of its fibrillar components, and thus the multiplying cartilage cells are gradually separated from one another. The author has not observed the transformation of connective tissue into cartilage directly, but in some instances fibrocartilage was first formed. And he has not found any ossification or calcification in the process of repair in cartilage. He emphasizes the low resistance of cartilage against traumatism and infection and its slow tendency to repair. These facts should teach the surgeon to remove diseased or necrotic cartilage widely to secure the best conditions for a reparative process.

*Morfologia delle arterie dell'estremità addominale.* G. SALVI. Parte I. Origine e significato delle arterie che vanno all'estremità (selaci, anibi, rettili, uccelli). Supplemento agli studi Sassaresi, anno v, 1907, sez. II. Sassari: G. Dessi, 1907. Pp. 53.

Salvi publishes in this pamphlet the result of ten years of study on the comparative anatomy of the arteries of the lower extremity at the Anatomical Institute of Sassari. The work does not offer anything of special interest to practising physicians, and consists of an analysis of the structure of the arteries of the lower limbs in reptiles, amphibia, etc.

#### BOOKS, PAMPHLETS, ETC., RECEIVED

Die ärztliche Begutachtung in Invaliden- und Krankenversicherungssachen. Zum praktischen Gebrauch für Aerzte, Krankenkassen und Verwaltungsbehörden. Von Assessor Seelmann, Mitglied und stellv. Vorsitzenden des Vorstandes der Landesversicherungsanstalt Oldenburg. Leipzig: F. C. W. Vogel, 1908. Pp. 64.

Mikroskopie und Chemie am Krankenbett. Für Studierende und Aerzte bearbeitet. Von Professor Dr. H. Lenharz, Direktor des Eppendorfer Krankenhauses in Hamburg. Fünfte, wesentlich umgearbeitete Auflage. Mit 85 Textfiguren und 4 Tafeln in Leinwand. Berlin: Julius Springer, 1907. (Through G. E. Stechert & Co., New York.) Pp. 405. (Price, \$2.25.)

Nierendiagnostik und Nierenchirurgie. Von Dr. G. Kapsammer. I. Teil. Mit 29 Abbildungen im Texte. Pp. xii-432. II. Teil. Mit 34 Abbildungen im Texte. Pp. xi-567. Wien und Leipzig: Wilhelm Braumüller, 1907. (Price, \$5.)

First Annual Report of the Commissioner of Health of the Commonwealth of Pennsylvania, 1905-6. Presented by the Commissioner, Samuel G. Dixon, M. D. Pp. 519.

Seventh Annual Report of the Metropolitan Water and Sewerage Board, Boston. For the Year 1907. Pp. 253.

Das Ohrlabrynth als Organ der mathematischen Sinne für Raum und Zeit. Von E. von Cyon. Mit 45 Textfiguren, 5 Tafeln und dem Bildnisse des Verfassers. Berlin: Julius Springer, 1908. Pp. 432. (Price, \$3.50.)

A Manual of the Practice of Medicine. By Frederick Taylor, M. D., F. R. C. P., Consulting Physician to Guy's Hospital, etc. Eighth Edition. London: J. & A. Churchill, 1908. Pp. xvi-1111. (Through P. Blakiston's Son & Co., Philadelphia.) (Price, \$6.40.)

#### Miscellany.

**Army Medical Department Examinations, 1908.**—The act of April 23, 1908, reorganizing the Medical Corps of the Army, gives an increase in that corps of six colonels, twelve lieutenant colonels, forty-five majors, and sixty captains or first lieutenants, and establishes a Medical Reserve Corps as an adjunct to the Medical Corps. Under this recent act, the lieutenants of the Medical Corps are promoted to the rank of captain after three years' service instead of five, and the increase in the higher grades insures promotion at a reasonable rate all through an officer's military career. Furthermore, applicants who are found qualified in the preliminary examination are appointed first lieutenants of the Medical Reserve Corps and ordered to the Army Medical School, in Washington, D. C., for eight months' instruction.

#### THE MEDICAL CORPS.

A preliminary examination for appointment in the Medical Corps will be held on August 3, 1908, and formal applications should be in possession of the War Department prior to July 1st. The applicant must be a citizen of the United States, between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, of good moral character and habits, and have had at least one year's hospital training or its equivalent in practice. The examination will be held concurrently throughout the country at points where boards can conveniently be assembled, and due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible. The examination in subjects of general preliminary education may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools, or high schools, or in that of graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School. The large number of vacancies created in the Medical Corps by recent legislation makes it certain that all successful candidates will be recommended for a commission for several years to come.

#### THE MEDICAL RESERVE CORPS.

It is desired to obtain and maintain a list of qualified medical men all over the country who are willing to serve as medical officers in time of emergency, and to such men the President is authorized to issue commissions as first lieutenants, Medical Reserve Corps. It is recognized that it will be necessary to place only a limited number of these officers on the active list in time of peace, and it is hoped



that young medical men throughout the country and medical officers of the militia of the various States may be sufficiently interested to secure positions on the Medical Reserve Corps list. An applicant must be between twenty-two and forty-five years of age, a citizen of the United States, a graduate of a reputable medical school legally authorized to confer the degree of doctor of medicine, and have qualified to practice medicine in the State in which he resides. Examinations will be held in the near future and will embrace the practical medical subjects. Full information concerning the Medical Corps and the Medical Reserve Corps may be procured upon application to the surgeon general, U. S. Army, Washington, D. C.

**The Production of Deciduomata.**—Loeb points out a certain analogy which exists between these artificially produced deciduomata and a variety of multiple tumors that are limited to certain organs, as, for instance, multiple fibroneuromata, enchondromata, symmetric lipomata, or adenomata of the intestinal mucosa; they might be called multiple systemic tumors. The deciduomata represent a type of new formations which he designated "transitory tumors." If the substance were secreted by the ovaries continuously, instead of intermittently, the tumors would lose their transitory character and would become permanent new growths. In the case of the systemic tumors and of the deciduomata we have to deal with multiple benign tumors of a more or less transitory character affecting one organ or one tissue. We know that the origin of the deciduomata depends on two sets of conditions: (a) That a predisposing chemical substance be produced by a certain organ; and (b) that such a substance having been produced, indifferent stimuli, for instance, traumatism, are sufficient to produce the tumors. Clinical observation makes it likely that certain tumors, as, for instance, sarcomata, have at times been caused by traumatism. Experimentally, attempts to produce tumors through traumatism or through long continued irritation have never been successful. It may be suggested that such attempts could have been successful only if the necessary "preparatory" substance had been secreted prior to the action of the indifferent stimuli. Loeb states that he has found the definite cause for the formation of deciduoma, and he remarks that it is very desirable to emphasize certain similarities between the deciduoma and various other tumors in order to indicate the possible presence of predisposing "preparing" substances, as the unknown cause of certain tumors. Given such a "preparing" substance, otherwise indifferent stimuli would be sufficient to excite the potential proliferative energy of the tissues. The fact that the deciduomata degenerate as soon as the "preparing" substance ceases to be active is no valid reason for denying the designation "tumor" to these new formations. In order to indicate the ephemeral character of such new formations they may be called "transitory tumors." Even carcinomata may retrogress spontaneously. The presence of "preparing" substance can only explain the formation of a "transitory tumor," or, at the best, of a tumor that grows indefinitely in the same individual in which it originated, but it cannot explain the growth of a tumor which can be transplanted into many other individ-

als in which such a "growth" substance is not likely to be present. In order to explain on such a basis the inoculability of tumors we should have to assume the hereditary transmission of an increased energy of growth to the following generations of tumor cells, which thus would be able to continue to proliferate without the further presence of the growth substance in the inoculated animal. The possibility of such a transmission into later generations has not yet been established. Until such a proof has been given we must assume that transplantable tumors carry with them in the tumor cells or in their direct neighborhood the stimulus which enables them to proliferate in a new host. But it is quite possible that a nontransplantable tumor which originated through the action of a "preparing" substance may grow very rapidly and be, therefore, malignant. Transplantable tumors, on the other hand, do not need to be very malignant. The degree of inoculability and energy of tumor growth are two distinct properties which do not need to be associated in the same tumor. But the transplantability of tumors depends, in all probability, not only on the presence of a permanent stimulus in or near the tumor cells, but on some other factors, as yet unknown. The presence or absence of such secondary factors might determine the inoculability or noninoculability of a tumor, even if the essential cause in the tumor formation was the same in both cases.—*Journal of the American Medical Association*.

**The Survival of Typhoid Bacilli in Soil.**—As far back as 1889 it was shown by Grancher and Deschamps that from soil inoculated with a bouillon emulsion of typhoid bacilli the living organisms could be recovered after a period of five and a half months. Robertson, by the frequent addition of culture medium, was able to keep them alive in the soil for ten months. More recently, Lorrain Smith tried inoculating soil with an aqueous emulsion of the organisms, and found that, lacking the presence of the artificial culture medium, they lived a much shorter period. In his experiments twenty-one days proved the longest period that they were shown to exist. W. Mair has recently conducted some investigations which bear on this subject, although the object of his study was primarily to determine the effect on the soil as a habitat for certain organisms of sterilizing it by steam under pressure. The earth which he utilized was taken at a depth of three or four inches below the sod from the grounds of Queen's College, Belfast. It was inoculated with aqueous emulsions of the organisms and was kept under conditions of temperature, light, and moisture as closely simulating its natural surroundings as possible. Under these conditions, the living typhoid was shown to be present in a living state after eighty days, though there was no evidence that it was capable of multiplying and causing a secondary infection. The *Bacillus coli* communis was found after much longer periods. Some of his samples of soil were shown to be rendered much less suitable to the growth of the typhoid previously inoculated in an autoclave. This he attributed to the development of some heat-resistant forms. Of course different soils vary greatly in their suitability for the growth of various organisms, but the fact that it is possible



for the typhoid bacillus to live for eighty days in any soil under normal conditions is suggestive of the extent of the danger from certain methods of sewage disposal.—*Journal of the American Medical Association.*

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon general, United States Public Health and Marine Hospital Service, during the week ending June 19, 1908:

Smallpox—United States.			
Places.	Date.	Cases.	Deaths.
Alabama—Mobile	May 23-30	1	1
California—Los Angeles	May 23-30	1	1
California—San Francisco	May 23-30	15	1
Illinois—Chicago	May 23-30	1	1
Illinois—Springfield	May 23-June 4	3	3
Indiana—Indianapolis	May 18-June 7	17	17
Indiana—Fort Wayne	May 23-June 6	1	1
Indiana—Terre Haute	May 10-June 6	1	1
Iowa—Ottawa	May 10-June 6	1	1
Kansas—Kansas City	May 30-June 6	5	5
Kentucky—Covington	May 30-June 6	1	1
Michigan—Grand Rapids	May 30-June 6	1	1
Michigan—Kalamazoo	May 30-June 6	2	2
Michigan—Saginaw	May 30-June 6	1	1
Minnesota—Winona	May 30-June 6	4	4
Missouri—Kansas City	May 23-June 6	10	10
Missouri—St. Joseph	May 23-30	8	8
Missouri—St. Louis	May 30-June 6	1	1
Nebraska—South Carolina	May 22-29	2	2
New York—Binghamton	June 1-8	1	1
New York—Niagara Falls	May 30-June 6	1	1
Ohio—Cincinnati	May 23-29	7	7
Ohio—Dayton	May 30-June 6	2	2
Tennessee—Knoxville	May 30-June 6	2	2
Washington—Tacoma	May 23-30	2	2
Wisconsin—La Crosse	May 30-June 6	1	1
Wisconsin—Milwaukee	May 23-30	6	6
Wisconsin—Racine	May 23-30	2	2

#### Smallpox—Foreign.

Arabia—Aden	April 27-May 18	10	10
Brazil—Rio de Janeiro	May 3-19	141	50
Canada—Halifax	May 31-June 6	6	1
Cape Colony—East London	May 18-25	1	1
Equador—Guayaquil	May 6-16	1	2
Egypt—Cairo	May 13-20	11	3
France—Paris	May 16-23	3	3
India—Bombay	May 9-12	54	15
India—Calcutta	April 25-May 2	15	15
Italy—Genoa	May 17-24	41	41
Japan—Osaka	May 29	29	29
Java—Batavia	April 25-May 2	3	3
Peru—Lima	May 29	17	17
Russia—Batoum	March 14-21	26	11
Russia—Moscow	May 6-16	5	5
Russia—Riga	May 9-16	5	5
Russia—Vladivostok	April 28-May 2	17	17
Spain—Valencia	May 16-23	3	3
Turkey—Bagdad	April 28-May 2	29	3
Turkey—Smyrna	April 14-May 2	7	7

#### Yellow Fever—Foreign.

Cuba—Santiago	June 11	1	1
Equador—Guayaquil	May 6-16	2	2

#### Cholera—Foreign.

Ceylon—Colombo	May 14-21	1	1
India—Bombay	May 6-12	2	2
India—Calcutta	April 24-May 2	230	7
India—Rangoon	April 25-May 2	7	7

#### Plague—Foreign.

Cape Colony—Durban	March 21-28	3	3
Equador—Guayaquil	May 6-16	10	10
India—Bombay	May 1-12	269	73
India—Calcutta	April 24-May 2	230	73
India—Rangoon	April 25-May 2	7	7
India—Smyrna	April 14-May 2	7	7
India—Suez	May 17-24	2	2
India—Tientsin	May 17-24	19	19
Straits Settlements—Singapore	April 25-May 2	39	1
Turkey—Bagdad	April 28-May 2	29	3
Turkey—Smyrna	April 14-May 2	7	7

### Army Intelligence:

Official list of changes in the stations and duties of officers of the Medical Corps of the United States Army for the week ending June 20, 1908:

LEWIS, W. F., Major. Left Fort Sill, Okla., for duty at Leon Springs, Texas.

MURPHY, P. B., Captain. Granted leave of absence for two months in the United States.

PERLEY, H. O., Lieutenant Colonel. Relieved from duty in the Philippines Division; will sail for the United States on October 15, 1908.

STONE, J. H., Major. Relieved from duty with the Army of Cuban Pacification; will sail on June 22, 1908, for Newport News, Va.

TRUBY, A. E., Captain. Ordered to accompany one-half of Co. B. H. S. from San Francisco, Cal., to Murray, Washington, for camp duty.

WHALEY, A. M., Captain. Granted leave of absence for three months, on completion of the manœuvres; left Jackson Barracks, La., for his proper station. Fort Sam Houston, Texas.

### Navy Intelligence:

Official list of changes in the stations and duties of officers of the Medical Corps of the United States Navy for the week ending May 16, 1908:

ALLEN, D. G., Assistant Surgeon. Appointed an assistant surgeon from June 15, 1908.

ENGLANDER, S., Pharmacist. Retired from the active service on June 15, 1908, on completion of thirty years' service, in accordance with a provision of the naval appropriation of May 13, 1908.

FARWELL, W. G., Passed Assistant Surgeon. Detached from the Lancaster and ordered to duty with Marines at Camp Elliott, Isthmian Canal Zone.

HAYWOOD, A. B., Assistant Surgeon. Detached from the naval recruiting station, Chicago, Ill., and ordered to duty with Marines at Camp Elliott, Isthmian Canal Zone.

KERR, W. M., Acting Assistant Surgeon. Appointed an acting assistant surgeon from June 12, 1908.

MAYERS, G. M., Passed Assistant Surgeon. Ordered to the Naval Medical School Hospital, Washington, D. C., for treatment.

MINK, O. J., Passed Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the naval recruiting station, Chicago, Ill.

SMITH, G. W., Assistant Surgeon. Appointed an assistant surgeon from June 15, 1908.

SNYDER, J. J., Passed Assistant Surgeon. Ordered to the New Hampshire.

THOMAS, G. C., Assistant Surgeon. Appointed an assistant surgeon from June 15, 1908.

WHITESIDE, L. C., Assistant Surgeon. Appointed an assistant surgeon from June 15, 1908.

ZIEGLER, J. C., Acting Assistant Surgeon. Detached from the Naval Hospital, Portsmouth, N. J., and ordered to the Naval Hospital, Pensacola, Fla.

## Births, Marriages, and Deaths.

### Married.

CHEETHAM—ROBINSON.—In Cleveland, on Thursday, June 18th, Dr. Arthur M. Cheetham and Miss Agnes May Robinson.

DOUGHERTY—MERKLE.—In Philadelphia, on Wednesday, June 17th, Dr. Clarence C. Dougherty and Miss Florence Lillian Merkle.

GILL—DUNHAM.—In Alloway, New Jersey, on Tuesday, June 16th, Dr. Walter W. Gill, of Westfield, New Jersey, and Miss Mary Claire Dunham.

MCCALLUM—THOMAS.—In Philadelphia, on Monday, June 15th, Dr. Chester A. McCallum, of Erie, Pennsylvania, and Miss Helen Ramsey Thomas.

### Died.

BARROWS.—In Hackensack, New Jersey, on Thursday, June 7th, Dr. Arthur A. Barrows, aged sixty-eight years.

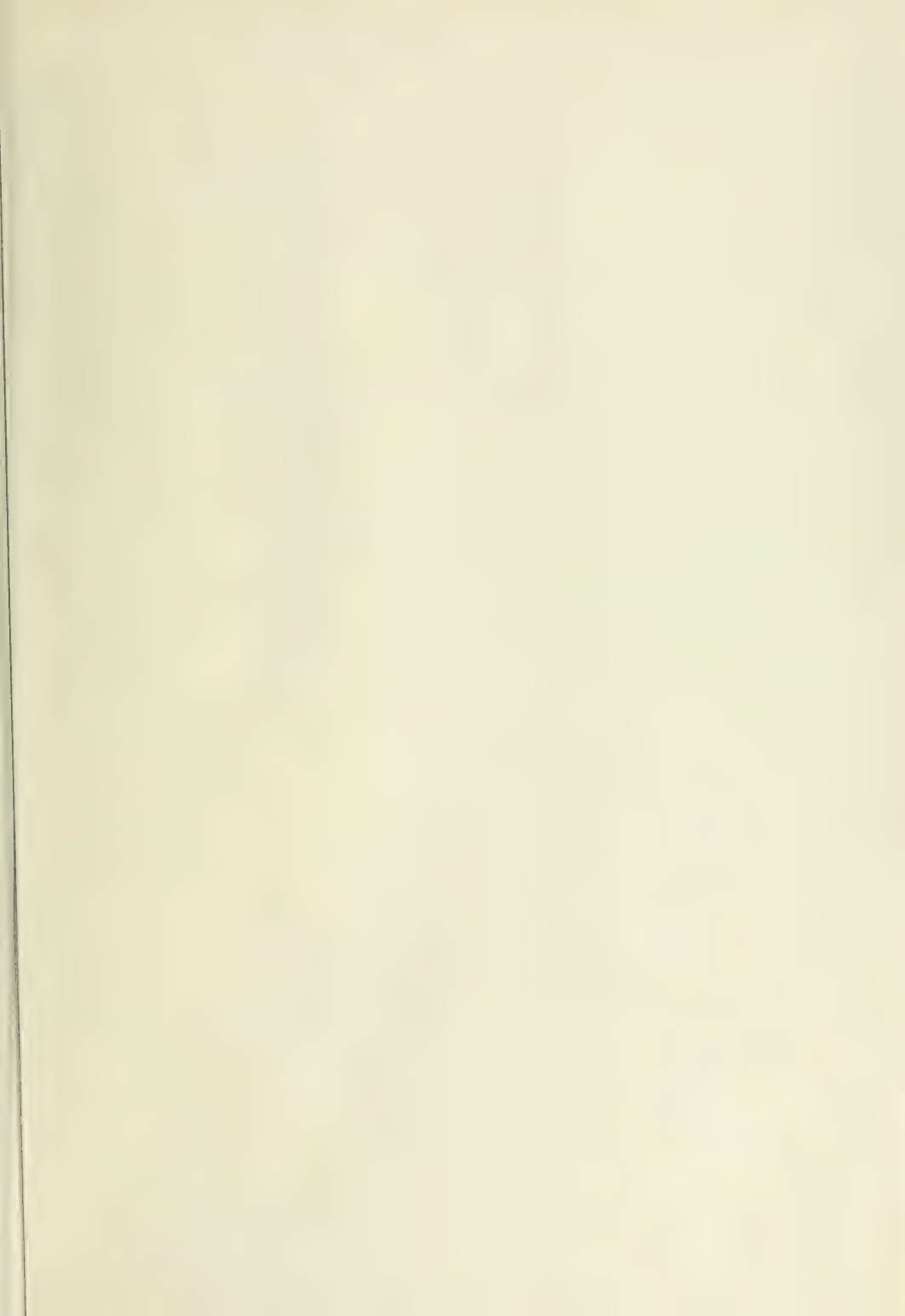
BUSH.—In Warren, Pennsylvania, on Saturday, June 13th, Dr. John Bush, of Wahoo, Nebraska, aged fifty-two years.

CARLETON.—In Waterloo, New York, on Friday, June 19th, Dr. John F. Carleton, aged sixty-four years.

CORRY.—In Cadillac, Michigan, on Wednesday, May 27th, Dr. Winfield S. Corry, aged thirty-one years.

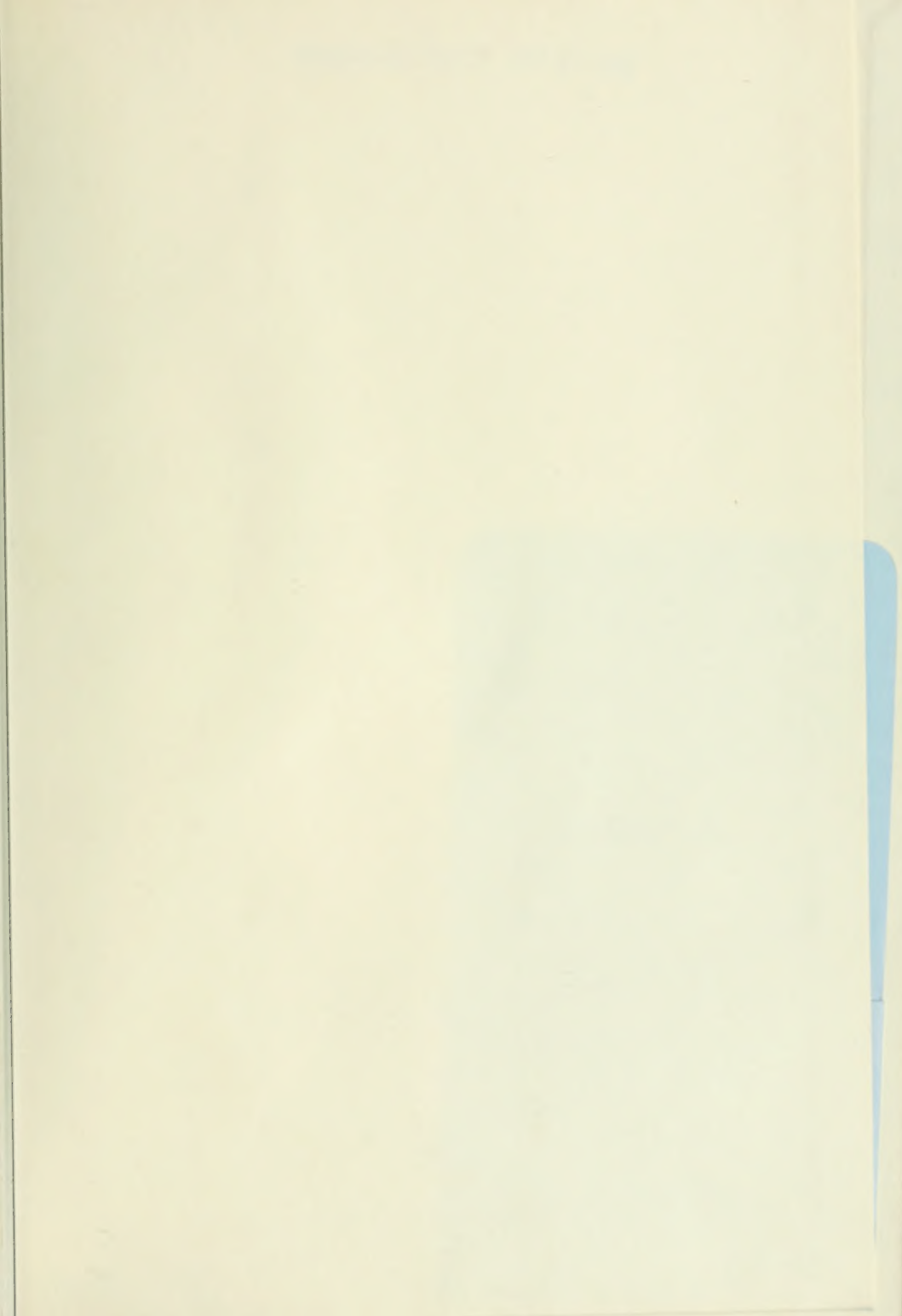
HURLEY.—In Norwood, Massachusetts, on Sunday, May 31st, Dr. Daniel M. Hurley, aged forty-four years.

KUNSTLICH.—In Passaic, New Jersey, on Sunday, June 21st, Dr. Alexander A. Kunstlich, aged sixty-four years.











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